SAN PEDRO RIVER

An Anthology of Articles
Volume 4

Compiled by Dutch Nagle & Chris Long

FORWARD:

These articles were written for publication by the Sierra Vista Herald newspaper. They are intended to inform the public about the San Pedro Riparian National Conservation Area. The Friends of the San Pedro River hope that they are informative and improve understanding of the river, its ecology, and history.

All the articles were written by BLM staffers or members of the Friends of the San Pedro River and reviewed by a panel comprised of Friends and BLM personnel.

With thanks to all the writers and reviewers over the years.

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Cover photo by Dwight Long

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Fall Migration **By Alan Blixt**

What an exciting time of year! Many millions of North American breeding birds are heading for or preparing to head for their wintering grounds. We have already seen spotted sandpipers, lazuli buntings, Wilson's warblers, rufous hummingbirds, and other birds passing through the San Pedro Riparian National Conservation Area. These birds do not breed here but they migrate through in the spring and fall of each year. This spring we saw a flock of about 40 willets at Green Kingfisher Pond. They spent several days there resting and feeding before continuing their journey north. The conservation area provides them with food, water, and cover on their migratory travel.

Our local breeding birds are also leaving or making preparations for their flight south. Summer tanagers, yellow warblers, Bullock's orioles, gray hawks, and other birds can be seen along the San Pedro River. On the grasslands, look for blue grosbeaks, vermilion flycatchers, Cassin's and western kingbirds, and others. Long-distance migrants generally must leave at a given date as they have such a long way to travel. Some short-distance migrants will stay longer if food resources are plentiful. As the breeding season ends, the sexual organs atrophy and the birds feed ravenously to put on the fat needed for their journey. As the rainy season ends the conservation area provides birds with abundant sources of nectar, insects, and seed.

We can also expect new arrivals that will spend the winter with us. We have about 60 species of birds that come to spend the winter here. Many waterfowl will head south as their open water begins to freeze over. Sparrows cannot find the seed they need to survive as snow covers the ground. Many raptors come south to winter with us because their prey, such as rodents and small mammals, hibernate in the colder regions. Commonly seen on the grasslands in the winter are numerous species of sparrows, red-tailed hawks, and the grassland hunter, the northern harrier. Look for mallards, northern shovelers, and canvasbacks at Green Kingfisher Pond. Along the river you may see sharp-shinned hawk, the ruby-crowned kinglet, and the beautiful red-naped sapsucker.

Bird behavior changes as well. In the breeding season, birds pair off to raise their young and do not exhibit mixed-flocking behavior. Instead they maintain territories that they defend to sustain themselves

and their young. In the winter many species flock together to find food resources and as defense against predators. For example, sparrows of several species will often mix together on our semi-arid grasslands. Our smaller sparrows such as Brewer's sparrows eat very small seeds. The large white-crowned sparrows eat large seeds. Mid-sized sparrows such as chipping and Savannah sparrows fall somewhere in between. As a result, these birds are not competing for the same resource. The older birds that have been here before know the resources here and go to those places best suited to find food. The younger birds follow but are usually forced to the outside of the flock. The younger birds benefit by following the older birds to the food resources. The older birds benefit because the younger birds on the edge of the flock are more vulnerable to raptors such as our resident Cooper's hawk and the sharp-shinned hawk that spends the winter with us.

Another interesting behavior in the fall is the flocking behavior of birds in preparation for migration. Two bird species seen gathering on the grasslands in the fall are turkey vultures and Swainson's hawks. Turkey vultures depend on thermals for both flight and to smell the carrion they feed on. With the onset of cold weather and the lack of thermals they head south to Mexico and beyond. Swainson's hawks gather in large groups, called kettles, in the late fall. They migrate together traveling all the way to the Argentine grasslands where they spend the winter.

So, say goodbye and good luck to our warblers, flycatchers, orioles, grosbeaks, and other neo-tropical songbirds as they head south to their wintering grounds. And say hello and welcome to our winter guests.

The Summer Tanager breeds along the San Pedro River
Photo from FSPR archives

About the Author: Alan Blixt is a past member of the Board of Directors and a docent for the Friends of the San Pedro River.

Is Anything Out There?? **By Dutch Nagle**

The San Pedro Riparian National Conservation Area (SPRNCA) has been the scene of thousands upon thousands of natural and unnatural deaths over the past 13,000 years, starting with the Clovis people and proceeding to current times.

Many Clovis people, who lived here 13,000 years ago, lost their lives while hunting mammoth in the Murray Springs and Lehner Ranch areas. Others fell prey to saber-toothed tigers and dire wolves. If you camp nearby you may be awakened by the sound of beating drums, as the clan members mourn their lost comrades.

At Brunckow, often referred to as the "bloodiest cabin" in Arizona History, Frederick Brunckow, his mining engineer, and his assayer were killed by unknown persons. A few years later, in a dispute over ownership of the now deserted cabin and mine, Joseph Holmes killed U.S. Marshall Milton Duffield. Murderous fights followed over the years by those trying to find the silver that was rumored to be in the mine, bringing the death toll to 21. Nowadays, the ruins of the house and mine are said to be haunted. Travelers along Charleston road, it is said, hear cries and groans at night or see shadowy forms stalking in the moonlight. Dogs, much more sensitive to the spirit world than humans, refuse to enter the cabin.

In the Hereford Bridge area, where the old Moson Ranch used to be, three children, unaware that the outflow of a destroyed dam had caused the water level of their favorite swimming hole to rise, jumped in and two of them drowned. One girl's father, certain that he knew the culprit who blew up the dam, tracked him into Tombstone and shot him dead! There have been reports of two little girls wandering around the old Hereford Townsite in the middle of the night but when approached, they disappear.

Charleston, said to be tougher than Tombstone, had more than its share of deaths. It was reported that many mornings when the men from Charleston were going to their first shift jobs in Millville they would find dead bodies lying in the street, the remains of bar fights the night before. If the dead men were carrying a gun and were shot in the front, no investigation even took place. Many bodies were dumped into the San Pedro and they would bloat and float down the river, some being pulled out at Fairbank and given a decent burial. If you spot one of the "slow boats from Charleston" be sure to watch out, lest the

spirits of the dead come after you. The specters seen and heard here may be the same ones that are seen and heard near the Brunckow cabin, or maybe it is a different bunch.

Fairbank was a railroad center and many dead bodies were shipped from there to wherever they were to be buried; however, many of the "slow boats from Charleston" were buried in the Fairbank cemetery along with town residents. Even though the cemetery is fairly large, there is only one grave with a marker. Also, near Fairbank, in 1856, a herd of wild bulls attacked the Mormon Battalion, who were marching through the San Pedro Valley on their way to San Diego. No men lost their lives but several bulls did. When you hear snorts and pawing of the earth late at night, it may be cattle or javelina, or, just maybe, it is the ghosts of these ferocious bulls ready to come after you.

At the Presidio Santa Cruz de Terrenate more than 80 men lost their lives fighting the Apaches. Innumerable Indians also died in these battles. Reports from hikers and campers say that battle cries and screams of the dying often disrupt their sleep.

There is also a story of an automobile driver who said that a girl dressed in buckskin suddenly appeared standing on the bridge over the San Pedro River. He swerved and went off the road but was able to regain control of the car. When he looked back all he saw were the headlights of another automobile behind him. The people in the second car, who stopped to aid him, said they did not see anything unusual.

Near the San Pedro House, during the Civil War, a cavalry patrol from Camp Wallen discovered Apaches torturing the drivers of an ox-drawn freight train. The Apaches got away, and the troopers buried the charred and mutilated bodies of the victims. The sounds of cavalry swords clashing and oxen screaming in pain are part of the lore of the river.

One person decided to end it all under a cottonwood tree that had been that person's favorite resting and picnicking spot. I am sure there have been many other similar cases over the years.

Throughout the SPRNCA people killed in stagecoach robberies, cattle rustling, encounters with the likes of the Clantons, the Earps, and the McLaurys as well as floods and rattlesnake bites account for many more lost souls. And don't forget the mine cave-ins, the mill workers who died from the mercury used in the milling process, the love affairs gone sour, the shoot-outs in the saloons and brothels, the settling of gambling debts, and, of course, the many other accidental and natural

deaths. Many lives ended in a flash by a garrote, knife, bullet, or a sharp snap at the end of a rope.

