



2019 Secretary of Defense

Environmental Awards

Sustainability – Individual/Team

Goodfellow AFB Environmental Management Element Sustainability Team

Introduction

Goodfellow Air Force Base (AFB) is located in San Angelo, TX, an area steeped in military history. In the beginning of World War II, the San Angelo Air Corps Basic Flying Training School opened its doors. The school was renamed Goodfellow Field in honor of Lieutenant John Goodfellow, Jr., of San Angelo, whose plane was shot down behind enemy lines during World War I in 1918.

Over the next two decades, Goodfellow AFB graduated more than 20,000 trained aviators. In 1958, the Installation relinquished its flying mission for one that involved training Air Force personnel in advance cryptologic skills. This was expanded to provide training for Army,

Navy, and Marine Corps personnel. Base Realignment and Closure brought additional training missions from several other bases to Goodfellow AFB; specifically, Department of Defense (DoD) fire training from Chanute AFB, IL in 1993 and special instrument training in 1994 from Lowry AFB, CO.

Today, the Installation trains all services and 14 international partners as one of the military's premier joint-service training institutions supporting Cyber, Intelligence, Surveillance, Reconnaissance, and 5th Generation/Fusion Warfare missions. Goodfellow AFB is committed to developing exceptional professionals in an environmentally responsible manner that will protect human health and

safety, conserve natural and fiscal resources, minimize waste, and prevent pollution.

The Goodfellow AFB Environmental Management Element Sustainability Team (Sustainability Team) provides support to an average daily wing population of 11,000 including 3,400 students and 2,917 permanent personnel who successfully graduate 14,400 joint-service students annually. The Sustainability Team is responsible for the environmental oversight of 1,234 acres of land with Installation assets comprising 432 facilities and 171 buildings totaling 2.6 million square feet. This includes 350,000 square feet of sensitive compartmented information facility training space and an 82 acre/163,814 square-foot fire academy training complex. Environmental assets of interest include 23 initial hazardous waste accumulation points, 26 installation restoration program sites, one state-threatened Texas Horned Lizard, and until recently a herd of 320 White-tailed Deer.

Background

The Sustainability Team comprises the entire environmental management element of the 17th Civil Engineer Squadron (CES). The element is currently staffed with four permanent civilian authorizations and one contract support member and has experienced extensive personnel turnover since 2014. Impressively, the Sustainability Team earned the 2018 Air Force General Thomas D. White Sustainability Award, a representation of the Team's effective program management and leadership. The Sustainability Team manages and expertly executes 18 environmental programs, through primary and alternate program managers identified for each program. This practice ensures program continuity, avoids single points of failure, and innovatively allows the small team to provide superior coverage, regardless of turnover; and it expands program

manager's breadth of environmental experience.



The Sustainability Team

Goodfellow AFB Sustainability Team members represent the 17th Civil Engineer Squadron. Pictured (left to right): Mr. Michael Dominy, Mr. Terry Thomas, Mr. Allen Sohn, Ms. Erika Alanis-Unger, and Mr. Phillip England. (Not pictured: Mr. Scott Flash)

The Sustainability Team

- **Mr. Terry Thomas**, Environmental Management Element Chief (AUG 2018 – Present)
- **Mr. Allen Sohn**, Physical Scientist (JUL 2015 – Present)
- **Mr. Phillip England**, Hazardous Waste Contractor (JUL 2017 – Present)
- **Mr. Michael Dominy**, Environmental Technician (AUG 2004 – JAN 2019)
- **Ms. Erika Alanis-Unger**, Biological Scientist (JUL 2017 – NOV 2018)
- **Mr. Scott Flash**, Environmental Management Element Chief (AUG 2016 – FEB 2018)

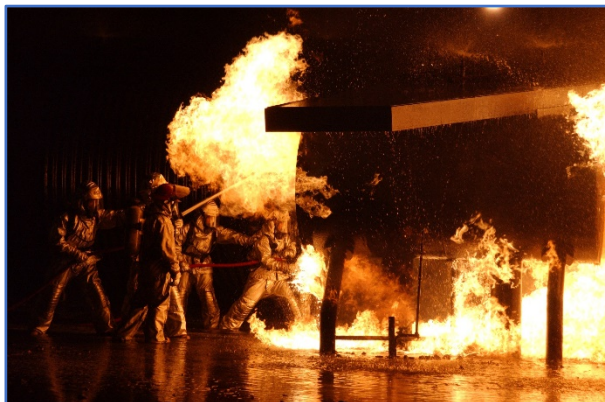
The Sustainability Team receives unwavering support from the Environmental Management System Cross Functional Team (EMS-CFT) chaired by 17th Mission Support Group Deputy Director. The EMS-CFT provides a foundation for the Sustainability Team to execute programs and projects under the Environmental, Energy, Safety, and Occupational Health Council leadership chaired by the 17th Training Wing

Vice-Commander. This strong wing leadership support strengthens the Installation's environmental commitments.

