

Friends of the San Pedro River Roundup

Fall 2014

In This Issue: Annual Meeting... President's Report...
Fairbank Day... Vacant Volunteer Jobs... National Public
Lands Day... Charlie Corrado... November Lecture...
Numbers Served... Ramsey Christmas Bird Count...
Southwest Wings... The Tombstone Bonanza... Calendar...
Members... Contacts

Friends Annual Meeting October 19

FSPR will have its annual meeting on Sunday, October 19 from 11 am to 2 pm at San Pedro House. As usual, it will be a potluck lunch, with the Friends providing drinks, utensils, and grilled meats (hamburgers, brats, veggie burgers). This year, we will start by dedicating new bricks in our walkway to some wonderful volunteers and a donor. Then, we will announce the new members of the Board of Directors. President Ron Serviss will share his thoughts. Please come to this event to mingle with your fellow Friends of the San Pedro River, celebrate our volunteers, and eat some good food. If you do attend (and we hope you do!), bring a dish to share. RSVP to ronscyberlounge@me.com by October 13 so we can have the right amount of drinks, paper plates, utensils, and food on hand.

My Last President's Report

By Ron Serviss

My tenure as president of the Friends is coming to an end. Our organization's bylaws state that after four years, I can no longer take credit for all the wonderful things you, our members, do in so many wonderful ways. I would like to say that these past four years have given me a unique opportunity to learn two very important lessons about us and our river.

The first lesson was for me to fully understand how important each of your efforts is to the success of our Friends group. If all you do is renew your membership every year, that is important. It provides us much-needed operating funds that we have no other way of obtaining. It also adds to our membership count and, as that number grows, so grows are influence. If you can only volunteer a few hours a month in the bookstores or in the gardens or on our walks and events, those few hours, united with the few hours from your friends and neighbors, start to add up and help us to provide those thousands of volunteer hours each year. And to those of you who have provided hundreds and hundreds of volunteer hours, I just don't have the words to express my gratitude. I hope each of you, no matter what your contribution, will take the time to go sit under a cottonwood somewhere along the San Pedro and let the river "voice" its thanks.

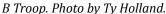
The second lesson I have learned is that the river will never be permanently safe from those forces that, sadly, have no appreciation for the value of the river just being there. Too many of our elected officials would prefer to see cows, rather than birders, along the river. They choose to ignore the fact that ecotourism brings thousands of dollars into our county, benefiting a large number of people, while pushing for changes to policy that will benefit a handful of ranchers. Developers will continue to look for opportunities to make a profit, at the expense of our river. They will continue to tell us that their

environmentally conscious developments will return 70% of the water they pump out of the ground back into the aquifer, ignoring the fact that a 30% loss of water in a semi-arid environment is a catastrophe for the river and for future generations.

There are lessons all around us to learn from, if we choose to be open. Look at the fates of most of the once-perennial streams in this state. Look at what has happened to the Colorado River the past few years. We can't let this happen to OUR river.

I thank the Board of Directors for this opportunity to serve, I thank each and every one of you for your efforts large and small, and I encourage you to stand tall and firm in defense of our beloved San Pedro River.







Re-enactment of train robbery. Photo by Ron Stewart.

Fairbank Day 2014: Jeff Milton, Camp Clovis, Reunion, and B Troop

By Ron Serviss

The Friends of the San Pedro will stage a Fairbank Day event on Saturday, October 25 from 10 am to 2 pm. Our event this year will have four main areas of focus:

- Jeff Milton. The famous lawman and Fairbank resident will be portrayed in a re-enactment of the train robbery at Fairbank. The Tombstone Vigilantes will stage the event for us at 11 am and 1:30 pm. Re-enactor Van Fowers will provide a more in-depth portrayal of Milton at 11:30 am.
- Camp Clovis. There will be a number of exhibits and activities associated with the prehistory
 of SPRNCA, focused on the Clovis Paleo Indian groups. Activities at the "camp" will include an
 exhibit on Murray Springs, competitive atlatl throwing, flint knapping, and a test of knowledge for
 a prize.
- Fairbank Reunion. The reunion has been combined with Fairbank Day. Come meet some of the former town residents and listen as they share their memories.
- Fort Huachuca's B Troop will have an encampment, complete with horses and a cannon (boom!).

Another event will be a lecture at 12:45 pm by archaeologist/author Dr. Deni Seymour on the 1698 Battle of Gaybanipitea in which the San Pedro Valley Sobaipuri, led by El Coro ("The Crane"), defeated a raiding party of 500 Apaches and Jocomes and Janos Mission Indians from the El Paso area. Two tours—a 5-mile, moderately strenuous hike to Terrenate (with 2 river crossings) lasting from 8 am to noon and a 2-mile easy walk to former train depot sites from 9 to 11 am—will occur.

Power from the Past will have an exhibit of antique farm implements, some of them steam-powered. One exhibitor will demonstrate mountain man and black powder technology.

Representatives from other local attractions—including Coronado National Forest, Amerind Institute, Sierra Vista Historical Society, and Friends of Brown Canyon Ranch—will be there. Several local authors will be on hand to sign books. Big Woody's will sell food and EarthPicks of Cochise County will provide live music. Tents will provide shaded seating areas.

Come join us at this event. Parking is limited; please park at the Tombstone Territories RV Park 2.5 miles west of Fairbank on Highway 82. A free shuttle van (9 am to 3 pm) will carry you to the town site.

Volunteer Jobs Need Filling

The Friends of the San Pedro River has been a mostly volunteer organization from its start some 26 years ago. We could not accomplish all that we do without you, our wonderful volunteers. We have identified some tasks that could now use your help. Each would require just a few hours a month and most of the work could be done by you at home, still in your pajamas and cradling a fresh cup of coffee (assuming you are connected to the internet and drink coffee). Here are a few of the tasks we need help with:

Bookkeeping

No, you don't need to be a CPA nor have worked in an accounting office for 30 years. We use a fairly simple software called Quickbooks. Much of the work will be modest data entry into the system and can be done in our office or in your kitchen. Of course, we will train and support you until you are comfortable working alone. If you have questions or want to volunteer, contact Renell Stewart at 520-378-6318 or stewartr3@cox.net.

Communications/Advertising

FSPR spent the last two years developing a communications plan that greatly improved getting the word out to the media and related organizations, telling them of our programs and events. We experienced a significant increase in attendance as a result of this effort. Unfortunately, the volunteer doing the bulk of this task cannot continue, so we decided to break this effort up into smaller, more-manageable tasks. We can slice and dice this into any combination. All we need is your interest and a bit of your time. Things to be done include:

- Send monthly public service announcements monthly to a list of organizations and media outlets
- Post events online to a number of websites
- Send out monthly flyers advertising our events
- Monitor and manage our Facebook page

If any of these tasks are of interest to you or you need additional information, contact Ron Stewart at 520-378-6318 or ronscyberlounge@me.com.

Membership

There are a few tasks associated with this, including the following:

- Sending a standard welcome letter to new members and a thank-you letter to folks who renew their membership.
- Sending reminders to members whose memberships are about to lapse.
- Entering membership data into our software.

These are fairly easy tasks and require only a few hours each month. Contact Robert Weissler at 520-803-0794 or weissler@aves.org.