So many potential 'ghosts'. So many reports of apparitions moaning and wandering around looking for something or someone, some seeking revenge, some trying to assist the living, some singing, some crying, some just being mischievous. But, they are out there!

Reenactment of a gunfight at Fairbank by Tombstone Territorial Actors
Photo by Dutch Nagle

About the Author: Dutch Nagle is a docent and past president of the Friends of the San Pedro River.

Mormon Battalion **By Dutch Nagle**

Many visitors to the San Pedro Riparian National Conservation Area ask questions about the monuments commemorating the "Mormon Battalion" that are seen along the San Pedro River. The history of the Battalion in Cochise County is quite interesting and an important part of the cultural history of our area.

In 1846, President Polk requested men from the Church of Jesus Christ of Latter-day Saints to enlist in the army to help in the war against Mexico. Five hundred of them answered the call. They made the longest march in U S military history, 2,000 miles from Council Bluffs, Iowa, where they enlisted, to San Diego, California. The march route brought them into what is now Cochise County near Douglas on Dec 6th, 1846. They established camp near Naco, AZ on Dec 8th. From there they pretty much followed what is now the abandoned tracks of the Southern Pacific Railroad to the San Pedro River. They then followed the river to St. David, where they headed west toward Tucson. It took them nine days to pass through Cochise County (December 6th through December 14th, 1846).

Although not military "members", many Mormon women accompanied the Battalion on this march and took care of cooking, laundry, nursing, and also added woman-power, when needed, to push the wagons or lead the horses.

The logs kept by different members of the Battalion report that the river was lined with large walnut trees, there were also groves of ash trees, and many mesquite trees. Salmon trout (probably Colorado Topminnow) were caught by the men in great numbers, some of them were eighteen inches long indicating that certain sections of the river were quite deep. A kind of cane grass grew in the region, from four to six feet high, being very profuse and luxuriant in the bottom near the stream, this was sacaton. The early morning temperature on Dec. 10th was below 10 degrees Fahrenheit although the daytime temperatures were pleasant. There were also wild cattle roaming along the entire route. The journals state that the Battalion had to cross and re-cross the San Pedro River several times, showing that the river was not very deep, or perhaps was dry, in many spots.

One morning, while on its march, the Battalion encountered a large herd of wild bulls, which charged the contingent. Several soldiers were wounded and a couple of mules were gored to death and many bulls were killed during the encounter. This event is thought to have

occurred about ¾ of a mile north of Fairbank and south of the Presidio Santa Cruz de Terrenate. The journals mention that they crossed a creek (the Babocomari) and named it "Bullrun Creek" because shortly after crossing it they engaged in "battle" with a group of wild bulls.

Several participants of the Battalion returned to Arizona many years later and established the town of St. David.

In the 1950s, the Mormons re-established a Mormon Battalion with the goal of erecting monuments along the entire march route to honor the original Battalion. There are many monuments scattered along the entire route but we are only concerned with the ones within Cochise County. In 1960 the Boy Scouts of America in Cochise County (Mormon troops only), decided to erect monuments to the Mormon Battalion along the path that the Battalion took through our County. They had hoped to gain BSA awards for their effort but because of incomplete paperwork, they did not get any recognition for their efforts. The boy scouts placed eight monuments at locations where it is thought the Battalion camped. The Willcox Troop, put a monument up at the Slaughter Ranch (San Bernardino); the Pomerene Troop put one up in the Douglas City Park (Veterans Park, 8th Street); the Sierra Vista Boy Scouts placed the one at Paul Spur on SR 80; the monument in Palominas was put up by the Douglas Boy Scouts (see NOTE); the one on SR 90 at the San Pedro River was erected by the Douglas Explorers; the one near Charleston commemorating the "Battle of the Bulls", which actually occurred near Fairbank, was put there by the Bisbee Boy Scouts; the one at St. David was put up by the Elfrida Boy Scouts; and the one in Benson was put up by the Sierra Vista Explorers.

NOTE: The original monument at Palominas was destroyed when SR92 was widened. A replacement was erected at the LDS Boy Scout Camp, just south of the original location, by an Eagle Scout from Troop 436 in May of 2000.

References:

Concise History of the Mormon Battalion in the Mexican War, 1846-1848, 2nd edition, 1964, Rio Grande Press, Chicago, Illinois. By Daniel Tyler

A Historic Guide to the Mormon Battalion and Butterfield Trail. By Dan Talbot

Cochise County Historic Society Journal Vol 13, Nos. 3 & 4, Fall/Winter 1983, Interview with Marvin Follett.

Monument to the Mormon Battalion, located just east of the river on the north side of SR90
Photo by Dutch Nagle

About the Author: Dutch Nagle is a docent and past president of the Friends of the San Pedro River.

Community Xeriscape Project By Ted Mouras

"Xeric" – from the Greek word for "dry" – is a term you might have heard once or twice here in the Southwest. In Arizona, as in many western states, water is a scarce resource, and a xeric landscape or xeriscape is a landscape in harmony with the plants and animals sharing this beautiful semi-arid land with us.

The Friends of the San Pedro River support the Bureau of Land Management in protecting and enhancing the San Pedro Riparian National Conservation Area (SPRNCA). We accomplish this through a variety of education and outreach programs. One of our main educational objectives is to demonstrate the vital importance of groundwater to the survival of plants and animals in the SPRNCA by providing examples of how each of us can reduce the amount of groundwater we use in our daily lives. The Community Xeriscape project arose from this objective.

In June 2007, the Friends received a generous grant from the Community Foundation for Southern Arizona, allowing us to start work on creating a Community Xeriscape near the San Pedro House (SPH). Our goal was to give local residents an example of how they could create an attractive and affordable landscape that requires minimal use of our most precious natural resource – groundwater.

We included elements that appeal to the dedicated xeric landscaper intent on using no supplemental water other than rainwater, as well as elements appealing to those with a less ambitious goal to try to "do their part." The Community Xeriscape elements are equally applicable to city and rural residents, and include rainwater harvesting, solar power, drip irrigation, and gardening with native plants. With these goals in mind, we turned to experts in xeric landscaping for design guidance.

The Cochise County Master Gardeners created a design that divides the Community xeriscape into three subsections. One area uses granite gravel mulch as a base, a second area uses bark mulch, and the third area is planted in native grasses. A walkway through these areas allows visitors to get a closer look. The xeriscape includes dozens of local drought-tolerant native plants, including a variety of hummingbird- and butterfly-attracting species. We incorporated boulders, tree limbs, and river rock in portions of the landscaping and tied the Community Xeriscape into the existing wildlife habitat around the SPH.

Rainwater provides supplemental water to the Community Xeriscape. Rainwater is collected from the roof of the SPH amphitheatre and stored in two 100 gallon rainwater barrels and one 1550-gallon rainwater tank. Water flows to the Xeriscape via hoses connected to the barrels and via a drip irrigation system connected to the tank. A solar-powered booster pump provides water pressure for the drip irrigation system. A 60 watt solar panel, mounted on the roof of the amphitheater, charges a 12 volt battery providing power to the pump.

The solar-powered drip irrigation system ensured that our plants survived the hot, dry pre-monsoon, and summer rains filled the rainwater barrels and tank and gave the plants and native grasses the boost they needed to firmly establish themselves. Once the plants began to flower in late July, we started to note hummingbirds and butterflies, as well as the occasional gopher, javelina, and Woodhouse's Toad, showing up in the landscape.

On May 10, 2008, during the annual International Migratory Bird Day Spring Festival, the Friends dedicated the Community Xeriscape, marking the completion of the first phase of the project. Afterwards, the Friends and Master Gardeners started into the second phase, which includes creating a swale for passive irrigation, installing trellises around the rainwater tank to facilitate growing native vines, installing a bench and decorative tiles in the xeriscape, installing informational signs (funded by two generous grants from the Cochise Community Foundation) describing the elements of the Community Xeriscape as well as signs identifying the plants, and creating a brochure explaining how homeowners can create their own xeriscape based on our model. We're progressing nicely, and expect to complete phase two by March 2009.