The Sustainability Team actively partners with the Air Force Civil Engineer Center, Joint Base San Antonio Installation Support Section (ISS) ensuring successful execution of Goodfellow AFB's environmental sustainability programs. The Sustainability Team leveraged ISS expertise and assistance as a force multiplier in superior management of the environmental programs. ISS commitment to monthly meetings and weekly outreach allowed the Sustainability Team to flourish.

The centerpiece of the Sustainability Team's successful program is the significance placed on building relationships and devotion to customer rapport. This includes 17th CES internal customers such as craftsmen in the operations flight, project engineers in the engineering flight, and firefighters in the fire and emergency services flight. External customer communication and cooperation is superior, enabling the Team to leverage outside expertise and commitment that directly support the Wing's environmental programs. Customers view the Sustainability Team as their support office, rather than a roadblock to mission accomplishment. For example, the DoD Louis F. Garland Fire Academy (LFGFA) mission includes numerous activities that could negatively impact the environment; and if not managed properly the LFGFA operations tempo and training output could be degraded. The Sustainability Team studied the LFGFA training requirements from an environmental perspective that proved to be a mission asset and not a liability. In one case, the LFGFA purchased three mobile gas fired water pump trainers that would be considered mobile air emitting sources requiring environmental permits, if not utilized properly. The Sustainability Team provided the LFGFA with an operational plan that would not degrade

training and ultimately eliminated permit requirements.



Firefighting Training

The DoD Louis F. Garland Fire Academy mission includes environmentally-focused activities with potential to impact operations tempo and training output, if out of regulatory compliance. The Sustainability Team prioritized and studied firefighting from an environmental perspective to be an asset to the mission rather than an obstruction.

Finally, the Sustainability Team's strong relationship with Texas Commission of Environmental Quality (TCEQ) enforcement personnel has proven exceptionally valuable. The Team maintains transparency with all aspects of compliance and often solicits advice from TCEQ enforcement personnel, including requests and implementation of best management practices (BMP). During the accomplishment period, the Team developed a Goodfellow AFB Nitrification Action Plan (using chlorine to make water safe to drink) based on an already-proven BMP provided by TCEQ. The Sustainability Team is committed to maintaining strong relationships and rapport with all customers.

Summary of Accomplishments

Natural Resources Sustainability

Despite Goodfellow AFB's small size, the Sustainability Team manages a robust natural resources program. The Installation includes 359 acres of improved grounds where personnel plan and perform mission activities requiring

extensive environmental maintenance, 125 acres of semi-improved grounds focused on erosion and dust control for storm water permit compliance, and 750 acres of unimproved grounds sustained as natural habitat for wildlife and native mesquite trees, prickly pear cactus, and other brush. The unimproved grounds growth went unchecked over the last 20 years, as mowing ceased that resulted in an ideal habitat for White-tailed Deer. At one point, the Team estimated a population of 320 deer on Goodfellow AFB. The Sustainability Team turned their attention to maintaining a healthy population of the deer species. Overpopulation had a negative impact on the natural and human environment. Although White-tailed Deer are wild and often avoid humans, the deer became comfortable around the 11,000 people who work, train, or live on Goodfellow AFB, particularly during September through February. Personnel often encountered deer on active roadways, parking lots, outside buildings, and throughout military family housing areas. Some encounters resulted in property damage or loss of life (deer), elevating the Installation's deer population as a safety concern. Not only were deer considered a safety issue, but the Sustainability Team's concern of overpopulation focused on the deer itself. The possibility of starvation and disease had to be addressed within such a small habitat area. The Team partnered with a Texas A&M University Wildlife Biologist, Dr. John Tomacek, and the ISS Natural Resource Program Manager, Mr. Kim Walton, to develop a viable and sustainable deer management program. The Team identified a two-prong approach for this effort: food source removal and deer herd reduction.