We thank you in advance for your consideration of this request and hope you can join us in our efforts to preserve the San Pedro River.





Scenes from NPLD 2014 at Fairbank. Photos by Ron Stewart.

National Public Lands Day a Success on SPRNCA

By Sally Rosén

Nearly 100 people occupied the town site of Fairbank on Saturday, September 27, and left it a better place. As one of 9 BLM National Public Lands Days in Arizona, various groups joined to paint, clean, clear, and in other ways improve our old town.

Boy Scout Troop 445, Cub Scout Pack 464, airmen of the 316th Training Squadron, members of the University of Arizona hiking club "The Ramblers," FSPR members, BLM employees, Southwest Conservation Corps participants, and members of the public all joined together to clean the schoolhouse; strip and refinish its doors; paint the historic corrals; clear the town site, trails, and cemetery of weeds; and move a donation box and brochure rack to the town entrance.

FSPR hosted lunch for the crowd that was served by schoolhouse volunteers. Leftovers were donated to the airmen and to scouts who had a campout on the newly mown picnic area near the west trailhead.

During all of this, the site and the schoolhouse remained open to visitors. Several FSPR docents present stopped whatever they were doing to answer questions about Fairbank and explain what was going on. A trio of tourists from Arkansas was so impressed by all the activity that it donated \$100!

At the end of the day, BLM and FSPR organizers expressed satisfaction in the results of all the effort. Not only is Fairbank improved, but also contacts for future projects have been made.



Volunteering with the Friends Can Be Rewarding (in More Ways than One)

Hobbyists across North America celebrated 2014 National Coin Week, April 20-26, with the theme "Coin & Country: Celebrating Civic Service." Activities and promotional materials celebrated the 50th anniversary of the Kennedy half-dollar and President John F Kennedy's famous call to civic and community service: "Ask not what your country can do for you; ask what you can do for your country."

Charles Corrado was the grand prize winner in the American Numismatic Association Member Volunteer Challenge. Corrado won a 2014 American Eagle quarter ounce proof coin for documenting

his efforts volunteering with the environmental organization, Friends of the San Pedro River.

Charlie and his wife Pam became active in FSPR through their initial involvement with the Sierra Club's Water Sentinels. They started with the water-testing program, then participated in a few river cleanups. As they learned more about our organization, they became members and are now eager participants in most of our activities. They continue to do cleanups and trail work, participated in the BLM Resource Management Plan meetings, attend our lectures, and can be counted on to volunteer at our events, from the Art Festival to the recent National Public Lands Day.

So congratulations to Charlie and a hearty "Thanks" to you and Pam for all your support.

November Lecture

Carianne Campbell and Louise Misztal of the Sky Island Alliance will present their report, "Springs in the Sky Islands Region: Inventory, Assessment, and Management Planning Project," at the next FSPR lecture on Thursday, November 20. Learn about the nature of springs, their importance in our region, what threatens them, how they can be protected, and how you can get involved. Join us at 7 pm at the joint BLM/Forest Service office located south of Sierra Vista at 4070 E Avenida Saracino in Hereford.

How Many People Did We See?

By Laura Mackin

Last October the new BLM manager visited San Pedro House (SPH) for the first time and asked me "How many people come through here each year?" and my answer was "I don't know, but I should." So I went out the next day and bought a tally counter and we began counting each person who walked into SPH. My curiosity did not stop there: I wondered how many people do the Friends of the San Pedro River (FSPR) interact with each year? After a year of gathering numbers, here are the results.

FSPR volunteers and docents made contact with 22,976 members of the public this fiscal year (October 1, 2013 to September 30, 2014).

We conducted 49 interpretive river walks that drew 220 participants. Thirty-seven bird walks departing from SPH 497 participants, with an average of 45 species observed per walk. The Environmental Operations Park bird walks every Sunday morning drew 304 participants, with an average of 50 species per walk.

We sponsored 13 history walks during the year to Millville, Murray Springs, Terrenate, Clanton Ranch, Fairbank Townsite, and South Fairbank, with 187 people participating on these very informative trips.

(continued on page 6)



Five hikes (more strenuous than walks) were led into the backcountry to beaver dams, St. David, Hereford, old railroad locations, and Terrenate via Willow Wash. Thirty-five people, including 2 children, enjoyed these hikes.

We presented 7 lectures this year in the community room at the new Forest Service/BLM interagency building on Highway 92 in Hereford. One hundred forty-two community members attended presentations on topics ranging from the Yellow-billed Cuckoo to the Chiricahua Apaches, with the largest turnout for Sky Island carnivores.

Our education program proved to have the highest amount of participation, with 24 activities reaching 2,124 students, teachers, and parents. Our education docents led presentations in the classrooms, on the river, at SPH, at Fairbank, and staffed a booth at the hugely popular STEM (science, tehcnology, engineering, and mathematics) Day event at Cochise College.

We held 11 events on SPRNCA, this year including river clean-ups, our first-ever San Pedro River Festival of the Arts, "members-only" events and the most-recent National Public Lands Day. Three hundred thirty-two people came out to support these events.

We also took our message on the road to 10 off-site locations this year. We had booths at the Empire Ranch Round-Up, Cochise County Master Gardener's Conference, Arizona Archaeology & Heritage Awareness Expo, Fort Huachuca, St. David's Pioneer Days, Earth Day, Brown Canyon Ranch, and Southwest Wings Birding & Nature Festival, plus we hosted the Wild & Scenic Film Festival in Bisbee. Over 1,300 people visited our booths and learned about what we do and who we are. Hopefully, they took away a little something and will visit SPRNCA in the near future.

The big numbers came in at our two bookstores and public contact stations. SPH had 12,360 people walk through the door, while the Fairbank Schoolhouse saw 5,457 people in the museum. We were open to the public 3,589 hours and greeted a total of 17,817 customers.

I do not have statistics on how many people visit the community xeriscape gardens at SPH each year, but I do know that 8 hard-working volunteers put in over 500 hours maintaining the gardens. There are always more weeds to pull, so let me know if you are interested in some dirty work!

This survey doesn't even begin to count the endless hours that go on behind the scene and in front of a computer screen to make this all happen. We are fortunate to have a very active and productive Board of Directors and administrative volunteers who make sure these activities continue each year.

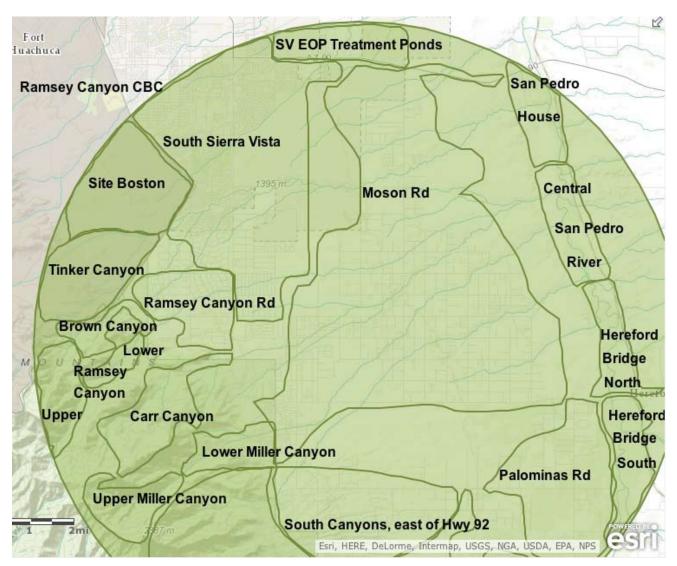
I think these are some pretty impressive numbers for an organization as small as we are. Way to go volunteers! If you are an active volunteer, please pat yourself on the back. If you want to get more involved, contact me and we will figure out what works best for your schedule. In the next few months, we will be putting together the schedule of activities for next year. If you have any suggestions or comments, please contact us at spr@sanpedroriver.org, email me directly at sanpedroriver.org, or call 520-508-4445.