Both Water Wise and the Cochise County Master Gardeners now include the Community Xeriscape in their tours of xeric landscapes. And the Friends would like to welcome the public to come to the SPH on their own – to take a tour of the Community Xeriscape and identify ways they can reduce groundwater usage at home while creating a beautiful landscape they can be proud of.

Xeric Garden at the San Pedro House
Photo by Ted Mouras.

About the Author: Ted Mouras, is a retired Army officer. He is a docent and past President of the Friends of the San Pedro River

Palominas, "Place of the Doves" By Dutch Nagle

"Grass as high as a man on the back of a horse," that's how the Coronado expedition journals described the San Pedro Valley back in 1540. One could say the same today about the Palominas area. There are still open grasslands. Early explorers in the 1800s found a valley full of wildlife with beaver and fish in the nearby river. Most of the large fish are gone, but the beaver, which were completely extirpated by the early 1900s were reintroduced in 1999 and are doing well. In 1846, the Mormon Battalion used the valley as a corridor on their trek to San Diego. The river itself was lined with trees but not in the narrow corridor we see today. It meandered through marshes and was intermittently wet and dry. The land was part of Mexico until the Gadsden Purchase of 1853 when it became a United States territory. Cattle ranching was about the only commercial venture here until 1877. That was the year that Ed Schieffelin found silver and the mining boom began. The boom didn't last too long, by 1885 the Tombstone mines were filling with water and the mining operations were coming to an end. That meant that the stamp mills along the San Pedro were no longer needed. Cattle ranching and copper mining in Bisbee became the economic drivers for the southern end of the valley. The Palominas area prospered due to the railroad at Hereford and the continued copper mining in Bisbee.

The Fike family, one of the first settlers to arrive in the area in the late 1880s, settled on land that stretched from the city limits of Naco to the San Pedro River. The good agricultural soil in the area gained it the name of Sod Town (aren't you glad that it was later renamed Palominas!) The Fikes developed a very large enterprise called the San Jose Ranch with over 100 employees. By 1913, they ran a couple of hundred horses, nearly 400 head of steer and a very large dairy operation on their land. The dairy served Bisbee with fresh milk and cream daily.

The 1887 earthquake was felt strongly in the area. One of the descriptions came from the General Store in Palominas. Many stories still circulate today claiming that the river changed directions because of the quake; that the quake caused the mines in Tombstone to flood; and that the river went underground, thus destroying river transportation. The facts are that the Tombstone mines flooded a couple of years

before the quake; the river always flowed from south to north; and the river was never navigable except by canoe or row-boat in limited sections. There was probably some affect on the river but it seems negligible.

The days of the "wild west" may have been wild in nearby places such as Charleston, Fairbank, Tombstone, and Bisbee but were generally quiet in this agricultural area. Except, of course, for cattle rustling, especially along the border. There were no notorious shootings or hangings in Palominas. But, there were many colorful and well-known personalities that passed through. Colonel Greene, the Moson family, the Clantons, etc. probably stopped at the Palominas General Store for provisions, water for their horses, or just a bit of conversation.

The railroad, running from Fairbank to Hereford to Bisbee, was completed in 1889 and played a key role in delivering cattle, dairy, and mining products to market. It also provided services to other businesses and residents.

The original schoolhouse was located on Hereford Rd. but it burned down, and in 1911, the town built another at the corner of Palominas Road and Highway 92. It is still in use today as administrative offices for the Palominas School District.

In 1950, two war surplus buildings from Ft. Huachuca were moved onto new foundations in Palominas. One became the home of the Secrests and the other became the Palominas Trading Post, which the Secrests operated.

One of the founding families of Palominas donated over 1,000 acres to A. A. Allen Revival Inc. in 1958. A. A. Allen called it Miracle Valley. Miracle Valley has been used for religious purposes ever since. Sadly, it was the scene of disturbance and death in 1981 - 1982 when tensions between the Palominas community and a religious order turned violent. Shortly afterward the religious group moved from the area. In 1999, after lying idle for several years, the property was sold to Melvin Harter Ministries, Inc, and is still operated as a religious institution.

In 1987, much of the land abutting the river in the Hereford/Palominas area was preserved as part of what is now the San Pedro Riparian National Conservation Area (SPRNCA). It is a "corridor of life" for animals and plants and attracts both tourist and local visitors.

The cattle are mostly gone, the mining is gone, the railroad is gone, and the wild west is gone. But, the Trading Post is still here, there are now two K-8 schools, there is a fire department that protects the town, small businesses are making a living, and some of the original pioneer families still live here. It looks like this sleepy little town with a long and rich history is not done yet.

Old Windmill Structure at the border near the San Pedro River
Photo by Beth Krueger

About the Author: Dutch Nagle is a docent and past president of the Friends of the San Pedro River.

For the Birds

By Heather L. Swanson

"That's for the birds." I'm sure we've all heard this saying when someone thinks that something is meaningless, but that is not why I say it. I say it because, in my world, it is definitely for the birds, and it happens to have substantial meaning!

The San Pedro Riparian National Conservation Area (SPRNCA) is an extremely important habitat for birds. More than 100 species of breeding birds and over 250 species of migrant and wintering birds have been documented within the SPRNCA. Five to 10 million birds use the San Pedro River annually for migration and breeding. To attest to its importance, the American Bird Conservancy designated the San Pedro as the first Globally Important Bird Area in North America in 1996.

With this being said, it is obvious that this area is important to the birds, but the birds are also important to the area. Birds pollinate flowers; they spread and fertilize seeds; they eat billions of insects, amphibians, rodents, and reptiles; and they also help the local economy by bringing in bird lovers from all over the world! Since the designation of the SPRNCA in 1988, the Bureau of Land Management (BLM) has made it a priority to make sure that the avian species that utilize and contribute to this area are protected. The basis of protecting a resource is monitoring, and one way to monitor avian species is with bird banding.

Bird banding is a way for scientists to track and, in a way, observe a bird's life. Individual birds are captured using specialized nets called mist nets. Each captured bird is identified; its age, sex and breeding status is determined and the bird is banded. An aluminum band with a unique set of numbers stamped on it, provided by the U.S. Geological Survey Bird Banding Laboratory, is placed on the leg of the bird. The bird is then released. The whole process takes approximately two minutes. This bird, along with all the other birds throughout the world that have been banded, can now be tracked.

Information such as lifespan, how far and to where the bird travels, and increases and declines in populations can be seen from the analysis of banding data. Researchers can see how long migrants stay in an area, observe the general health of resident species reflecting general health of the ecosystem, see which species are molting in conjunction with climate change or resource availability, and note what percent of breeding adults and percent of juveniles are in the

population. The information that is learned from banding plays a major role in management actions and the continued preservation of important areas like the SPRNCA.

There are currently two banding stations operated in the SPRNCA with Friends of the San Pedro River volunteers assisting BLM biologist. One of these stations, located at the San Pedro House, operates from the beginning of March through April and then from August through November. The other station, located by Green Kingfisher Pond, operates from May through July. This station is one of more than 500 stations that are part of the Monitoring Avian Productivity and Survivorship (MAPS) program. This program was initiated by the Institute for Bird Populations in 1989 to gather data on North American land birds for the purpose of management and conservation. The data gathered at these two stations is entered into two nationwide databases, one maintained by the Institute for Bird Populations and the other by the Bird Banding Laboratory.

Heather Swanson shows a newly banded Lesser Goldfinch to a young visitor, Zoe Miller
Photo by Alice Wilcox

If hummingbirds are what you fancy, hummingbird banding is also conducted at the San Pedro House. This banding is done by the Southeastern Arizona Bird Observatory (SABO), during the months of July thru September. T he public is also welcome at this event, so contact SABO or the Friends of The San Pedro River for days and times.

If you would like to learn more about banding or the wonderful birds in our area contact Heather L. Swanson. Visitors are welcome to come to the banding stations and observe, ask questions, participate, and see exactly why I do, what I do, just *for the birds*.

About the Author: Heather L. Swanson is a Natural Resource Specialist for the Bureau of Land Management's San Pedro Project.

Biodiversity in the San Pedro Basin By Ted Mouras

The Upper San Pedro (USP) River Basin is one of the most biologically diverse, non-coastal areas in the United States. Located at a biological crossroads, where the sub-tropical Sierra Madre Mountains and Sonoran Desert meet and mingle with the temperate Rocky Mountains and Chihuahuan Desert, this is a temperate region of significant plant and animal diversity.

