

# SENTINEL LANDSCAPES

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## Fort Huachuca Sentinel Landscape Partnership Newsletter

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## ~ Fort Huachuca Sentinel Landscape Partnership ~ FHSL 5-Year Anniversary, Project Highlights

The Fort Huachuca Sentinel Landscape (FHSL) covers 1.65 million acres and celebrated its 5-year anniversary as a National Sentinel Landscape in 2020. The designation, by the

U.S. Department of Defense (DOD), Department of Agriculture (USDA), and Department of the Interior (DOI), recognizes the critical need to protect working and natural lands important to the Nation's defense. This includes places where preserving the working and rural character of key landscapes strengthens economies based on farms, ranches, and forests; conserves wildlife habitat and natural resources; and protects vital testing and training missions conducted on military installations that occur in such landscapes.



In 5-years, the FHSL Partnership has accomplished many conservation and restoration projects, a few highlighted below, and invested more than \$32 million in the landscape footprint. The Partnership also established a strategic plan, charters, and implementation plans for each of its sub-working groups and has had 5 Steering Committee Chairs, which rotate every year from DOD, DOI, to USDA. Julie McIntyre, Assistant Field Supervisor of Arizona Ecological Services in the Tucson Field Office for U.S. Fish & Wildlife Service, is this year's Partnership Steering Committee Chair. While already four months into her role, the most exciting aspect of the experience has been, "To positively affect the natural resources, ecological diversity, and economic viability of the lands within the Fort Huachuca Sentinel Landscape, as many of the natural resource and environmental management challenges that face the area are complex and long-term, both in their making and resolution."

~ FHSL 5-Year Anniversary Highlight, No. 1 ~

## Palominas Stormwater Recharge and Flood Control Project

One of the first undertakings that the Partnership was involved in was the Palominas Stormwater Recharge and Flood Control Project. The Palominas project planning began in 2012-2013 and is managed and owned by Cochise County. A conservation easement is held by The Nature Conservancy on the 285-acre parcel and conserves an estimated 24 acre-feet/year of groundwater that might otherwise be pumped if this property were developed residentially.



*Palominas recharge project recharge cells filled with stormwater, looking east towards the San Pedro River. Photo by Dennis Donovan.*

Mark Apel, Environmental Projects Coordinator, with Cochise County has said, “The monitoring at Palominas has helped guide us in terms of which kinds of infiltration treatments seem to work better than others. We know that dry wells and trenches work better in terms of infiltrating stormwater as opposed to allowing water to pond and infiltrate naturally, where you have high evaporative losses. However, we do not have enough data yet to conclude that dry wells are better than infiltration trenches or vice versa, which is why we continue to monitor precipitation, runoff, infiltration and changes in groundwater elevations.

Lastly, we have learned from monitoring our Horseshoe Draw Sediment Control and Stormwater Recharge project, completed in 2017 southeast of Palominas, that infiltration downstream of the basin in that channel seems to be higher due to slowing down and detaining storm flows in the basin. This could preclude the need for many expensive dry wells and infiltration trenches in future projects. This concept is being considered in our design of the Bella Vista/Coyote Wash project.” The Bella Vista/Coyote Wash project is being proposed for a Readiness and Environmental Protection Integration Challenge Grant in 2021.

~ FHSL 5-Year Anniversary Highlight, No. 2 ~

## Regional Conservation Partnership Program

Established in 2014, the Regional Conservation Partnership Program (RCPP), has been applied for and funded twice in the FHSL. RCPP promotes coordination of NRCS conservation activities with partners that offer value-added contributions to expand our collective ability to address on-farm, watershed, and regional natural resource concerns. The first RCPP award granted to the FHSL was in 2016 with the Arizona Land and Water Trust as the lead organization.

The Trust's proposal was fully funded at \$5.9M, with \$5M designated to NRCS-ACEP and \$969k designated to NRCS-EQIP. The proposal addressed the resource concerns of insufficient water quantity (drought) as well as inadequate fish and wildlife habitat within the Fort Huachuca Sentinel Landscape and focused upon the Babocomari River and Sonoita grasslands, which contain large working landscapes with landowners interested in conservation/restoration.