2014 Ramsey Canyon Christmas Bird Count (CBC)

By Robert Weissler

After 15 years as Ramsey Canyon Christmas Bird Count compiler, Ted Mouras has stepped down. Although a new compiler has not yet been identified, enthusiasm for the event continues undiminished and participants are sure to join teams in the field to count birds. The final tally for last year's CBC last year was 147 species. A date for the upcoming count has not been nailed down, but Saturday, December 20 is a likely candidate, as the Saturday prior to Christmas has been chosen the past several years. Once a date has been selected, you'll find it and additional information on the Huachuca Audubon CBC web page.

NOTE: In the event that a new compiler is not identified prior to the count, **the fallback is a do-it-yourself (DIY) CBC with participants joining the same team leaders as last year.** Team leaders would submit the tallies for each area to www.eBird.org (click Submit Observations). Traveling counts with accurate mileage and duration are preferred over area counts in eBird. Do not select an eBird "hot spot" as the location for the team if you birded outside the hot spot! By sharing each CBC eBird checklist with eBird user **RamseyCanyonCBC**, each team's tallies will be available to compile. Team party hours and miles would need to be noted in the eBird checklist. A map of the count circle areas appears below for prospective CBC participants.



SW Wings Festival Seeking Volunteers

Southwest Wings Birding and Nature Festival is in need of volunteers to help conduct its spring and summer festivals. Southwest Wings mission is to promote nature-based tourism and environmental awareness in southeastern Arizona.

The festival is a nonprofit 501(c)(3) educational organization. There are no members, only a board of directors, and therefore no membership dues to provide income. We rely on help from our community to stage our festivals. Each festival brings into southeast Arizona over 100 people from all over the United States, Canada, and beyond. During our major summer festival, we provide free programs on a wide variety of nature, history, and culture-related subjects.

Volunteers are needed to help staff the registration desk, wrangle our trip vans, and monitor and help with our free programs and vendors. Volunteers receive some compensation from our merchandise selection, based on hours served.

For more information, please contact Gordon Lewis at admin@swwings.org or 520-366-5560.

Good Luck, Perseverance, and the Tombstone Bonanza

By Gerald R Noonan, PhD

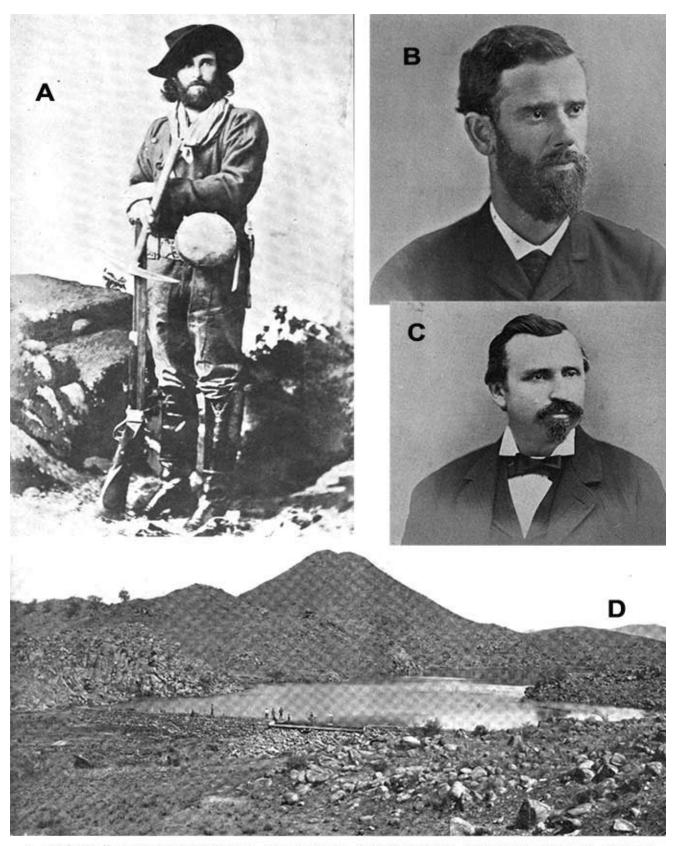
Ed Schieffelin's recollections illustrate the good luck and perseverance that resulted in the Tombstone Bonanza (Underhill, 1979). In the spring of 1877 two men were assessing the old Bronco [Brunckow] mine, about eight or nine miles from where Tombstone is now situated. They noticed that Schieffelin had a good rifle and plenty of ammunition and made the fateful decision to hire him to stand guard while they worked.

While Schieffelin was standing guard, he noticed through his binoculars that the Tombstone hills looked like a good place to prospect. After he finished his two-week tour as guard, Schieffelin searched in and around those hills. He found some good ores but nothing that indicated the presence of large amounts of precious metals until the following spring of 1878. However, he did find enough ore in 1877 to convince him to continue prospecting.

Schieffelin related an 1877 incident in Tucson that showed his determination to persevere. He went into the Tully & Ochoa store to purchase supplies. When he asked about the prices of flour and other necessities, the proprietors asked what he was doing. He replied, "Prospecting in the San Pedro country." The proprietors said prospecting was foolish and that he wouldn't get any supplies unless he had the money to pay for them. That reception represented the general feeling of many people in Tucson about prospecting. Despite the disheartening comments, Schieffelin went to a different store, where he purchased bacon and flour and persevered.

The fall of 1877 found him reduced to the "last extremity": out of provisions, almost without clothing, and with only 30 cents in money (\$6.89 in 2013 dollars) (MW, 2014). Schieffelin survived by hunting deer. He took additional samples, then headed northward to find his brother Albert who was working at the Signal Mine in southern Mohave County.

His brother and several other miners felt Schieffelin's samples were mostly very poor. Despite this, Albert took several samples to Richard Gird, an assayer at the mine. Gird tested the ore and found it valuable. Albert was reluctant to leave his job, which he regarded as good because it paid four dollars a day for an eight-hour shift – \$91.80 in 2013 dollars as regards purchasing power (MW, 2014). However, Gird and the Schieffelin brothers agreed to go into partnership and left for the Tombstone area on February 14, 1878, just as the mine's noon whistle was blowing. Albert and Gird wanted to eat lunch, but Ed Schieffelin replied that he had been waiting long enough and that they should go "at once." During several months of prospecting, the men found several potential mine sites and filed claims for them.



A. Ed Schieffelin about 1881 from p. 219, 236 abs. in Hall, 1907. B. Albert Schieffelin. C. Richard Gird. D. Gird Dam (B & C from p. 40 & 42 in Gird, 1907. D from p. 764, 791 abs. in Tonge, 1897.)