With over 350 species of birds, 80 species of mammals, 60 species of reptiles and amphibians, and 200 species of butterflies, the region encompassing the Huachuca and Mule Mountains and the valley between them is a natural history gem. Consequently, this is one of the most popular places in the United States for birders and lepidopterists (those with an interest in butterflies and moths). Its high biodiversity results from many factors, including proximity to the sub-tropics, the north-south orientation of the San Pedro River, two annual rainy seasons, geology, and more.

The USP River Basin is part of the Apache Highlands Ecoregion, an area characterized by significant geologic and topographic variation, spanning over 6,000feet in elevation change. It includes sky-island mountain ranges (small, isolated mountain ranges that appear to be islands floating in a sea of grass or desert), semidesert grasslands, Chihuahuan Desertscrub, and desert riparian woodland. Because the sky-island mountain archipelago marks the northern limit of the Sierra Madre Occidental, numerous sub-tropical species reach their northern limit in southeastern Arizona. Many northern species from the Rocky Mountains reach their southern limit here as well.

The north-south oriented, 145 mile-long, San Pedro River serves as a migratory corridor for plants and animals, linking the sub-tropics with the Rocky Mountains. Because the river flows through a region of Chihuahuan desert and semidesert grassland, it is vital to millions of migratory birds in the spring and fall each year, providing them with the three things they need to survive their journey: food, water, and cover. The upper portion of the San Pedro River, in the US, is protected by the San Pedro Riparian National Conservation Area and is one of the last largely intact examples of desert riparian woodland in the US.

A key factor influencing the area's biodiversity is its bi-modal annual rain pattern. Winter rains are critical for reproductive success in

a wide variety of Sierra Madrean plants, including live oak, juniper, and manzanita, which provide vital food sources for many animals. These rains are also important to spring wildflowers. Winter rains and, especially, winter snowfall at higher elevations are also critical to recharging the basin's aquifer. The current dry climatic cycle has been characterized by repeated weak winter rains and has had a significant impact on many plants and animals.

Winter rains are followed by drying conditions and rising temperatures, resulting in an extremely hot, dry period in the several weeks leading up to the summer thunderstorm (monsoon) season. This pre-monsoon period is typically the most challenging time for area plants and animals. Summer rains result in what is often referred to as a second spring, when warm-weather grasses and summer flowers burst forth. Several species of birds and mammals time their reproductive cycles to coincide with the summer rains in order to take advantage of abundant food.

Another important factor is the local geology. For nearly 290 million years, the area now called Arizona was periodically covered by warm shallow seas. This resulted in the deposition of layers of various types of sedimentary rock over older igneous and metamorphic rock. At the end of this period, the region gradually began experiencing the consequences of tectonic plate collision in what is today California. This resulted in mountain building and volcanic activity lasting until roughly 18 million years ago. By about 12 million years ago, the region had fully shifted from plate collision to shearing, which stretched the surface of the earth and resulted in sinking valleys. As valleys subsided, eroded material from the surrounding mountains washed down and slowly filled them. These processes resulted in the landscape we see today. The mix of sedimentary, igneous, and metamorphic rocks in the mountains and eroded soils in the valleys invite a variety of plant communities and associated animals. The sediments filling our valley contain an aquifer storing some of the water that falls as rain and snow in the surrounding mountains.

In addition, each canyon in the surrounding mountains is affected by characteristics, such as north-south orientation, width, the presence of water, and whether the canyon floor is shaded or sunny. These can result in significant differences in plant and animal communities from canyon to canyon.

Taken together, all of these factors lend themselves to the tremendous biodiversity seen in the USP River Basin. Come out and join the Friends of the San Pedro River during their weekly interpretive walks or monthly interpretive hikes and learn more about this diverse wonderland.

Even small areas contain diverse habitats; hills, grasses, river, dry areas, shrubs, and big trees surround this beaver dam
Photo by Dutch Nagle

About the Author: Ted Mouras, is a retired Army officer and a docent and past President of the Friends of the San Pedro River.

Heroes of the San Pedro River by Alexander Howe

The San Pedro Riparian National Conservation Area (SPRNCA) is one of the most environmentally significant riparian corridors in the world. Environmental accolades are many and well deserved. A Globally Important Bird Area, the San Pedro River attracts bird watchers from all over the world and is a great source of tourism income for surrounding communities. The river has ancient historical significance as well. For over 13,000 years people lived in balance with the river. The river system has survived and even thrived while the world underwent earth shattering changes on a geologic scale. Nature is flexible and can adapt in natural conditions, even in the face of meteors, earthquakes, and global climate change. However, recently the San Pedro River has come under grave peril. Pressures of unnatural origin, such as plastic and other man-made materials clogging the waterways in tons, off-highway vehicle traffic establishing erosion channels that devastate the fragile riparian soils and increasing human development and demand for water are all draining the river to a trickle. These damages are beyond nature's ability to repair. The river simply cannot adapt to these persistent stressors; but all is not lost!

A new dynamic duo has come to save the San Pedro River! Alexander Howe and Reed Hoppus are newly assigned Conservation Associates to the Bureau of Land Management, employed by the Student Conservation Association. Their youthful exuberance and passion for conservation drive their efforts as they do the "dirty work" necessary to preserve the beautiful natural wonder that is our San Pedro River. Our job focuses on resource protection and the only thing better than removing noxious litter is educating people in why it is important to respect this extremely fragile environmental treasure.

Reed and Alex are recent college graduates and are using this opportunity to gain experience as environmental professionals. Reed's education is in Environmental Science with a focus in hydrology. He is pursuing a career as a hydrologist. His assistance has already proven very useful to BLM's scientists by taking samples, measurements, and even giving his input on important water rights issues. In addition, Reed has performed valuable educational programming for youth that not only enabled them to realize the value of protecting this river in the desert, but also was a lot of fun!

Alex graduated with degrees in Forest Technology and Natural Resource Management. He desires to be a park ranger some day and is doing everything to see that dream to fruition. Alex specializes in environmental education. He adamantly believes that education and exposure to nature's wonder is the only way that today's youth will desire to protect and save our planet.

Reed and Alex are a dynamic duo, but the true Hero of the San Pedro River is Park Ranger Robert Steele. Since arriving a little over a year ago, he has single handedly removed hundreds of bags of garbage from the river, repaired miles of fence, cleared miles of trails and educated countless members of the public. His passion for protecting the river is infectious. Ranger Bob's conservation ethic has inspired many, including his new "sidekicks," Alex and Reed. "Bob is a machine; he works tirelessly to clean up the river. He really is amazing!" exclaims Hoppus.

Park Ranger Steele was born and raised in the San Pedro River area. He has dedicated his life to serving his land and country for 29 years; in the Navy, the US Merchant Marines, as a Ranger for the U.S. Forest Service in the Dragoon Mountains, and now as the Park Ranger on the San Pedro River. Steele has made a solemn vow to "save the river." Every day he performs triage on the most impacted areas, working even as darkness closes in on the river valley.

The San Pedro River is an ecological treasure in danger of dying, and is crying out for help. A proud few have dedicated their careers to saving the river, but they must not stand alone. People are responsible for the river's peril and people must take responsibility and become stewards of the river.

Plastic bottles and other trash lodged in the river
Picture by Elaine Moore

"What can I do?" you ask? You can go walk along the river on a warm day among the shade of the cottonwood trees. You can hear birds sing their pleasure for the river with the accompaniment of a gentle breeze through the leaves. You can bring a child to share the wonder and learn that nature's beauty is valuable simply because it exists. While you are visiting, if you see a plastic bottle or some litter, please pick it up. Park Ranger Steele explains, "It is important that people learn to appreciate what we have here. If we can cultivate more love for this place then people will want to save the river. That's what it's all about, saving the river."

About the Author: Alex Howe was a Student Conservation Associate working for BLM.

Nature on the San Pedro River By Jennie Duberstein

During the springtime the bright green leaves of the cottonwood trees lining the San Pedro River form a brilliant ribbon of green through the surrounding desert scrub. That verdant band represents some of the most important habitat for the millions of migratory birds that pass through Cochise County each spring, making the return journey from their wintering grounds in Mexico and Central and South America to their breeding grounds in the United States and Canada.