*Pacheco Conservation Easement. Photo by Arizona Land and Water Trust.*

In 2020, the Arizona Land and Water Trust submitted a renewal application for the RCPP. The requested extension of the 2016 Fort Huachuca Sentinel landscape RCPP builds upon the partnerships existing success and expands upon the larger Fort Huachuca Sentinel Landscape's conservation and restoration activities. This request is based upon needs assessed through discussions with the Fort Huachuca Sentinel Landscape Restoration Partnership (SLRP), Open space and Working Lands committee (OWLs) as well as the EQIP and ACEP needs of the three NRCS field offices located within the RCPP area.

### ~ FHSL 5-Year Anniversary Highlight, No. 3 ~

## Joint Chiefs

Another program worth mentioning is the Joint Chiefs project. Since 2014, Joint Chiefs projects bring together the U.S. Forest Service and USDA's Natural Resources Conservation Service to improve the health of forests where public forests and grasslands connect to privately owned lands. Together the two USDA agencies have been restoring landscapes, reducing wildfire threats to communities and landowners, protecting water quality, and enhancing wildlife habitat.

In 2020, the Fort Huachuca Sentinel Landscape Partnership was awarded funding for three years and a key goal is reducing the risk of catastrophic wildfire to



*Chiricahua leopard frog.*  
*Photo by Jim Rorabaugh, USFWS*

Fort Huachuca and the ten communities within the FHSL. Habitat improvements focus on native grasslands and aquatic habitats for the federally endangered Chiricahua leopard frog. The project will involve cross-boundary treatments to reduce hazardous fuels and recovery plans for federally listed species. Working with landowners to preserve and enhance key habitats, maintain open space, and sustain working rural lands, the project will also help improve the economic viability of local ranches and reduce development pressure.

~ FHSL 5-Year Anniversary Highlight, No. 4 ~

## **Readiness and Environmental Protection Integration Challenge**

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The Readiness and Environmental Protection Integration (REPI) Challenge focuses on innovative projects that limit incompatible development, enhance military installation resilience, and/or relieve current or anticipated environmental restrictions on military testing, training, or operations at locations hosting key capabilities outlined in the National Defense Strategy.

In 2020, a REPI Challenge proposal was submitted by the Arizona Land and Water Trust to conserve 2,240 acres across two ranches and for the United States Forest Service to conduct 1,965 acres of hazardous fuels mitigation work on the Coronado National Forest bordering the Fort. These projects are in progress and will be beneficial to the Fort, both to deter development encroachment, and to reduce the risk of catastrophic wildlife. Additionally, the proximity of the conservation easements to the Fort made it a priority project. The land, which lies along the Fort's western boundary, is also located within the Buffalo Solider Electronic Testing Range (BESTR), the R2303 military airspace, and it lies within the Sunnyside Test Range where Fort Huachuca carries out critical missions' trainings.

## **~ Fort Huachuca Sentinel Landscape Partnership ~ Announces New Coordinator**

2020 was a year of transition and that also applies to the Fort Huachuca Sentinel Landscape Partnership (FHSLP). In November, Amber Morin took over for Alanna Riggs as the Partnership's Coordinator. In the 6 months since Amber has held the position, she has focused on a seamless transition, updating funding opportunities, maintaining excellent communication, and developing her relationships with the Federal Coordinating Committee to ensure the success of the Partnership. Alanna, who now works for Fort Huachuca, has been an invaluable asset to help in the transition and will remain active within the FHSLP in her new role at Fort Huachuca.

Amber, having ranched in Cochise County with her family most of her life, is keenly aware of the economic and ecological value farming and ranching has in the area. Being a Cochise County resident has also afforded her the opportunity to understand and appreciate the impact Fort Huachuca has on county residences and its significance to our nation's defense.

Her degree in political science, coupled with her desire to play an active and positive role in Arizona agriculture, helped her begin her professional career at the Arizona State Land Department as the Natural Resource Conservation District Manager. It was at the State Land Department that she credits her two former supervisors, Stephen Williams, and Willie Sommers, as being exceptional examples of professionalism and natural resources managers.