Soldiers had several times told Ed Schieffelin that all he would find in the area would be "your tombstone." Schieffelin recalled the latter word and named his first discovery the Tombstone Mine. He didn't forget the word and used it again when he and others organized the Tombstone Mining District on April 5, 1878. (Recording a mining district gave miners the ability to pass rules regulating behavior in the district.)

For the Schieffelin brothers and Gird to develop their claims and process the resulting ore, they needed a large infusion of cash. Fortunately they had met two men in Tucson who helped secure financing (Monahan, 2007, p. 3-4; Underhill, 1979, p. 63). The first was Governor Safford, who advised them to talk with John S Vosburg, a local businessman. Vosburg paid for \$300 worth of goods—\$7,230 in 2013 dollars as regards purchasing power (MW, 2014). He later spoke with the governor, who in turn convinced the Corbin brothers of the Corbin House Hardware Store in Connecticut to visit the Tombstone area. In return for a quarter interest in 10 claims in Tombstone, Vosburg promised on September 27, 1878 to assemble a 10-stamp mill by the San Pedro River, construct a dam and ditch to power it, and build a road from the mine to the mill. On October 1, 1878 EA Corbin gave Vosburg an \$80,000 credit for construction in return for a half share (of Vosburg's quarter-share interest) in the 10 mines, a half share (of a half interest) in the Tombstone townsite, and a half share (of a half interest) in the mill and water rights of the Lucky Cuss mine. Subsequently, on October 26, 1878, the Schieffelins, Gird, Vosburg, and Safford incorporated the Tombstone Gold and Silver Mill and Mining Company, commonly called the Tombstone Mill and Mining Company.

Vosburg worked energetically to fill his part of the bargain (Rose, 2012, p. 13-15). He arranged for the Mormons of St. David to build the required dam on the San Pedro River. They used oxen to bring rocks to the dam site, laid smaller rocks and stones on the upper face, rammed grass and hay in between the rocks, and put gravel and earth on top. Workers constructed approximately 1.5 miles of ditch and flume to carry the water to the penstock at the mill site. Vosburg supervised the leveling of the mill site, the building of a retaining wall there, and the construction of a road from the mill site up into the Huachuca Mountains where a sawmill would be located on the northern slope of Carr Canyon.

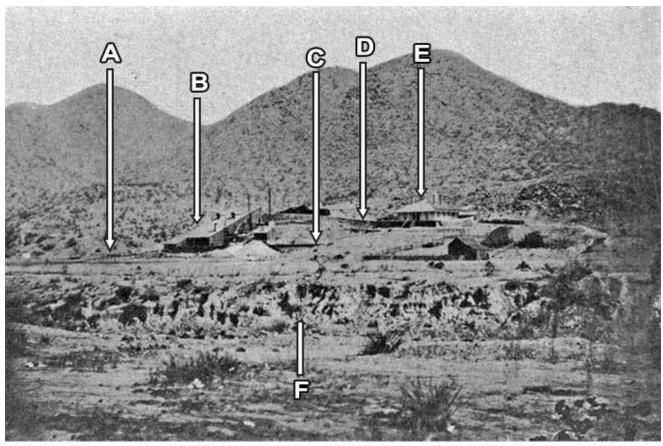
Gird left for San Francisco on October 30, 1878 to arrange for the building and transportation of the sawmill and the 10-stamp ore processing mill (AS, 1878; Underhill, 1979, p. 64). The Fulton Iron Works built the 10-stamp mill and would later build the Corbin, Contention, Sunset, and Grand Central Mills (FIW, 1881). Gird returned from San Francisco in early January 1879. By January 11 the sawmill was in operation and the 10-stamp mill was on the road from Yuma (AC, 1879a).

The expected success of the Tombstone mines resulted in the formation on January 21, 1879 of the Corbin Mill and Mining Company (AC, 1879b; Underhill, 1979, p. 65). It was to run the Lucky Cuss Group composed of the Lucky Cuss, Owl's Nest, Owl's Last Hoot, East Side, and Tribute claims. Its 15-stamp mill, commonly called the Corbin Mill, would be by the San Pedro River near the 10-stamp mill. The owners included the Schieffelins, Safford, Gird, Vosburg, and Albert A Corbin. The latter was to leave the next week for San Francisco to order the new mill. A portion of the 10-stamp mill had passed through Tucson the previous week and would soon be at the mill site. (Common terms for plants that converted ore into bullion were "stamp mills," "reduction plants," "reduction works," or just "mills.")

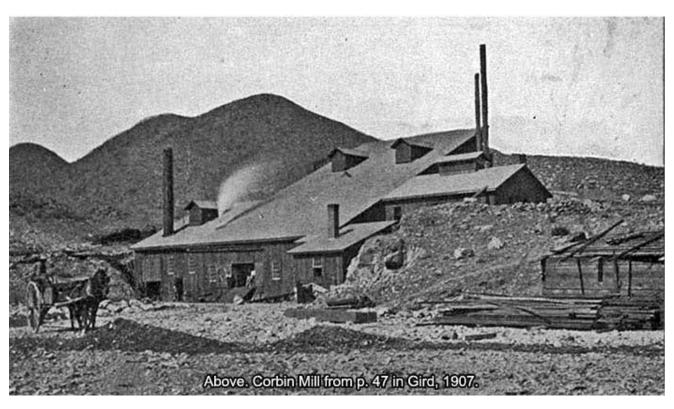
"Turn on the water," ordered Vosburg!

People were expectantly waiting at the newly built 10-stamp mill on June 1, 1879 (AC, 1879d; Brown, 1881, p. 51; Monahan, 2007, p. 6). Water splashed from the iron penstock down a 40-foot fall onto a turbine wheel whose revolutions powered the mill machinery. After leaving the wheel, the water ran through a 470-foot tunnel and returned to the river. The water came from a 1250-foot flume that connected to the long ditch that ran upstream to the dam. During the next 5 anxious days, the mill processed the ore and converted it into bullion. The mill ran fine but made a lot of noise. Vosburg regarded the noise as "lovely music." The noise was the sound of money!

On June 17, 1879, Ed Schieffelin and Judge TJ Bidwell drove a blue wagon up to a Tucson bank (AC, 1879e; Underhill, 1979, p. 64). Inside the wagon were eight bars of bullion with a total value of \$18,744.58—\$452,000 in 2013 dollars as regards purchasing power (MW, 2014). A second shipment of



Above. Tombstone Mine & Milling Co. ten-stamp mill & Gird house & office. A. Pipes that possibly carried ground pulp to tailings pond. B. Ten-stamp mill. C. Flume that carried water. D. Retaining wall. E. Gird House & mill offices. F. Arroyo containing San Pedro River. From from p. 48 in Gird, 907.



bullion valued at \$18,395.28 arrived at the bank on June 25. The Tombstone Bonanza had begun!

Assembly of the Corbin Mill began before completion of the 10-stamp mill. By April 18, 1879 workers were preparing the site for the mill. The mill itself had arrived at the end of the railroad in Yuma and was enroute to Millville (AC, 1879c). On January 16, 1880, the Corbin Mill began operation (AC, 1880).

