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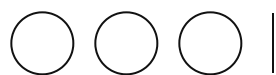
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Federal recognition to advance conservation and military readiness around Camp Bullis

Elena Bruess, San Antonio Express-News

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Daniel Oppenheimer of the Hill Country Alliance looks over berms and native grasses during a tour of Camp Bullis, which was recently designated a Sentinel Landscape. The designation, part of a federal initiative called the Sentinel Landscape Partnership, will facilitate significant financial resources to protect military readiness and advance conservation and agricultural productivity.
Robin Jerstad /Contributor

On the west side of Camp Bullis, at the edge of the Dominion neighborhood, Rustin Tabor pulls his truck to the side of a winding road and walks a few feet into the wooded area that lines it.

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Farther in, stretched across the dirt, is an entrance to a cave — a karst that leads deep under the forest to the Edwards Aquifer. A grate has been installed on the opening to prevent anyone from climbing down into it.

The cave, called Sharon Springs, is one of 112 on Camp Bullis, a military training

reservation on the Northwest Side. There are 1,474 karst features throughout Camp Bullis, ranging from small cracks and crevices to slits in the earth, that deposit water into the recharge zone of the Edwards Aquifer.

“This one doesn’t seem springy right now,” said Tabor, natural resources manager for Joint Base San Antonio. “But if you come here during wet conditions, the water is actually pushing out of the ground.”

Safeguarding such caves is among many conservation efforts at Camp Bullis and its neighboring lands — nearly 1 million acres — that stand to get a huge boost from the area’s recent inclusion in a federal initiative aimed at protecting defense facilities from land uses that are incompatible with their military missions.

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Grasses and berms are used to slow erosion at Camp Bullis, which was recently designated a Sentinel Landscape. The designation, part of a federal initiative called the Sentinel Landscape Partnership, will facilitate significant financial resources to protect military readiness and advance conservation and agricultural productivity.

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Under the initiative, called the Sentinel Landscape Partnership, such areas can seek

to be designated as sentinel landscapes, which can provide priority standing to tap certain sources of public and private funding. Camp Bullis received the designation this month, putting it in line for financing opportunities to strengthen military readiness, promote natural resource conservation and increase agricultural productivity.

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The Sentinel Landscape Partnership was established in 2013 by the Agriculture, Defense and Interior departments. The partnership seeks to connect landowners with government assistance programs to fund land protection and restoration and to implement sustainable land management practices. The aim is that such practices can yield economic and ecological benefits while also protecting defense facilities from development that can hamper military activities, such as training and testing.

The Camp Bullis Sentinel Landscape is the first to receive this recognition in Texas and one of just a few in the United States. Nearly 40 local organizations have joined as partners, including the Hill Country Alliance, the Trinity Glenrose Groundwater Conservation District, the Edwards Aquifer Authority, the Texas A&M Natural Resources Institute and the Alamo Area Council of Governments. The sentinel

Resources Institute and the Texas Area Council of Governments. The sentinel landscape will encompass most of Kendall and Comal counties; parts of Bexar, Medina and Bandera counties; and small sections of Kerr and Blanco counties.

The Defense Department's Readiness and Environmental Protection Integration Program, known as REPI, is also a major partner for the sentinel landscape by limiting development and land use conversion that could restrict military training and testing. Three segments in the entire area are designated opportunity spots for REPI.

"Agricultural productivity, conservation and military readiness are all tied together in terms of our relationship to the land," said Daniel Oppenheimer, land program manager for the Hill Country Alliance. "That's really what this partnership is about, bringing partners together and starting to understand where and how we can work together to bring new technical and financial resources that align with all the ground needs."

Stemming lights and floods

Thousands of military personnel train each year on the nearly 28,000 acres at Camp Bullis, part of Joint Base San Antonio. The base has 266 mission partners, and about 2,000 people train there every day.

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Most of those are training as military medics. Every enlisted medical person in the the U.S. military trains at JBSA-Fort Sam Houston, said Michael Waldrop, the installation support director at Camp Bullis. And they all undergo field components of their training in the natural areas on Camp Bullis.

“In a war zone, you’re usually out in areas like this nature,” Waldrop said. “We want it to be as realistic as possible, so we can’t have any urban elements. They do their urban training elsewhere.”

Development near Camp Bullis can lead to light pollution, loss of agricultural lands and flooding. Outdoor lighting around the northwestern area of San Antonio, from new subdivisions or traffic, can disrupt the natural atmosphere for training. The area south of Camp Bullis is already too heavily illuminated, but the central portion of the camp to the north is still suitable for night training.