Amber was then approached by Arizona Farm Bureau to apply for one of their outreach management positions. During her time at Farm Bureau, Amber expanded her agricultural and land management networks around the state and was tasked with planning and executing a great number of meetings and member communications, which inspired her to start her own podcast and freelance writing entrepreneurial endeavors.

Amber is an alum of Arizona's Center for Rural Leadership 1-year intensive professional development program, Project CENTRL and she brings her unique project management approach learned from her previous professional experiences to the Fort Huachuca Sentinel Landscape Partnership. Her hope is to, "Continue adding value to an already extremely valuable Partnership, reduce volunteer burnout and expand engagement, and streamline conservation and restoration efforts to enhance and protect rural and working lands, local economies, and military readiness within the Fort Huachuca Sentinel Landscape footprint."

## ~ AZ Game & Fish Department ~ Helps put the Fort Huachuca Sentinel Landscape on the Map

There were just 81 of the once abundant pronghorn antelope left in the Sonoita-Elgin grasslands by 2012. Annual surveys by the Arizona Game and Fish Department suggested that the herd would eventually disappear due to in-breeding, loss of habitat, and predation. Today there are an estimated 275 pronghorn there, thanks in large measure to a partnership among Game and Fish, the Arizona Antelope Foundation (AAF), and local landowners.

Among contributions made by local ranchers was a simple fix for an unlikely problem; the unwillingness of North America's fastest land mammal to jump over obstacles, such as a barbed wire fence, despite their physical ability to do so. Many area ranchers allowed AAF volunteers to remove the bottom wire of their barbed fences and replace it with a smooth one 18-inches above ground. The modification enables the pronghorn to go under, rather than over, the fences. More than 50 miles of fences were so modified, opening up more than 100,000 acres of habitat for them to use. That habitat was further improved by AAF by mesquite removal, groundwater projects, and predator controls before the spring birth of pronghorn fawns, which are initially unable to outrun their main predator, coyotes.



*Pronghorn buck in Sonoita-Elgin stands behind a section of barbed wire fence which is among the 55 miles of fence line modified by replacing the bottom strand with smooth wire placed 18-inches off the ground. The modification enables pronghorn to go under the fence, greatly expanding their range there. Photo by Betty Dickens, AAF Life Member.*

AZGFD and



*A Gould's turkey in Carr Canyon. The first Gould's turkeys translocated from Mexico to southeast Arizona were released in the Huachuca Mountains, which has since served as a source population for reestablishing the species in other Sky Island Mountain Ranges. Photo by Tim Snow, AZGFD.*

In addition, the genetic diversity of the herd was improved by translocations of pronghorn from the Prescott Valley, and well as 40 from New Mexico brought in as part of a trade with that state by AZGFD for 60 Gould's turkeys. AZGFD and the Huachuca Gould's chapter of the Wild Turkey Federation have been working to restore the once expatriated species to the Sky Island mountain ranges for the past 20 years.

Now numbering more than 1,000, the Gould's restoration effort started with a translocation from Mexico to the Huachuca Mountains, which then served as a source population for reintroducing them elsewhere in the region. The species is now once again present in all the Sky Island mountains ranges of southeast Arizona.

Also once initially sourced from Mexico by AZGFD were black-tailed prairie dogs, which now number more than 200 at Bureau of Land Management's Las Cienegas National Conservation Area. Twice a year, AZGFD captures and then releases some after assessing their health and estimating population size. The project, undertaken with cooperation from local landowners, has been so successful that AZGFD has since been able to translocate some black-tails from Las Cienegas to Pima County nearby Sands Ranch. There are now four such colonies as part of the Sentinel Landscape.

Ongoing by AZGFD is the stocking of Parker Canyon Lake with rainbow trout in cold weather and channel catfish when it's warm, as well as working in Sonoita as a priority community under its Statewide Community Engagement Plan. Under the Plan, AZGFD annually sponsors the Sonoita Rodeo, exhibits at the Empire Ranch's Day of the Cowboy, and co-sponsors Quail Fest with the southern Arizona chapter of Quail Forever at the Sonoita Fairgrounds.