The 10-stamp mill operated via a dry-crushing process. In October 1879, workers shut it down for approximately 2 weeks to convert it into a more-efficient wet-crushing process. In its initial 4.5-month run, it had produced \$176,314.38 (\$4,250,000.00 in 2013 dollars as regards purchasing power (MW, 2014) in bullion, mostly silver. During the shutdown, workers replaced elevators, conveyors, and other dry-crushing items with piping and tanks for the wet-crushing process (AC, 1879f).

By the reopening date of the 10-stamp mill, Gird had seen to the construction of a building nearby that housed a mill office and an elegantly furnished home for himself and his new bride. The mill office had all known conveniences of the day, including a large ornamental vault door and black walnut furniture. The well-furnished bedrooms were carpeted, well lighted, and each had a fireplace.

W Lawrence Austin, manager of the mills at Millville, provided information about the mills (Austin, 1883, p. 102-106). He noted that the processes of both mills were very similar. Workers had upgraded the original mill by adding 5 stamps and installing a steam engine to supply power in addition to that furnished by the original water turbine. A steam engine powered the Corbin mill and burned approximately 7 cords of mixed wood per day, at a cost of \$9 per cord. Its fuelwood was black oak, white oak, willow, and pine. Its boilers also supplied steam to a stream pump that pumped the water up a vertical height of 100 feet. The mill used the water both for the steam engine and for wetting the ore.

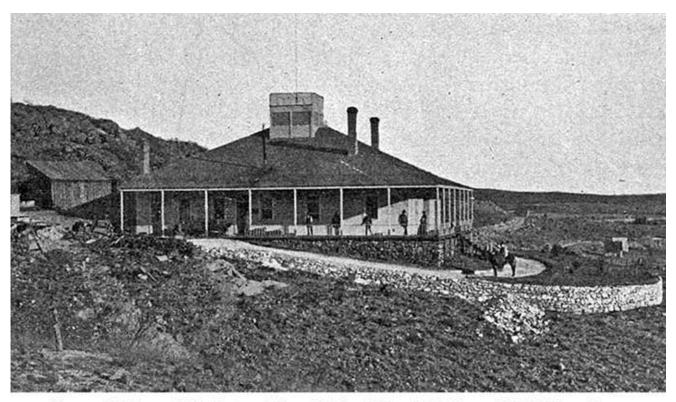
For \$3 per ton, contractors brought ore down in wagons from the mines 10 miles away. The wagons were connected in pairs and together carried approximately 14 tons of ore. Their bottoms were planks, 6" x 2", laid crosswise with their ends resting on the framework of the wagon-bed. Workers could unload a pair of wagons within approximately 20 minutes by removing the planks and allowing the ore to drop out.

The workers then wheeled the ore in "barrows" to a crusher that broke down larger pieces to a size that could be readily further processed. Ore that was not sufficiently fine passed to an area where 20 stamps further crushed it. The portion of each stamp that contacted the ore was called a "shoe." Each shoe initially weighed 120 pounds and had an average life of about a month, with a worn-out shoe weighing only about 35 pounds. A freshly shod stamp weighed about 750 pounds and dropped 6.5 inches 100 times a minute onto the ore. Water added to the crushed ore made a "pulp" that was discharged into circular tanks, each with a heavy agitator that further ground the pulp and mixed it with mercury. Over a period of approximately 4 hours, the silver and gold in the ore amalgamated with the mercury. The amalgam was then heated in a distillation retort, with the mercury distilled and stored for future use and the precious metals left behind for smelting into bullion.

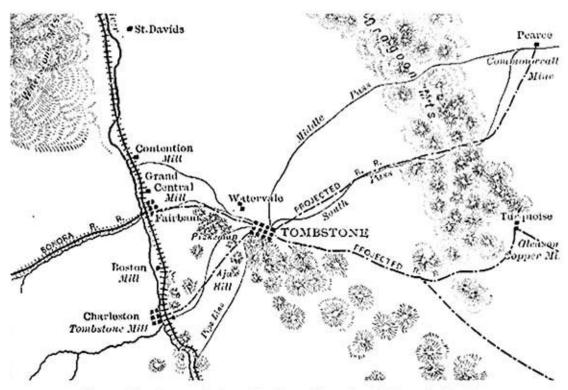
The total milling cost was approximately \$4.90 per ton of ore. The amount of mercury lost per ton of milled ore varied according to the grade and character of the ore, but averaged approximately 1.3 pounds. The milling process consumed approximately 0.11 cords of wood and 1200 gallons of water per ton of ore.

Working in a stamp mill could be hazardous. Sam Aaron, who worked in one of the mills at Millville, recalled in his memoirs (Marcus, 1958, p. 105-6) that he refused to work near the amalgamation process because of the known harmful effects to workers there. He also noted that workers in the smelter area suffered from lead and arsenic poisoning, resulting in considerable worker turnover. The mills also polluted the river. A traveler noted in May 1883 that material that ran down from the mills turned the river a deep vermillion and made the water unsuitable for drinking and possibly for irrigating (AWC, 1883).

The Schieffelins sold their half interest (both quarter interests combined) in the Tombstone Mill and Mining Company and the Corbin Mill and Mining Company in March, 1880 for \$600,000—\$14,100,000 in 2013 dollars as regards purchasing power (MW, 2014; Underhill, 1979, p. 66). Ed Schieffelin's 30 cents



Above. Gird Home & Tombstone Mill and Mining Office, 1879. From Gird, 1907, p. 46.



Above. Tombstone & its mills. From Church, 1093, p. 5, 71 abs.

had made him and his brother a fortune. Richard Gird sold his one eighth interest in the Tombstone Mill and Mining Company about a year later for the same sum around March 1, 1881.

Silver mining boomed in the Tombstone area for several years. Prospectors flocked to Tombstone, and by August 1879, hundreds of claims had been located in the Tombstone Mining District, with a surprising portion of them having rich and extensive cropping (AS, 1879). In 1880, mining companies erected 8 steam hoisting works on 7 different mining properties and 4 additional stamp mills (MSP, 1881a). By October 1881, the Tombstone Mill and Mining Company was handling 23,000 tons of ore per month (MSP, 1881b). The ore was hoisted up mineshafts by steam power and moved along tramways to ore bins. The elevated tramways and ore bins allowed teamsters to drive ore wagons beneath the bins. Miners then opened a trapdoor to allow the ore to fall into the wagon-bed beneath. By September 1881, mining companies had (MSP, 1881a) 7 different mills with a total of 125 stamps: 30 at Grand Central, 25 at Western (Contention mine), 20 at Boston and Arizona, 20 at the Corbin Mill, 15 at the Gird Mill in Millville, 10 at Head Center, and 5 at Hopkins. See Disturnell (1881) for a detailed description of mines and stamp mills.