Approximately 400 species of birds use the river at some point during the year. Some of these species can be found year-round, but many are migratory. Some migrate to the San Pedro to spend the winter. Others arrive for the spring and summer to breed, and some move through the area on their way south or north.

As these migrants make their way through the Sonoran and Chihuahuan deserts of northwestern Mexico and southeastern Arizona, areas like the San Pedro River provide critical habitat where birds can find the food, shelter, and water they need to survive.

The river falls within a zone called the Sky Island Region, where four major ecosystems come together. The Rocky Mountains from the north meet the Sierra Madre Occidental stretching up from Mexico to the south. The Sonoran Desert from the west reaches out to meet the Chihuahuan desert from the east. The junction of these four systems makes for an area with unprecedented biodiversity. Many species that you see in southeastern Arizona are at the northern-most limit of their range and can be seen nowhere else in the United States. In addition to birds, the area is also a hotspot for those interested in mammals, plants, butterflies, and other insects, geology, and has 13,000 years worth of human history.

This incredible diversity makes southeastern Arizona a world-renowned birding hotspot. The San Pedro River, in particular, is a draw to birders from around the world who come to see birds such as Gray Hawk, Yellow-billed Cuckoo, Green Kingfisher, Vermilion Flycatcher, and an amazing number of other migratory species.

The San Pedro River begins in northern Sonora, Mexico and flows north before crossing the international boundary and continuing into southeastern Arizona. It is one of the last free flowing rivers in Arizona.

"The San Pedro River provides some of the most important habitat for migratory birds in the southwestern United States," says Robert Mesta, Sonoran Joint Venture Coordinator and U.S. Fish and Wildlife Service biologist.

Each year, International Migratory Bird Day, which was originated in 1993 by the Smithsonian Migratory Bird Center and the Cornell Laboratory of Ornithology, is celebrated to recognize the incredible journeys of migratory birds between their breeding grounds in North America and their wintering grounds in Mexico, Central, and South America.

Each year the Friends of the San Pedro River, The Sonoran Joint Venture, the Bureau of Land Management, and the Coronado National Forest sponsor an International Migratory Bird Day Spring Festival. The Festival is free to the public and includes a variety of interactive talks, activities, and workshops for children and adults, live music, and lunch.

A Ribbon of Green
Photo from FSPR Collection

About the Author: Jennie Duberstein, Ph.D. is the Education and Outreach Coordinator for the Sonoran Joint Venture. She has lived in Bisbee since 2001 and has worked on bird and habitat conservation projects on the San Pedro River in both Arizona and Sonora.

DVDs about the SPRNCA **By Dutch Nagle**

Mike Foster, a local videographer, approached The Friends of the San Pedro River (FSPR) in 2006 with an exciting idea for expanding knowledge about the San Pedro River. Mike has walked the river with his video camera at least one day a week for the past eight years, recording thousands of hours of footage of the plants and animals and capturing the river's many moods across all seasons. He offered to create a DVD about the San Pedro Riparian National Conservation Area (SPRNCA) that the Friends could sell at their bookstores. The Board of Directors and the Bureau of Land Management agreed that this would be a wonderful way to increase knowledge of and information about the SPRNCA. The original video is packed with great scenes of the river, and is an excellent way to take home memories of the area or as a gift showcasing this natural wonderland.

A suggestion was made to create a series of videos, featuring a wide range of subjects associated with the natural and cultural history of the SPRNCA. These videos would include scripted dialog and text to explain the subject and be free to Cochise County schools. The board of directors agreed and approached Mike with their suggestions. He liked the idea and started to work on the first one. There are now a dozen in this open-ended series completed, with more to come. Mike does all this work as a volunteer and receives no compensation. The Friends pay for all materials and production costs.

The University of Arizona South produces our videos, including the labels, from our master copies. This helps us to keep the costs very low and allows us to provide them, free of charge to educational organizations. The videos are designed to incorporate one or more of the following Arizona Department of Education State Standards: Science, Strand 4, Life Sciences; Science, Strand 6, Earth and Space Sciences; Social Studies, Strand 2, World History; and Social Studies, Strand 4, Geography.

As of 2010, we have distributed over 1500 DVDs to Cochise County schools and over 5,000 students have viewed them. We have also distributed to other school districts throughout Arizona. These DVDs are offered to the general public for a nominal fee, which is used to help offset the cost of producing the videos given to the education system.

The ***San Pedro Riparian National Conservation Area, Natural and Cultural History Series*** helps viewers to understand the San Pedro River, one of the last free-flowing rivers in the Southwestern United States. Located at the convergence of two great mountain ranges and two deserts, it has great biodiversity and features some of the richest wildlife habitat in the Southwest. It is one of only a handful of areas in the United States with nearly unbroken cultural history dating back over 13,000 years. By better understanding this wonderful area our local community will be better prepared to help preserve and enhance the unique natural and cultural resources of the SPRNCA.

Mike, in conjunction with the Friends, has completed the following videos:

Beavers: These animals were completely extirpated from the San Pedro River valley by the early 1900s. BLM reintroduced them in 1999. Learn about how and why they survive here.

Birds: Millions of birds use the San Pedro River as a pathway from their southern winter homes to their northern breeding grounds; others stop here for breeding; some spend their winters here while many others live here all year.

Javelinas: They are not pigs! Get a real-life view of them in their natural state engaged in their unique behavior.

Beavers, Birds and Javelinas: A combo of the above three videos.

Plants: Let a local expert explain what grows here, why, how they were used and their meaning to Native Americans.

Reptiles: The more you learn about these creatures the more you like them and the less you fear them. Find out about their purpose in life.

Coatis: Talk about unique! This is one of the most unusual animals within the SPRNCA. Are we losing them? You will understand a lot more about them after viewing this video.

And our original **The San Pedro Riparian National Conservation Area**: This video is a collection of flora and fauna, rock art and the seasons along the San Pedro River. All of the settings and sounds are natural and the recorded behavior is spontaneous.

Our River of Life is also for sale. A cultural history video about Native American life in the San Pedro Valley from days gone by will follow in the next few months.

Our videos are available on iTunesU, the Ideal education site, from the Friends website, www.sanpedroriver.org, and our bookstores. They have also been shown on Sierra Vista's Arts/Education/Government Channel.

Nice area for water birds, land birds, animals, fish, bugs, and reptiles
Photo by Ted White

About the Author: Dutch Nagle is a docent and board member of the Friends of the San Pedro River.

Prehistory of the San Pedro By Dutch Nagle & Jim Finley

13,000 years ago in the San Pedro River valley there were lush vistas that would be alien to today's dwellers. This tropical rain forests teemed with saber-toothed tigers, giant sloths, camels, and herds of giant mammoths. There was one other important animal species--man. The environment would change as glaciers melted away and climatological conditions were altered. Many of the species would fall by the evolutionary wayside, unable to adapt to change. Despite the tendency to destroy one another out fear, anger, or cold calculation, man would survive. He would learn how to fashion spear points out of stone and hunt the game which abounded here.

In a marshy runoff of the San Pedro River near Naco, Arizona, hunters moved quickly toward the confused Columbia mammoth, their chert and felsite-tipped spears at the ready. While some of their number distracted and encircled the animal, others rushed in and launched their weapons at its most vulnerable point at the base of the skull on the right side where there was a good chance of hitting its spinal cord. At least eight of the Clovis-fluted spear points found their mark between the front of the mammoth's rib cage and the base of its skull. As they moved in to finish off the disabled beast, they could not have known that their spears would be discovered thousands of years later and pierce the membrane of the unknown with the very fact of their existence.

The Naco projectile points appeared over 100 centuries later in 1951 at the feet of Fred Navarrete and his son, Marc, who had been walking down Greenbush Draw near Naco. They found the skull, teeth and tusk of a large animal, and, importantly, two projectile points protruding from the banks of the wash. They reported their discovery to the Arizona State Museum in Tucson and were referred to the foremost investigator of early man in the Southwest, Dr. Emil W. Haury. Haury began excavations at the Naco site in April 1952.

Coincidentally another even more important discovery was being made. The same heavy rains which had exposed the Naco mammoth remains had eroded another arroyo only ten miles northwest.