But there is concern that lighting is increasing to the north, which is one of the fastest-growing areas in Texas, and not just among the military. Light pollution can also disrupt natural patterns for wildlife, such as bird migration; increase carbon dioxide in the atmosphere; and obscure the stars.

With this new designation, partners can work with developers to preserve dark night skies for military training, birds, natural resources and public health,

Oppenheimer said. One solution is to provide funding for landowners and developers to focus their floodlights downward in their yards instead of reaching areas that don't need to be illuminated.

Another issue the Sentinel Landscape Partnership can tackle is flooding in Camp Bullis, 30 percent of which lies in a flood plain, and the surrounding areas.

The Texas Hill Country is known as flash flood alley because of its shallow soils and the steady moisture and humidity that comes off the Gulf of Mexico, making the area vulnerable to massive dry spells and drought followed by catastrophic floods.

At Camp Bullis, flash flooding has washed trucks away, covered roads and fields, and even killed a handful of people who got stuck in the floodwaters.

One solution involves speaking with landowners and developers about their own goals and values, Oppenheimer said.

“We’re not coming in and telling people what to do,” he said. “We talk about different tools and strategies to get them aligned with their goals and their interests. They don’t want to lose all their soil. They don’t want to be susceptible to drought and flood. Then based on that, we discuss ways they can retain more soil moisture, reduce erosion and enhance grass production on their property.”

One flood prevention technique is building berms to slow water and enable it to be absorbed into the soil, a practice that is especially helpful during heavy rain. A berm is a raised barrier separating areas and can be made from brush and tree limbs or a grassy strip. With funding through the sentinel partnership, landowners could receive resources to build such structures or hire contractors to help them prepare the land for flooding.

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Around Camp Bullis, berms are around the entire area for flooding, some made with brush and others with dirt and grass. In some cases, the berms serve multiple purposes — as bullet catchers for military range practice along with flood prevention.

“It’s not just us,” Waldrop said. “It’s everyone.”

Water as a joint mission

Tabor's work at Camp Bullis includes protecting the Edwards Aquifer recharge zone's caves and karsts, along with closely monitoring wildlife on the property, especially creatures that depend on the property for survival.

Camp Bullis provides habitat for the endangered golden-cheeked warbler and aquifer-dependent species, such as the blind salamander, San Marcos salamander and Comal Springs riffle beetle. Three river systems — the Medina, the San Antonio and the Cibolo — run through the Camp Bullis Sentinel Landscape's massive area.

Decomposing wood helps the ground to absorb more water at Camp Bullis, which was recently designated a Sentinel Landscape. The designation, part of a federal initiative called the Sentinel Landscape Partnership, will facilitate significant financial resources to protect military readiness and advance conservation and agricultural productivity.

Robin Jerstad /Contributor

Of the 28,000 acres at Camp Bullis, 4,000 are within the recharge zone. It is also at the convergence of the Trinity Aquifer and karst features along Cibolo Creek. Two aquifers — the Trinity and Edwards — meet under Camp Bullis and influence each other through the flow of groundwater.

All military personnel and others at Camp Bullis depend on water from the Trinity Aquifer and its relationship with the Edwards Aquifer. Compared to the Edwards, the Trinity recharges slowly and needs more time to refresh.

At the Trinity Glen Rose Groundwater Conservation District, Assistant General Manager Amanda Maloukis said a large part of the Sentinel Landscape Partnership's mission is protecting, preserving and conserving groundwater resources.

“We can bring in educational pieces to the community, to those ranches and landowners, that really helps enhance their own personal conservation efforts,” she said. “We have rain barrel workshops, which can help people put less stress on the aquifer. We have these high-precipitation events, flooding events, and we’re catching that extra runoff in barrels, which can be used.”

Some of the funding could also be used for further research on groundwater dynamics. By better understanding how the aquifers work together and contribute to the greater ecosystem, organizations and agencies can better protect the water for future generations.

Development around Camp Bullis can bring more pressure to the area in terms of pollution, spills and runoff into both aquifers. Groundwater, Maloukis said, is not just for communities around Camp Bullis, but also for the military within the conservation district. It's important for everyone involved to keep it clean, and with the new sentinel landscape designation, the hope is they're heading in the right direction.

“All of this water is tied together in terms of our relationship to the land,” Oppenheimer said. “That’s what this is all about, bringing everyone together to see how all these pieces fit into a really complex puzzle.”

Elena Bruess writes for the Express-News through Report for America, a national service program that places journalists in local newsrooms. ReportforAmerica.org.
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