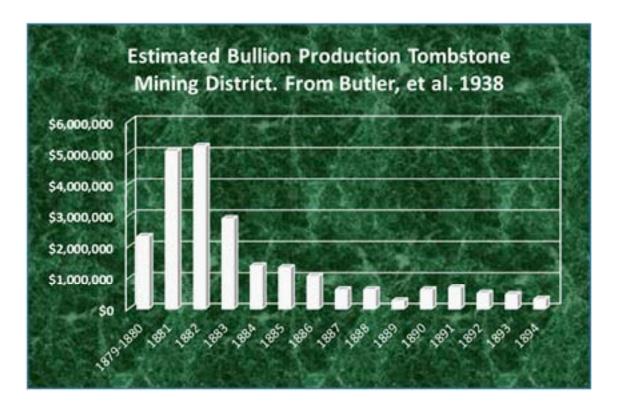
Mining sparked a population boom in the Upper San Pedro River Valley (Fulton, 1966, p. 11; Rodgers, 1965, p. 45-63; Rose, 2012, p. 8-11; TWE, 1882). People created 6 towns along the river banks— Contention, Grand Central, Fairbank, Emory City, Charleston, and Millville—plus Tombstone, the mining center situated a few miles east of the river. All of the mill sites were on the eastern side of the San Pedro so that the heavy ore wagons would not have to cross the river. People built the first house in Tombstone in April 1879. That same year Contention, Tombstone, and Charleston requested appointments of justices of the peace and constables. The Tombstone request cited an approximate population of 2,000 people in its vicinity. Also in 1879, Tombstone requested incorporation as a village or town and reported that a census showed 470 people. By November 1879, the Arizona Weekly Star estimated the population of Tombstone as between 1,000 and 1,500 and that of Charleston as 600 to 800.

The 1882 census recorded 9,640 people living in Cochise County. Nearly half (5,300) were in Tombstone. Populations for other areas along or near the San Pedro River were 820 in Benson, 452 in Contention, 423 in Charleston, 410 in Bisbee and vicinity, 208 in Tres Alamos and the lower San Pedro River, 82 in the Huachuca Mountains, 80 at Boston Mill, 31 at Ochoaville, and 9 in Hereford. In his 1883 annual report, the acting governor of Arizona stated (Tritle, 1883, p. 18, 45 abs.) that Tombstone had a population of 7,000.

The exact worth of the bullion produced by the Tombstone Mining District before 1908 is unknown. However, Butler et al. (1938, p. 49) used unpublished figures such as old company reports to derive the estimated approximate value of bullion production shown in the graph. The bullion value peaked in 1882 at \$5,202,876 and declined thereafter. The 1882 figure, when adjusted with the Consumer Price Index (MW, 2014), indicates a purchasing value in 2013 of \$122 million. Adjustment of the 1882 figure to reflect the relative share of Gross Domestic Product yields a sum slightly more than \$7 billion because the 1882 economy was much smaller than that in 2013. The Tombstone Mining District for a few years was indeed a bonanza that provided fortunes for several people and a livelihood for many others.

A mix of factors ended the Tombstone Bonanza. First, silver prices declined during the latter part of the 19th century (Kitco, 2014). The London average price per ounce in US dollars was \$1.21 in 1877, \$0.97 in 1887, \$0.59 in 1897, and \$0.55 in 1907. Silver thus lost approximately half of its market value from the time Ed Schieffelin prospected in the Tombstone area to the early 20th century.

Miners discovered water at a depth of 520 feet in the Sulphuret mine in 1881 (Blake, 1902, p. 17-21; Devere, 1978, p. 315; Monahan, 2007, p. 27-63). People initially thought the underground water would allow mining companies to move their mills to the Tombstone area and save the cost of hauling ore down to the mills along the San Pedro River. By early 1883, most mines had been dug down to the level of the water and it was necessary to install pumps if mining was to be done at lower depths. The Grand Central Company put in steam pumps capable of raising 500,000 gallons of water a day. However, these pumps produced no lowering of the water level. The Contention Company then spent approximately \$150,000 on Cornish pumps capable of raising 1 million gallons per day. The water level still did not fall. The Grand



Central Company then spent approximately \$200,000 installing Cornish pumps that could move 1.5 million gallons per day. The new combination of pumps lowered the water to a depth 100 feet below the initial water level. There were no technical problems preventing further pumping of water and mining at increasing depths. However, on May 26, 1886, a fire destroyed the Grand Central Company hoisting works and pumps.

Lower silver prices significantly reduced the incentives for spending more money on pumps. The mining companies squabbled among themselves, and the Contention management stopped its pumps and allowed the water level to rise. Finally, due to the carelessness of a watchman, the Contention plant caught fire. Its complete destruction stopped the possibility of mining at lower depths.

Mining companies thus faced significantly higher costs of obtaining ore and much lower prices for silver. They were unable to agree on how to share the costs of pumping water.

By 1897, the population of Tombstone was less than 1,000 (Tonge, 1897, p. 762). Approximately 100 men engaged in small mining activities by taking leases on mines or portions of mines and paying a royalty for the value of the ore. By 1915, people had removed most of the houses from Tombstone (Bissell, and Bissell, 1915, p. 500-502, 509-511 abs.). Settlers in the San Pedro River Valley had found it more economical to buy homes in Tombstone for \$50-\$75, then take them piecemeal down into the valley rather than build new dwellings. There would be attempts at various times to start pumping the water and revive the mining, but the bonanza years never returned.

References (abs. = absolute pages, as numbered by PDF reader)

AC. 1879a. The Arizona Citizen, p. 3. Saturday, January 11, 1879. (PDF downloaded August 30, 2014 from http://chroniclingamerica.loc.gov/lccn/sn82014896/1879-01-11/ed-1/seq-3/).

AC. 1879b. Mining Items. The Arizona Citizen, p. 3. Saturday, January 25, 1879. (PDF downloaded August 26, 2014 from http://chroniclingamerica.loc.gov/lccn/sn82014896/1879-01-25/ed-1/seq-3/).

AC. 1879c. The Arizona Bonanzas. Tombstone and Other Interests. [&] Another Quartz Mill. The Arizona Citizen, p. 2. Friday, April 18, 1879. (PDF downloaded August 30, 2014 from http://chroniclingamerica.loc.gov/lccn/sn82014896/1879-04-18/ed-1/seq-2/).



Above. Contention Hoisting Works & Ore Dump, ca. 1880, Tombstone in background. A. Miner returning ore cart to mine. B. Ore Bins which when opened allowed ore to fall into wagons positioned beneath. From Tonge, T. 1897., p. 760, 787 abs.



Above. Ore wagon team in Tombstone. From Blake, 1902., p. 30 abs.



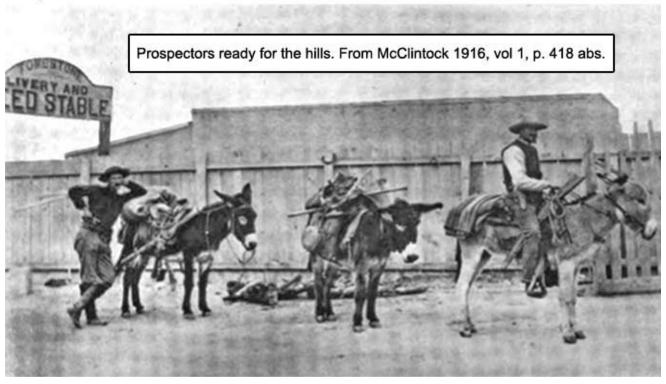
Above. Contention Mill, with ore wagon team on ramp above mill. From Tonge, 1897, p. 762, 789 abs.



Grand Central Mining and Milling Company's mine surface plant, with Tombstone in background, ca. 1884. From McCord, 1897, unnumbered p., 931 abs.