Edward F. Lehner was shopping for a ranch in the Spring of 1952 and had his eye on some property on the west side of the San Pedro River just a few miles south of Hereford, Arizona. While inspecting the

land, which he would eventually buy, he ran across some bones protruding from the newly eroded banks of an arroyo that fed into the San Pedro River. They were at a depth of 8 feet, which immediately alerted Lehner to the possibility that they might be bones of an extinct species. He carefully dug out some pieces and took them to the Arizona State Museum where they were identified as tooth plates of a prehistoric mammoth. But it wasn't until another summer of heavy rains in 1955 that a decision was made to make an exploratory excavation to see if evidence of man could be found.

Work began on the dig in December 1955 and continued into March 1956. Dr. Haury oversaw the project which involved the same scientists who worked with him at Naco. The arroyo, henceforth known as Mammoth Kill Creek, yielded the remains of nine Columbian mammoths and at least one animal each of horse, bison, and tapir. Directly associated with the bones were 13 spear points of the Clovis fluted type, eight cutting and scraping tools, and the remains of two fires.

Subsequent to the killing of the animals, the formation of swamp soil and then heavy alluviation concealed the bone bed and filled this channel to the ground level of the present time.

The site established that man has been living on the North American continent as long ago as 11,000 years. Scientists call it simply the Lehner Site. The property owner had another name. A sign he erected at the gate to his ranch announced "Ed's Used Elephant Lot."

Another, even older Clovis site, which has been dated to 13,000 years before present, was discovered at Murray Springs in 1966 by Dr. C. Vance Haynes and Dr. Peter Mehringer of the University of Arizona. The site was excavated from 1967 – 1971 and yielded similar items as the Naco and Lehner sites as well as a shaft-straightening tool made of bone.

Some 13,000 years ago, prehistoric men would gather here to loose their spears into bog-mired mammoths and leave their projectile points lying around to be picked up by archaeologists over thirteen millennia later. Some speculate that these may have been the first inhabitants of our continent, enabling us to claim that the first Americans may have been located in the San Pedro River Valley.

The Murray Springs site is located off Moson Rd. between SR90 and Charleston Rd. and is open every day during daylight hours. A 1/3

mile long interpretive trail offers ten exhibits on life in the late Ice Age (Pleistocene).

Clovis Points from Naco and Murray Springs Sites
Photo from FSPR Collection

About the Authors: Jim Finley is the former Historian for Fort Huachuca and an original founder of the Friends of the San Pedro.

Dutch Nagle is a docent and past president of the Friends of the San Pedro River.

Millville - Back In Time **By Richard Bauer**

When Ed Schefflin discovered silver in 1877, two miles northwest of present day Tombstone, little did he know he would be directly responsible for the formation of six towns, five of them along the San Pedro River. Including Tombstone as the hub, there is Millville, with the Gird and Corbin Mills; Charleston, with the Emory City and Boston Mills; Fairbank, with the Grand Central Mill; and Contention, with the Contention and Sunset Mills. These were all along a twelve-mile stretch of the San Pedro River, from Millville north.

The Gird and Corbin Mills were the first to be constructed on the east bank of the river, about eight miles West of Tombstone, and considered state-of-the art for their day. During the construction process the hastily erected shanties and tents to house the workers became known as Millville, or sometimes referred to as Gird's Camp.

Ed Schefflin's brother Al, and a brilliant mining engineer and assayer, Richard Gird, joined Ed in further prospecting and discovered some very rich claims near present day Tombstone. At this point, they needed investors to develop the mines and build the reduction mills to process the ore, and to build roads from the mines to the mills. They found four investors, three from the east coast by the names of J. S. Vosburg, George and Phillip Corbin, and the fourth was A. K. Safford who was Governor of Arizona from 1869-77.

Richard Gird and the Shefflins' reached an agreement with the investors. For an interest in the mines and reduction mills, they would put up the capital for development of the mines, as well as the building of the reduction mills and roads. As a result of this agreement, in April 1878, the Tombstone Milling and Mining Company was formed. There would be two mills built under Gird's supervision. The Gird Mill with ten stamps, and the Corbin Mill, a little to the south, with fifteen stamps. The Gird Mill would process the ore from the Toughnut, Good-E-Nough, Westside. and Defense mines, and the Corbin mill would process the ore from the Lucky Cuss, Owls Nest, Owls Hoot, Eastside, and Tribute mines. The Corbin mill would have its own mining superintendent and be called the Corbin Milling and Mining Co., while Gird would be the superintendent of the Gird Mill.

In January 1879, financing was completed and construction began. On June 16, 1879, the first silver bullion produced from the Gird Mill was shipped to Tucson. It would be January of 1880 before the first

shipment of silver bullion would leave the Corbin Mill, because a solid sheet of bedrock, about a foot below the surface, was encountered and had to be blasted away to complete construction.

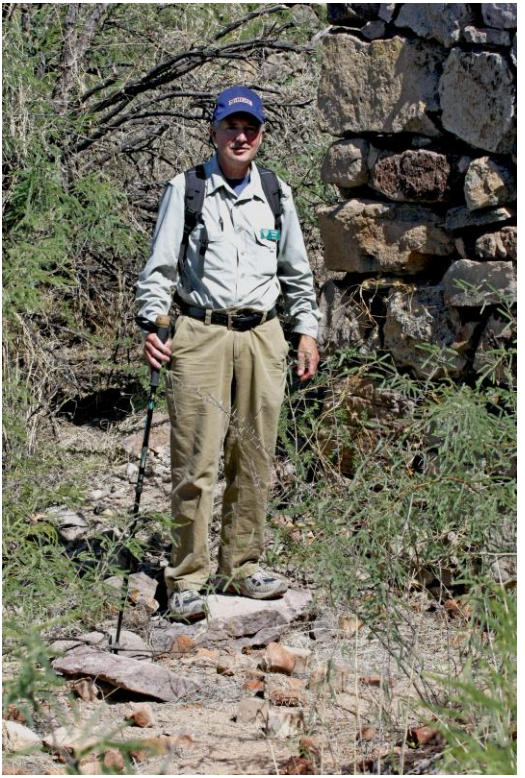
Richard Gird built a large thick-walled house next to his mill as living quarters for himself and his wife Emily. They had excellent judgment in taste and design and the house was known to be the finest in the southwest at the time. The house contained a directors' room, offices, apartments, assayer's office, and carpeted floors. Weddings and social functions were also held there. It also contained a large ornamental vault, presumably to hold the silver bullion, which is what Gird wanted everybody to think. It was actually a decoy, as he had hollowed out the thick walls of the house and made secret compartments with fake fronts and panels. He hid the bullion in the compartments.

These stamp mills ran 24/7, only stopping for repairs. You can imagine the noise, especially in the Gird House, being next to the mill with its ten cylindrical stamps, weighing six to eight hundred pounds each, with a rate of one hundred drops per minute, crushing the ore into powder. This thundering noise was an accepted part of life in these mill towns.

Directly across the river from the Gird house was Charleston, founded by Amos W. Stowe in February 1879. It was the center for trade, commerce, and cattle from Mexico, both legal and illegal. It averaged about four to eight hundred residents, with about two hundred of those being workers from the Corbin and Gird Mills.

Millville and Charleston began declining in 1886 when much of the trade with Mexico was diverted to Nogales, silver prices began to drop, the miners began to strike for more wages, pump house fires in Tombstone, which caused the mines to flood, and then the May 3,1887 earthquake which destroyed many of the buildings in Millville and Charleston.

In its short span, Millville produced millions of dollars in silver bullion, but by October 1888 the mills, as well as the mines in Tombstone were closed.



Richard Bauer standing in front of the ruins of the Gird Mill
Photo by Dwight Long

About the author: Richard Bauer is a retired businessman and commercial pilot. He is a Docent of Natural and Cultural History for the Friends of the San Pedro River, and is a resident of Tombstone, AZ.