To address food source removal, the Sustainability Team developed a noxious brush removal plan. A \$60,000 project was funded to remove a portion of the deer herd's food source on 90 acres and kick-started the first prong of deer herd management. The Team realized that

grubbing and clearing of brush by contract was not affordable, so they teamed with the Goodfellow AFB Entomology Section to develop an in-house noxious brush removal regimen that was both affordable and sustainable. They acquired a 21-foot herbicide boom sprayer to use with existing equipment to cover a wider spray area, as well as a 320-gallon portable sprayer for individual plant treatment.



White-tailed Deer Management

Goodfellow AFB's white-tailed deer population grew to 320 deer on its 750 acres of unimproved grounds. Through innovative invasive species management, the Team reduced the deer herd size to maintain a manageable, healthy, and safe environment for the Goodfellow AFB populace.

Next, the Sustainability Team tackled deer herd reduction. The Team partnered with Texas A&M and the ISS to conduct a Texas Parks and Wildlife Department permitted deer capture. The Team debated between two types of permits: *Trap, Transport, and Relocate* or *Trap, Transport, and Process (TTP)*. The expense of testing the deer for Chronic Wasting Disease and finding landowners willing to take deer led the Team to pursue the TTP permit. Leveraging expertise and resources from all partners, the Team obtained Wing leadership approval for their preferred action. The ISS capitalized on a contract vehicle utilizing Texas A&M experts and a professional capture contractor. Texas A&M obtained a Texas Parks and Wildlife Department TTP permit with a

maximum capture of 200 deer. The \$68,000 effort consisted of three separate deer counts, two individual capture events held one month apart, and 139 deer trapped that resulted in 8,200 pounds of venison contributed to the Feed Texas Food Bank. Twenty deer were tested by a Texas Parks and Wildlife biologist for Chronic Wasting Disease with negative results and dozens of venison samples were sent to Texas A&M for a safe consumption study. Currently, approximately 90 deer inhabit Goodfellow AFB and the Sustainability Team continues to employ programs keeping the deer herd size manageable, healthy, and safe for the populace.

NEPA Program Management

The DoD selected Goodfellow AFB as a potential bed-down site for Unaccompanied Alien Children (UAC) capable of supporting 10,000 personnel in Spring 2018. The Sustainability Team partnered with the Air Force National Environmental Policy Act (NEPA) Center to complete a comprehensive environmental assessment that ensured the project met all Federal environmental requirements. Bed-downs require an inordinate amount of analysis under NEPA and the Sustainability Team rose to the challenge to meet the Secretary of Defense's operational UAC bed-down order. Utilizing in-house expertise, the Team executed an environmental baseline survey of the proposed 70-acre bed-down area and validated there was no threat to the Texas Horned Lizard habitat or the environment. The Team completed the survey in less than two months, which ultimately avoided \$40,000 in contract costs. The Team capitalized once again on its in-house expertise and an existing environmental assessment completed for a project adjacent to the bed-down area. By correlating the requirements of the previous assessment with the UAC bed-down site, the Team avoided an additional \$60,000 in contract costs. The resulting planning and decision documents ensured

preservation and sustained viability of the Goodfellow AFB natural environment, even in a scenario where a significant increase in base population is expected.

Education, Outreach, and Partnering



Education and Outreach

San Angelo Independent School District 5th Graders learn about science through Goodfellow's STARBASE Program. The Sustainability Team promotes STEM through classes promoting water quality, pollution prevention, and natural resources.

The Sustainability Team places a high value on education. In addition to maintaining a strong compliance program, the Team dedicates significant time to on- and off-base education and outreach activities. Underpinning the Team's success is the philosophy that customers who are properly educated on why they need to follow policies and regulations will be more open and transparent with the Team on environmental compliance. This transparency allows the Team to enhance and enable critical DoD missions. Unit Environmental Coordinators (UECs) provide liaison between the Sustainability Team and individual units. The Sustainability Team incorporates one-on-one training with UECs and initial accumulation point managers during annual inspections, including development of section-specific oil handler briefings and standardized inspection procedures tailored to seven unique functions. During the accomplishment period, the Team also hosted master gardener seminars and rainwater harvesting workshops that

emphasized natural landscapes, native plant species, and drought condition planning. These conservation practices are the heart of sustainable water resources in a desert environment.