Above. Courtesy of USC Digital Library, http://digitallibrary.usc.edu/cdm/singleitem/collection/p15799coll65/id/11182/rec The Tombstone Mill and Mining Company used approximately 300 cords of wood /month, all from the Huachuca Mountains (DA, 1885). Teamsters brought most of the lumber down in ox drawn wagons, similar to the one here that was photographed somewhere in Arizona in approximately 1890. Other mining companies got their lumber mostly from other mountains.



AC. 1879d. Tombstone Company's Work. – The Mill in Successful Operations – Results. Tombstone, A. T., June 3, 1879. The Arizona Citizen, p. 1. Friday, June 6, 1879. (PDF downloaded August 30, 2014 from http://chroniclingamerica.loc.gov/lccn/sn82014896/1879-06-06/ed-1/seq-1/).

AC. 1879e. First Tombstone Bullion – Eight Bars – \$18,744.50. The Arizona Citizen, p. 4. Friday, June 20, 1879. (PDF downloaded August 30, 2014 from http://chroniclingamerica.loc.gov/lccn/sn82014896/1879-06-20/ed-1/seq-4/).

AC. 1879f. A Big Mining Success. The Tombstone Mill and Mining Company's Work, Products Etc., p. 2. The Arizona Citizen. Saturday, November 1, 1879. (PDF downloaded August 6, 2014 from http://chroniclingamerica.loc.gov/lccn/sn82014896/1879-11-01/ed-1/seq-2/).

AC. 1880. Tombstone Dots. The Arizona Citizen, p. 2. Saturday, January 17, 1880. (PDF downloaded September 10, 2014 from http://chroniclingamerica.loc.gov/lccn/sn82014896/1880-01-17/ed-1/seq-2/).

AS. 1878. Arizona Sentinel, p. 3. Saturday, November 2, 1878. (PDF downloaded August 5, 2014 from http://chroniclingamerica.loc.gov/lccn/sn84021912/1878-11-02/ed-1/seq-3/).

AS. 1879. The Tombstone Country. Arizona Sentinel, p. 2. Saturday, February 1, 1879. (PDF downloaded August 26, 2014 from http://chroniclingamerica.loc.gov/lccn/sn84021912/1879-02-01/ed-1/seq-2/).

Austin, W.L. 1883. Silver Milling in Arizona. Transactions of the American Institute of Mining Engineers, 11:91-106, 142-157 abs. (PDF downloaded August 4, 2014 from <a href="http://books.google.com/books?id=AE0JAQAAMAAJ&printsec=frontcover&dq=Transactions+of+the+American+Institute+of+Mining+Engineers+1883+11&hl=en&sa=X&ei=0_ICUvuEGlafiAKG8ICQAQ&ved=0CFUQ6AEwBzge#v=onepage&q=Transactions%20of%20the%20American%20Institute%20of%20Mining%20Engineers%201883%2011&f=false).

AWC. 1883. Tucsonites in Sonora. Arizona Weekly Citizen, p. 4. Saturday, May 19, 1883. (PDF downloaded August 14 2014 from http://chroniclingamerica.loc.gov/lccn/sn82015133/1883-05-19/ed-1/seq-4/).

AZGovs. 1879-1899. Reports of the Governor of Arizona Made to the Secretary of the Interior. [PDF consisted of separately paginated reports by territorial governors to the Secretary of the Interior for 1879, 1881, 1883-1899. Pages that are scans of the back covers of books suggested that reports were separately published and later scanned together. PDF downloaded December 15, 2013 from http://books.google.com/books/download/Report_of_the_Governor_of_Arizona_to_the.pdf?id=ARb1stVcf_4C&hl=en&capid=AFLRE70TJZ16KcyTvirJPbHyR5a74uUUD6Lo48nHR1a_xUwkp2o560060x41YUNXurOza2eE7P4NAk8Rj_mo5d66DygL4mc4THg&continue=http://books.google.com/books/download/Report_of_the_Governor_of_Arizona_to_the.pdf%3Fid%3DARb1stVcf_4C%26output%3Dpdf%26hl%3Den).

Bissell, G. and Bissell, Z. 1915. Tombstone: The Dead Town of Arizona. The Bellman, 18 (457) April 17, 1915: 500-502 [509-511 abs.]. ((PDF downloaded June 30, 2014 from <a href="http://books.google.com/books?id=LTE_AQAAMAAJ&pg=PA501&lpg=PA501&dq=modoc+stage&source=bl&ots=AsE7C-at4M&sig=xHKssqWB8pYbFJ5tsO912UjWluQ&hl=en&sa=X&ei=dcCxU8K4JJG0yASc2YLIAw&ved=0CGEQ6AEwCA#v=onepage&q=modoc%20stage&f=false).

Blake, W.P. 1902. Tombstone and its Mines. A Report upon the Past and Present Condition of the Mines of Tombstone Cochise County, Arizona to the Development Company of America. The Cheltenham Press, New York. 83 p. (PDF downloaded July 2, 2014 from <a href="http://books.google.com/books?id=GH4PAAAAYAA]&pg=PA66&lpg=PA66&dq=Tombstone+Company+stamp+mill&source=bl&ots=7RFnyily5v&sig=7Rk0N-dW7ldickqVAzSzwnau1H1&hl=en&sa=X&ei=35u0U9TbOc-WyASBm4GoCg&ved=0CDEQ6AEwBTgK#v=onepage&q=Tombstone%20Company%20stamp%20mill&f=false).

Brown, C.S. 1881. An Arizona Mining District, p. 49-57, 64-72 abs.. In The Californian. A Western Monthly Magazine. July-December 1881. Vol. 4. (PDF downloaded August 23, 2014 from <a href="http://books.google.com/books?id=0-4MAQAAIAAJ&pg=PA52&lpg=PA52&dq=%22boston+mill%22arizona&source=bl&ots=YziNAt3Hwt&sig=kAbyzpPUL35PMXdXtkqL38fJ-7M&hl=en&sa=X&ei=Jy35U4PiMsa7igKUn4CoBw&ved=0CCMQ6AEwATgU#v=onepage&q=%22boston%20mill%22arizona&f=false).

Butler, B.S., Wilson, E.D., and Rasor, C.A. Geology and Ore Deposits of the Tombstone District, Arizona. Arizona Bureau of Mines, Geological Series No. 10, Bulletin No. 143. 114 p. (PDF downloaded August 28, 2014 from http://www.azgs.az.gov/publications-online/bulletins/bull143/bull143.pdf).

Church, J.A. 1903. The Tombstone, Arizona, mining district. American Institute of Mining Engineers, Transactions: 33: 3-37. [69-103 abs.] (PDF downloaded June 23, 2014 from https://ia600500.us.archive.org/11/items/transactionsmining33amer.pdf).

DA. 1885. Tombstone. The Mines in the Neighborhood of their Arizona Town, p. 8. Daily Alta California, November 19, 1885. Vol. 39, No. 13033. (PDF downloaded July 2, 2014 from http://cdnc.ucr.edu/cgi-bin/cdnc?a=d&d=DAC18851119.2.73#).

Devere, B.J. 1978. The Tombstone Mining District History, Geology and Ore Deposits, p. 315-320. In Callender, J.F., Wilt, J.C., Clemons, R.E., and James, H.L. (eds.), 348 p. (PDF downloaded July 2, 2014 from https://nmgs.nmt.edu/publications/guidebooks/downloads/29/29_p0315_p0320.pdf).