Yikes! Rattlesnakes!! **By Alan Blixt**

I had a wonderful encounter recently…with a Western Diamondback Rattlesnake! As I walked south on Del Valle Road in the San Pedro Riparian National Conservation Area I saw a 3 foot long Diamondback in the middle of the road. I approached within about 25 feet before it took the classic strike pose and began to rattle. As the snake eyed me I took a step back to try and relieve its stress. I looked behind me to be sure there wasn't another snake and then backed away another few paces. An adrenaline rush filled me with a feeling of excitement which changed to a feeling of reverence as I watched this absolutely beautiful creature. After several minutes the rattle stopped and the snake moved off into the brush and went on about its business. What an experience!

Western Diamondback
Photo by Gary Noonan

Rattlesnakes are part of the Pit Viper family. They have a pit on each side of their face between their nose and their eyes. This is a heat sensor which helps them locate prey and avoid problems. When the snake's thermoreceptor registered a huge heat signature, me, it knew nothing good could happen in this encounter. Snakes realize that if the object is too big for them to eat, it may do them harm. It warned me to keep away and it worked!

Rattlesnakes are beneficial to us. They prey on mice, voles, and other rodents that can carry plague, Hantavirus, and other diseases. They locate their prey using their "pits" and their sensitive tongue. This tongue is a sensing mechanism that feeds information to the Jacobson's Organ located on the roof of the snake's mouth. The snake feels ground vibrations, senses heat, listens for sound, and uses its vision to capture prey. They track their prey, inject their venom, release their prey,

follow it until it stops moving, and then swallow it. Their venom includes both Hemotoxin and Neurotoxin. All rattlesnakes have both types of venom. Neurotoxin attacks the central nervous system and can be a killer for Mambas and Cobras which inject much more Neurotoxin than Hemotoxin. Our rattlesnakes inject mostly Hemotoxin which acts as an enzyme to aid in digestion.

Rattlesnakes strike when they are hunting prey or when they feel threatened. Rattlesnake bites seldom result in death. In fact, the threat posed by rattlesnakes is often exaggerated. Many bites are "dry" bites where no venom is injected. Tom Miscione, a local herpetologist, told me a couple of years ago about the chances of getting bit. He said in one given year over 300 rattlesnake bites were recorded in Arizona. Most of these people were bitten when they tried to pick up or kill the rattlesnake. Some were walking barefoot at night and stepped on a rattler, while several others just were not paying attention to where they were walking or putting their hands. According to the Arizona Poison Control Center, 50% - 70% of venomous snakebites occur when people try to handle the snake (the vast majority of these involve men and alcohol.) If you leave the snakes alone and are responsible about when and where you go, chances of getting bitten are reduced to almost zero.

Another local herpetologist, John Porter, has taught me to love snakes and impressed upon me the fact that they are helpful to us by keeping rats, mice and other small animals in check.. John told me that male rattlesnakes, like many animals, have territories they patrol. They hunt mostly just after dark in the hot summer season. Snakes are cold blooded and can overheat if it gets too hot. Also, many prey items come out just after dark. A rattlesnake's heat-sensing organs allow them to literally "see" in the dark. Snakes are a key element in any given ecosystem and their importance cannot be overstated.

Sandy Anderson of Gray Hark Nature Center has encouraged me to learn more about snakes. She has dedicated her life to caring for and educating people about wildlife. Snakes are misunderstood and live difficult lives. In the first year after birth about 90 % of the young snakes will die. They are not experienced hunters and are prey for birds, mammals, and other snakes. Snakes do not mate and reproduce until their third or fourth year. A full grown Western Diamondback rattlesnake weighs about eight pounds and can be four to five feet long. Captive rattlesnakes can live as long as twenty-one years but live only

about twelve years in the wild. Sandy cares for snakes at Gray Hawk and has increased my awareness of relationships in the natural world. She has taught me how important birds, mammals, snakes, and other wildlife are to humans. Pollination, insect control, seed dispersal, rodent control, and many other things are provided to us by Mother Nature. All we have to do is protect our natural habitats.

The San Pedro Riparian National Conservation Area belongs to all of us. Hundreds of species of birds, animals, reptiles, and amphibians live here. The Friends of the San Pedro River invite you to come and participate and learn with us about the wonderful world of nature. Please join us in one or more of our many activities.

About the Author: Alan Blixt is a former Board member and a docent for the Friends of the San Pedro River.

The Murray Springs Clovis Site By Dwight Long

There is a world famous prehistoric site just outside the Sierra Vista city limits where bison and Columbian mammoth were hunted and killed by the Paleo-Indians 13,000 years ago. You can see where these events occurred at the Murray Springs Clovis Site - situated in the San Pedro Riparian National Conversation Area (SPRNCA). The site was excavated from 1966 to 1971 under the direction of Dr. C. Vance Haynes from the University of Arizona and funded by the National Science Foundation and National Geographic Society. In addition to mammoth and bison, fossil remains of camels, horses, large cat, dire wolf, numerous smaller animals, Clovis projectile points, scrapers, and other artifacts were unearthed at the site. The actual fossil remains and artifacts are at the Arizona State Museum in Tucson, but there are a few fossils and artifact replicas on display at the San Pedro House on Highway 90 just west of the San Pedro River.

The San Pedro Valley contains six Clovis kill sites that are all located within twenty miles of each other. The San Pedro Valley has the distinction of having the richest concentration of Clovis associated kill sites in North America. The Murray Springs Clovis Site is unique among these not only because there was evidence of single event multiple bison kill and mammoth kill, but there was also a Clovis camp site and an artifact made of mammoth bone, believed to be a shaft straightener, found nowhere else in North America.

Paleo-Indians, likely the ancestors of modern-day American Indians, are commonly known by the type of projectile point they used called a “Clovis point,” first found near Clovis, New Mexico. Scientific conjecture and recent finds have shed considerable light on the life activities of the Paleo-Indians in the San Pedro Valley; conclusions from the evidence found so far still leave many questions about how these early inhabitants lived.

Thirteen thousand years ago when the Paleo-Indians were hunting the mammoth and bison at Murray Springs, the climate in the San Pedro Valley was undergoing significant change. This area was warming as it emerged from the last Ice-age. This period in history, called the Altithermal Period, is marked by cooler and wetter weather conditions. The Murray Springs Clovis Site was probably spring fed with abundant grass and sedge covered slopes bordered by ash, alder,

walnut, pine, and poplar similar to Government Draw at Lewis Springs today.

The so-called "black mat," a thin dark layer, which is still visible today at the Murray Springs Clovis Site, is possibly a deposit of algae or other plant material, which probably formed in conjunction with a slowly drying body of water. There is also a commonly held theory involving the "black mat" that suggests that the black mat is the result of a meteorite crash. The black mat is of the same composition of a meteorite found in this area. The fossil remains and Clovis artifacts found at Murray Springs were below the black mat. The time when the black mat occurred marked a major climatic change from a warm to a cooler (some sources say glacially cold) phase, which lasted for about one thousand years.

Mammoths, mastodons, horses, camels, dire wolves, American lions, and tapirs disappeared from the San Pedro Valley around 12,000 years ago coinciding with the appearance of the black mat, the onset of a cooling period, and the last depositions of Clovis artifacts. The bison survived the extinction and lived on to become the bison we see today. What became of the Paleo-Indians is a matter of debate and conjecture as there are myriad scientific theories regarding their fate. Several explanations for the mass extinctions exist, but no single hypothesis can successfully explain what happened. It is a question archeologists and scientists grapple with today.

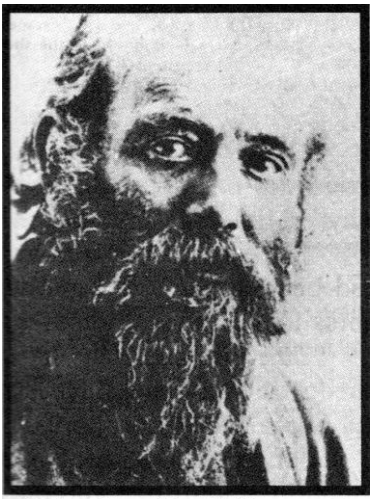
The traditional view held that the Paleo-Indians arrived in North America by walking eastward from Asia across the Bering land bridge (called Beringia) about 14,000 years ago. This view is now being challenged due to evidence of pre-Clovis cultures that existed in South America and on the east coast of the United States prior to 14,000 years ago.

The Archeological Resources Protection Act (1979) contains significant criminal and civil penalties for uncontrolled excavation and looting and allows prosecution for interstate sale or transport of antiquities collected from federal land. The BLM is proactive today in the management of this site and currently has a project scheduled in 2010 to attempt mitigation of current erosion taking place at the site.