The Sustainability Team visits local schools encouraging elementary students to discover Science, Technology, Engineering, and Mathematics (STEM). The Team designed and taught water quality and pollution prevention courses for the DoD STARBASE program geared for local San Angelo Independent School District 5th graders. STARBASE provides local area students exposure to STEM through innovative and stimulating experiences. The Team also participated in the Christoval Independent School District *Camp Discovery* focusing on exciting STEM careers. They led a Goodfellow AFB volunteer effort that helped San Angelo Friends of the Environment divert 10 tons of recyclables from the solid waste stream during Texas Recycles Day. The Team also created *The Quarterly Planet* newsletter disseminating environmental information, updates, and training events through UECs to unit personnel. These educational efforts have far reaching impacts on future generations.

The Team also supported the Concho Valley Society of American Military Engineers holding two officer positions and organizing tours with local industry and academic partners that fostered community ties. Finally, the Sustainability Team actively serves on the Concho Valley Council of Governments Solid Waste Advisory Council and reviews pollution prevention sub-grants for regional recycling projects. During the accomplishment period, the Council allocated over \$52,000 to support thirteen counties with various recycling projects.

Mission Impacting Practices

The regulatory burdens of environmental programs invite numerous external assessments. To lessen those burdens the Sustainability Team conducted a continuous process improvement (CPI) event of Goodfellow AFB's air program that resulted in less regulatory oversight. Overall, the air program CPI event reduced required TCEQ air permits, reduced administrative efforts by 144 man-hours per year, and saved \$15,000 in permit fees. One air permit limited the Installation's indoor small arms firing range to 380,000 rounds and the CPI event resulted in the elimination of that permit. This allowed the Installation to significantly increase training throughput and still meet Federal requirements. This positive CPI event inspired the Team to closely review 17 other environmental programs.



Air Permit Reduction

Goodfellow AFB Airmen conduct firearms qualifications in preparation for deployments. The Sustainability Team increased mission capability by eliminating the air permit for the indoor firing range, thereby increasing training while meeting Federal requirements.

Within a three-month period in early 2018, the Sustainability Team underwent an Air Education and Training Command Unit Effectiveness Inspection comprehensive evaluation of its EMS and hosted short-notice TCEQ compliance inspections of the Installation Multi-Sector General Permit,

Public Water Supply, and Municipal Separate Storm-Sewer System (MS4). The EMS inspection validated Goodfellow AFB's EMS as the most improved of 86 installations throughout the Air Force. TCEQ submitted final reports on all three inspections documenting zero violations and 100% compliance.

The Team also addressed the extreme drought impacts throughout the San Angelo area that have led to erosion problems over the past decade. The Sustainability Team established an environmental action plan addressing erosion in support of the MS4 permit. The Wing leadership-approved action plan provided definitive tasks to address environmental concerns and included short- and long-term preventive measures that included straw wattle installation to protect MS4 infrastructure. Straw wattles prevent debris other than storm water from entering storm drain inlets.



Straw Wattle Installation

The Sustainability Team employs several preventive measures to address Installation erosion problems. Straw wattles prevent debris other than storm water from entering storm drain inlets.

Finally, the Sustainability Team partnered with the 17th Civil Engineer Operations Flight and their external customers on two compliance issues: non-compliant secondary containment in a vehicle maintenance compound and management of a 500,000-gallon above ground

water recycling tank repair project at the LFGFA.

The Team developed the work scope for a secondary containment system that would meet regulatory requirements and the Operations Flight installed the newly acquired compliant system ensuring zero mission interruptions.

The Team faced a challenge in the repair of a water recycling tank at the LFGFA. Time was of the essence, as training was impacted with the tank out of service. The Team contacted San Angelo Publicly Owned Treatment Works Department that agreed to receive 500,000 gallons of effluent in record time with minimal impact to the treatment plant and allowed immediate repairs. This effort resulted in no training mission degradation. The Team's successful partnership with the city reinforced that strong relationships are a value-added part of the process and not an impediment to the mission.

Goodfellow AFB is at the forefront of initial education and training for all DoD services Cyber, Intelligence, Surveillance, and Reconnaissance warfighting capabilities. The Sustainability Team contributes to this mission with sustainability practices that include specialized projects, cross-functional collaboration, infrastructure management, and water conservation activities.