Disturnell, W. C. 1881. Arizona Business Directory and Gazetteer; Containing the Names and Post-office Addresses of all Merchants, manufacturers and Professional Men in the Territory of Arizona; Territorial, County, City and Town Officers. A Description of the Different Mining Districts and the Names of Mining Superintendence. Also, a Gazetteer of the Counties, Cities and Towns, Giving a Full Exhibit of their Mineral, Agricultural and Manufacturing Resources. W. C. Disturnell, San Francisco. Bacon & Company, Printers. 327 p. (PDF downloaded September 6, 2014 from https://archive.org/details/arizonabusinessd00districh).

FIW. 1881. Fulton Iron Works [ad]. Mining and Scientific Press. An Illustrated Journal of Mining, Popular Science and General News, 42 (6), p. 96, 102 abs.. (PDF downloaded August 28, 2014 from https://archive.org/details/miningscien43unse).

Fulton, R. W. 1966. Millville-Charleston, Cochise County 1878-1889. The Journal of Arizona History, Spring 1966:9-22.

Gird, R. 1907. True story of the discovery of Tombstone. Out West Magazine, July to December, 27: 39-50. (PDF downloaded August 28, 2014 from https://archive.org/details/outwestland27archrich).

Kitco. 2014. Silver 1792-present London Fix Average. [chart] (Website accessed September, 10, 2014 at http://www.kitco.com/scripts/hist_charts/yearly_graphs.plx).

Marcus, J.R. (ed.). 1958. An Arizona Pioneer – Memoirs of Sam Aaron. American Jewish Archives, 10:95-120. (PDF downloaded August 30, 2014 from http://americanjewisharchives.org/publications/journal/PDF/1958_10_02_00.pdf).

McClintock, J.H. 1916. Arizona, Prehistoric – Aboriginal – Pioneer – Modern. The Nation's Youngest Commonwealth within a Land of Ancient Culture. Volume I. The S. J. Clarke Publishing Co., Chicago. x + p. 1-312. (PDF downloaded October 3, 2013 from http://books.google.com/books?id=gb8UAAAAYAAJ&printsec=frontcover&dq=Arizona,+Prehistoric,+Aboriginal,+Pioneer,+Modern&hl=en&sa=X&ei=WutNUtTZNcvoiAK0jICIAw&ved=0CDoQ6AEwAA#v=onepage&q=Arizona%2C%20Prehistoric%2C%20Aboriginal%2C%20Pioneer%2C%20Modern&f=false).

McCord, M.H. 1897. Report of the Governor of Arizona Made to the Secretary of the Interior for the Year 1897. Washington: Government Printing Office. 152 p. In AZGovs. 1879-1899. (p. 878-1079 abs.).

Monahan, S. 2007. Tombstone's Treasure. Silver Mines and Golden Saloons. University of New Mexico Press, Albuquerque. xvi + 199 p.

MSP. 1881a. Tombstone District, Arizona. Mining and Scientific Press. An Illustrated Journal of Mining, Popular Science and General News, October 1, 1881, 43 (14) 1, 223 abs. (PDF downloaded August 28, 2014 from https://archive.org/details/miningscien43unse).

MSP. 1881b. A Great Mine. Mining and Scientific Press. An Illustrated Journal of Mining, Popular Science and General News, October 22, 1881, 43 (14) 270, 276 abs. (PDF downloaded August 28, 2014 from https://archive.org/details/miningscien43unse).

MW. 2014. MeasuringWorth (Website calculator accessed September 18, 2014 at (http://www.measuringworth.com/ppowerus/).

Rodgers, W.M. 1965. Historical Land Occupance of the Upper San Pedro River Valley since 1870. A Thesis Submitted to the Faculty of the Department of Geography and Area Development In Partial Fulfillment of the Requirements For the Degree of Master of Arts In the Graduate College The University of Arizona. 167 p. (PDF downloaded August 5, 2013 from http://arizona.openrepository.com/arizona/bitstream/10150/191458/1/azu td hy e9791_1965_228_sip1_w.pdf).

Rose, J.D. 2012. Charleston & Millville, A. T., Hell on the San Pedro. CreateSpace Independent Publishing Platform. xviii + 330 p.

Tritle, F.A. 1883. Report of the Governor of Arizona Made to the Secretary of the Interior for the Year 1883. Washington, DC: Government Printing Office. 14 p. In AZGovs. 1879-1899.

Underhill, L.E. (ed.) 1979. The Tombstone Discovery: The recollections of Ed Schieffelin & Richard Gird. Arizona and the West, 21 (1): 37-76.

Events Calendar, October-December

[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 WalksEvery Saturday at SPH

9 am—October 4, 11, 18, 25

9 am—November 1, 8, 15, 22, 29

9 am—December 6, 13, 20, 27

FSPR Bird Walks

Every 2nd Wednesday & 4th Saturday at SPH

8 am—October 8, 25

8 am—November 12, 22

8 am—December 10, 27

FSPR/HAS/SABO Bird Walks

Every Sunday at Sierra Vista Environmental Operations Park (EOP)

8 am—October 5, 12, 19, 26

8 am—November 2, 9, 16, 23, 30

8 am—December 7, 14, 21, 28

Special Events

October 4 (Sat), 9 am—Murray Springs History Walk

October 18 (Sat), 8 am—Members-Only Hike to Charleston

October 19 (Sun), 11 am-2 pm—FSPR Annual Meeting (see article, p. 1)

October 25 (Sat), 10 am-2 pm—Fairbank Day (see article, p. 2-3)

October 25 (Sat), 8 am—Hike from Fairbank to Terrenate (part of Fairbank Day)

October 25 (Sat), 9 am—Walk to Fairbank Train Depot Sites (part of Fairbank Day)

November 8 (Sat), 9 am—Presidio History Walk

November 20 (Thurs), 7 pm—Lecture on Springs in the Sky Island Region

Dec 6 (Sat), 9 am—Millville History Walk

December 18 (Thurs), 7 pm—Lecture on cultural topic to be determined

December 20 (Sat) (tentative)—Ramsey Canyon Christmas Bird Count (see article, p. 7)

Members, June-September 2014

Anders Aman, Suzanne Arnold, Leslie Baird,
Terence, Gina & Andrew Berger, Richard
Carlsen & Victor Acedo, Christi & Ken Charters,
Henry (Steve) & Marjorie Conroy, Joel Fago,
Stacy & Craig Fletcher*, Roger Funk & Douglas
Noffsinger, Bob Groendyke*, Ken & Sandy
Heusman, Kathy Hill*, Lieve Keeney*, Beth Ann
Krueger & Jaimison Slyter*, William Landers*,
Jianxin Mai & Hui Zhao*, David & Catherine
Newell, John Rose, Carolyn Santucci, Karl & Mary
Schneider, Doris & Reginald Turner, Connie
Wolcott & Janet Holzworth, Carol Wood &
Wijbren Huisman* (* = new member)

Contact List

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- Vice-President—Robert Weissler
- Treasurer—Renell Stewart
- Secretary— Sally Rosén
- Directors—Steve Ogle, Sally Rosén, Ron Serviss, Renell Stewart, Ron Stewart, Robert Weissler, Tom Wood
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- Education—John Rose
- Membership—Vacant
- Communications Coordinator—Vacant
- Newsletter Editor—Sue Leskiw
- 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.