Descent into Curry Draw at Murray Springs Clovis Site
Photo by Chris Long

About the Author: Dwight Long is a retired computer scientist and docent for the Friends of the San Pedro River (FSPR) whose special interest includes the study and photography of ants.

“Justice Jim”’ Burnett **By Richard Bauer**



“Justice Jim” Burnett

Photo from Ben Traywick Collection

In 1881, a Justice of the Peace was needed for the area that includes Millville and Charleston. Jim Burnett was elected to that post. The history of the mining and milling towns of what would become Cochise County all reflect the influence of characters like Jim Burnett. Stories about “Justice Jim” abound. Here are just a few.

Instead of a salary, the Justices received a percentage of the fines taken in by their office each quarter. When Jim made out his first quarterly report the county supervisors felt that he was asking for too much and cut the amount drastically. This greatly angered Jim, and he promptly informed the Board of Supervisors that the Justice Court for this area would look after itself. From that time on, Jim kept both the fines and fees for himself, ignoring the county completely.

Justice Jim armed himself with a revolver and shotgun, issued and served his own warrants, and there were no appeals to his court. His decisions were immediate and enforced by the business end of a gun. Burnett would conduct his Justice Court wherever it was convenient, on the streets, in fields, in saloons or gambling halls, at anytime or any place for any reason; and justice was dispensed immediately.

After a shooting, Burnett hastily assembled a Coroner's Jury and under his strict supervision, they found that the man who was shot was careless because he stood in front of a gun about to be fired and he promptly fined the other man one hundred dollars for the reckless handling of a firearm.

Another time Justice Jim observed a man arguing with a man with a wagon full of firewood. The man in the street told Jim one of his stolen horses was in the wagon-man's team. Burnett told the man to take his horse and then told the man in the wagon. "I fine you nine cords of wood - to be delivered to Gird's Mill." Records verify that the wood in the wagon measured nine cords almost to the stick.

One Sunday, Curly Bill Brocius and his gang stormed into a church during services and when the congregation saw these heavily armed men, they quickly left. The gang threw some money in the collection plate and forced the preacher to sing, pray, and dance. After about an hour, they tired of this sport and left him unharmed.

The next morning Curly Bill was sitting in a chair in front of the local hotel half asleep, when he felt a double barrel shotgun jab him under the ear and the hammers being cocked. It was Justice Jim. "Hear Ye, Hear Ye, court is now in session. I fine you fifty dollars, Curly Bill Brocius, for the disruption of church services on the Sabbath." Curly Bill promptly paid up and took it good naturedly saying it was the only time he ever paid a fine he truly deserved.

Jim Burnett had a ranch on the San Pedro River near Hereford. About a mile south was William C. Greene's ranch. Burnett and Greene disliked each other. Greene was into farming, ranching, and mining, and was a very wealthy man. . Greene placed a small dam on the river just south of his ranch for irrigation purposes. Burnett had large vegetable gardens on his ranch and Greene's dam cut down on the water supply. On the night of June 24, 1897 the dam was blown up and the water released. On the afternoon of June 27th, Greene's daughter Ella and her friend Katie Corcoran received permission to go wading in their favorite shallow pool on the river, but the swimming hole had become enlarged and deepened with the blasting of the dam and the sudden onslaught of water. When Ella and Katie jumped in; they went under and drowned.

Greene was wild with grief over the loss of his daughter and suspected Burnett of blowing up the dam. On July 1, 1897, Greene was on Allen Street in Tombstone when he accidentally ran into Justice Jim.

He pulled out his revolver and fired three shots, killing Jim instantly. Greene was arrested and immediately released on bail. In the subsequent circus-like trial in Tombstone, Greene was acquitted. He had friends by the legion and there was no way any court in the county would have convicted him. It was never established that Burnett was behind the destruction of the dam.

James C. Burnett, Justice of the Peace, was killed on the streets of Tombstone, but justice did not play much of a role in his demise. Burnett is buried in Tombstone City Cemetery off West Allen Street.

About the Author: Richard Bauer is a retired commercial pilot and businessman. He is a docent of Natural and Cultural History for the Friends of the San Pedro River, and is a resident of Tombstone, Arizona.

Christmas at "Wolf Place" **By Betty Foster Escapule And Chris Long**

At this time of year, we all like to look back at the times of our childhood. We reminisce about all those "Christmas past" times that we remember from our youth. Somehow, the winters always seem to have been colder, the snow deeper, the Christmas trees larger, the stack of presents bigger (or in many cases smaller because of family circumstances), and the glow of Christmas brighter and more spiritual.

Betty Foster Escapule spent much of her childhood at "Wolf Place," the ranch house that is now known as San Pedro House. Located in the San Pedro Riparian National Conservation Area near the junction of Highway 90 and the San Pedro River, it is now an information center, museum, gift shop and bookstore operated by the Friends of the San Pedro River. But, when Betty was growing up, it was part of a large cattle ranch owned by the Boquillas Land and Cattle Co. This Christmas story took place in 1947. The Second World War was over, but the country was still recovering. People across the country were transitioning from the wartime economy to one where consumer goods were just coming back on the market. In Cochise County, the winter was cold and snowy. Betty's family and families across the country made do and enjoyed the simple things. Here, in Betty's own words, is a story for all of us.

> *"My twin brother, Bailey and I were nine when we moved back to the Wolf Place and the youngest in the family. With Christmas approaching, Dad called us kids together and told us we were getting too old for a Christmas tree. Then he asked for our opinion. Of course, we all agreed with him so he didn't buy a tree when he went to Fry.*
>
> *That night while the four of us kids were sitting around the table in the living room and Dad and Mom were in their room, we discussed the matter of the Christmas tree. None of us were ready for Christmas without a tree.*
>
> *The boys said they knew where a lone cedar tree was growing about a quarter of a mile from the house up on the black brush*

hills. This was the only cedar tree in the area. So it was decided that my brothers, Sammy and Bailey, would chop it down and carry it home. My sister, Mary, and I would slip out of the house and bring in the big box of decorations from the garage. It was moonlight so none of us needed a lantern.

When the boys returned with the cedar tree, Mary and I had the decorations ready. The boys made a stand for the tree and we all decorated it. Then we went to bed pleased that we hadn't been discovered.

When Dad got up the next morning and saw the tree, he was truly surprised. He felt so bad for not getting us a tree. We didn't want him to feel bad but we were proud of our accomplishment. After that Dad always brought home a Christmas tree."

You can read more about this era of ranching, Cochise County, and Betty's life in her book "*The Five Fosters*." To get the real feeling of "Christmas at Wolf Place," stop by the San Pedro House Gift Shop and Bookstore. You will understand how difficult it must have been for Betty and her siblings to keep the tree a secret. The house is small. It has just four rooms. So, Dad and Mom were sleeping only a plaster wall away. Imagine the children sneaking out the back porch, silently hauling in the tree and boxes of ornaments, tiptoeing about trying to keep each other quiet and giggling while they decorated the tree, and sneaking off to bed when they were done.

The present day San Pedro House is a great place to do your Christmas shopping. Buy a copy of Betty's book or browse the other nature related books, children's books, toys, and other gifts perfect for the season. As a special "Christmas Treat," all purchases between Thanksgiving and Christmas Eve are discounted ten percent. If your Christmas shopping is already complete, then stop by for a stroll by the river, take a photo of the beautiful cotton wood tree, check off a bird or two on your life list, or just sit on a bench and enjoy the view. The grounds are open from sunup to sundown and the shop is open every day from 9:30 AM to 4:30 PM. Hope to see you soon and Merry Christmas, Happy Holidays, to one and all.

The San Pedro House in the snow
Photo by Bob Herrmann

About the Authors:
Betty Foster Escapule is a Tombstone, Az. resident who spent most of her childhood at what is now the San Pedro House. She attended school at Buena when it was a one room school house and attended high school in Tombstone. Betty is author of "The Five Fosters," a book about growing up on a working cattle ranch, which is now the San Pedro Riparian National Conservation Area

Chris Long is a 30-year resident of the area. Chris is a docent and past President of the Friends of the San Pedro River.

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