The Sonoita–Elgin area has some of the best quail habitat in the state. AZGFD has five “wing barrels” placed there where sportsmen are asked to deposit one wing from a taken quail in an envelope that, when filled out, provides basic information about their hunt. That data is then used by the agency to assess the overall health of the area's quail population.

“We are proud that our projects in and around the Ft. Huachuca Sentinel Landscape have involved other agencies, non-government organizations, and local landowners,” said Regional Supervisor Raul Vega of Game and Fish in Tucson. “Our mission is to conserve Arizona's diverse wildlife resources, and manage for safe, compatible outdoor recreation opportunities for current and future generations.”

The Arizona Game and Fish Department has trust responsibility for managing more than 800 native wildlife species – the most of any inland state – for current and future generations of Arizona citizens.

[http://www.azgfd.gov/h\\_f/northamericanmodel.shtml](http://www.azgfd.gov/h_f/northamericanmodel.shtml)



*AZGFD and Pheasants/Quail Forever staffers greet visitors to Quail Fest at the Sonoita Fairgrounds. Sonoita is a priority community for Game and Fish as part of its Statewide Community Engagement Program.*

## ~ Sentinel Landscape Restoration Partnership ~ Bella Vista/Coyote Wash Urban Enhanced Runoff Recharge Project

The Fort Huachuca Sentinel Landscape Partnership has three sub working groups formed to help achieve the FHSL mission: 1. the Sentinel Landscape Restoration Partnership (SLRP) Working Group 2. the Communications group and 3. the Open Space Working Lands (OWLs) Working Group. The SLRP, comprised of federal, state, county, and local agencies as well as non-profits and private landowners, is positioned to know and help plan for conservation practices that are being conducted, both currently and in the future, within the FHSL.

One of the projects that the SLRP Working Group is focusing on is the expansion of the Bella Vista/Coyote Wash Urban



*During storm events, urban enhanced runoff (UER) flows through Coyote Wash on the Bella Vista property. Photo taken by Brooke Bushman.*

Enhanced Runoff Recharge Project. The project is located on the west side of the San Pedro River and is managed by Cochise County. A conservation easement on the 2,984-acre parcel is held by The Nature Conservancy and conserves an estimated 238 acre-feet/year of groundwater due to precluded development. This acreage also buffers the south border of Fort Huachuca's East Range from additional development.

The project area has a history of agency collaboration and water conservation success by incorporating natural infrastructure in water management to support economic development and protect watershed health. Urbanized areas

like Sierra Vista produce additional rainwater runoff from streets, parking lots, and roof tops during storms that can be put to beneficial use to increase regional water supplies. The Bella Vista/Coyote Wash Urban Enhanced Runoff Recharge Project captures some of this additional "urban enhanced runoff" from a watershed, mostly within the City of Sierra Vista, to recharge the underground aquifer. This project increases the amount of water available for both local communities and the flows of the San Pedro River in the San Pedro Riparian National Conservation Area (SPRNCA), managed by the U.S. Bureau of Land Management.

Expansion of this project, known as the Bella Vista Conservation and Recharge Project, has been submitted for a Readiness and Environmental Protection Integration (REPI) Challenge grant this spring. The grant application includes a proposed acquisition of an additional 929 acres contiguous to the existing, protected, county-owned property and is compatible with Fort Huachuca's training operations and its electronic testing.

The acquisition of the additional acreage and construction of this recharge project will be the final step of a 6-year acquisition, planning, design and engineering effort by partners of the Cochise Conservation and Recharge Network. The property is strategically located between and contiguous to Fort Huachuca and the SPRNCA, which will help to ensure the long-term resilience of Fort Huachuca's missions and base flows in the San Pedro River.



*Drilling boreholes on Bella Vista led to the identification of the ideal recharge site on Coyote Wash. Photo taken by Brooke Bushman.*