



2018 Secretary of Defense

Environmental Awards

Natural Resources Conservation, Individual/Team
Travis Installation Support Section

Background

The Air Force Civil Engineer Center's (AFCEC) Travis Installation Support Section Natural Resources Team (the Team) consists of three professional wildlife biologists with expertise in the management and conservation of endangered species, wetlands, rangelands, invasive species, and reduction of wildlife conflicts with aircraft through the Bird/Wildlife Aircraft Strike Hazard (BASH) program.

- Kirsten Christopherson, M.S., CWB®, Natural Resources Subject Matter Specialist, West Regional Support Branch & Travis Installation Support Section
- Jason Gibbons, B.S., Natural Resources and Planning, Programming, Budgeting and Execution Subject Matter Specialist, Travis Installation Support Section
- Lauren Wilson, M.S., CWB®, Natural Resources Subject Matter Specialist, Travis Installation Support Section

Position Description

Through the AFCEC regional environmental support structure, the Team provides natural resources assistance, primarily to the installations in California, but also throughout the Western United States and the Pacific to assist with natural resources management issues of broad importance to the Air Force. Responsibilities in northern California involve in-depth installation support functions covering 30,000 acres at Beale and Travis Air Force Bases (AFB). During the accomplishment period, the Team also provided in-depth support to the southern California installations, covering an additional 400,000 acres. On a daily basis, the Team supported installation natural resources managers through planning, programming, budgeting, executing, overseeing contracts, tracking compliance of plans and permits, and providing technical support to maintain compliance with federal laws, including the Endangered Species Act (ESA), Sikes Act, Migratory Bird Treaty Act

(MBTA), and Clean Water Act (CWA). California has a stringent regulatory environment and is under extreme development pressure, resulting in conservation and management challenges on all Air Force installations. Resources managed in the Team's primary area of responsibility of northern California include 20 federal and state threatened and endangered (T&E) species, 40 California species of special concern, 4,000 seasonal wetlands, 12 miles of streams, 20 lakes and ponds, and 20,000 acres of grasslands.

The Team fulfills higher level advisory responsibilities throughout the entire West Region, comprised of 10 states and 30 installations, by working with AFCEC natural resources staff assigned to six regional offices. This support included review of budgets, management of nationwide cooperative agreements, guidance on Integrated Natural Resources Management Plans (INRMPs), and technical support.

The Team is also recognized for their specialized areas of expertise and ability to support programs beyond California and the West Region, assisting in multiple efforts throughout the Air Force and Department of Defense (DoD), including Brown Treesnake operations in the Pacific islands, White-Nose Syndrome bat surveys, Geographic Information System standardization, the DoD *Partners in Flight* migratory birds program, and Avian Protection Plans for Air Force electrical utilities.

The Team's overall goal is to find the delicate balance between the military mission and stewardship of natural resources through innovative strategic planning, incorporating the best available science, and relying heavily on strong partnerships with internal and external stakeholders.

Summary of Accomplishments

Overall Natural Resources Conservation

The Team served as installation advocates for natural resources management contract execution, leading regional enterprise initiatives for five Major Commands at six installations in California. They were a resource execution mainstay, providing direct installation support for planning and programming of over 1,800 environmental requirements, executing over \$50 million in projects, and avoiding \$450,000 in costs by standardizing the process for tracking natural resources permits and updating INRMPs in accordance with the Sikes Act. With oversight of 13 critical natural resources contracts valued at \$7.4 million, the Team was not only the liaison between the installation, contractor, and regulator, but also reviewed over 99 deliverables annually to ensure milestones were achieved and mission impacts were minimized.

As many as 10 ESA consultations for typical construction activities were initiated each year to address potential adverse effects to federally-listed species at Travis AFB. The consultation process with the United States Fish and Wildlife Service (USFWS) under Section 7 of the ESA is typically accomplished on a project-by-project basis and can be lengthy for even the smallest project. To evaluate the effects of typical construction activities on federally-listed species on a broader level, the Team established a single Programmatic Biological Opinion (PBO) for the base, thereby ensuring compliance with the ESA and streamlining support of the mission. The PBO framework will support approximately \$100 million in contracted efforts and reduce USFWS technical review times by 20%. This monumental savings of DoD dollars has an equally astounding savings of thousands of administrative and technical man-hours.

AFCEC's Environmental Restoration Program at Travis AFB is responsible for the remediation of soil and groundwater contamination at 39 sites as well as base-wide investigation for emerging contaminants. These sites overlap habitat for six ESA-listed species. During the accomplishment period, the Team provided the Restoration Program with critical guidance and support for three large, complicated USFWS consultations ensuring that the clean-up occurred on schedule and in accordance with strict federal requirements.



Threatened and Endangered Species Surveys

The Team planned, programmed, executed, and managed multiple threatened and endangered species projects at two bases to ensure that current data would be available to support ESA consultations on mission support projects. This project involved data collection during surveys for Vernal Pool Fairy Shrimp, Vernal Pool Tadpole Shrimp, and Conservancy Fairy Shrimp near the Travis AFB airfield.

Mission Enhancement

In 2015, the West Region audited the status of all twenty-three INRMPs and found that many plans were not compliant with the Sikes Act due to lack of current updates or proper regulatory agency signatures, posing a threat to sustaining installation missions. The Team engaged with the seven AFCEC Installation Support Sections, as well as three USFWS Sikes Act coordinators to gain forward movement on

revising the plans. During the accomplishment period, the Team tracked and provided critical technical support for eleven major plan revisions, bringing six into compliance and gaining critical regulatory support of mission activities.

The Team provided biosecurity expertise for operations in the Pacific Region, supporting ESA compliance for Brown Treesnake management associated with Air Force construction and follow-on exercises in the Commonwealth of the Northern Marianas Islands. Equipment and material for the Divert Tinian construction project is anticipated to flow through Guam, increasing the threat of invasive species transport to the island of Tinian, home to six T&E species. Because of the threat, the USFWS issued a Biological Opinion requiring a rigorous interdiction program. In 2017, the Team conducted an on-site visit to meet face-to-face with stakeholders, assess the operational capabilities, and determine the level of construction project funding necessary to comply with the Biological Opinion. As a result, the Team's support saved construction project planners over \$300,000 in additional biosecurity design and contract costs.

Based on data from lands surrounding Travis AFB, in 2013 the installation became newly defined as habitat for a federally-listed species, the California tiger salamander. This species is particularly challenging to manage because it lives primarily underground and only emerges at night during rain or high humidity. Many large construction projects that had previously been funded did not take this species into account. The Team provided rapid support to the Base in three urgent situations to prepare short-notice ESA consultation documents to prevent a work stoppage, such as the \$35 million runway repair project. Additionally, the Team had established a partnership with the USFWS through an interagency agreement,

ensuring rapid response to questions and consultations. Without the Team's shrewd and responsive actions, these critical mission infrastructure projects would not have progressed on schedule, resulting in significant cost and man-hour overruns.



Brown Treesnake Program Assessment

The Team reviewed the Brown Treesnake interdiction programs throughout the Commonwealth of the Northern Mariana Islands and Guam to determine the level of funding necessary for construction projects and Biological Opinion compliance. Tarague Basin, in the background, is where many of today's tools for Brown Treesnake control were field-tested.

Land Use Management

Vandenberg AFB had been working with a wetland delineation that was developed in the 1980s, which made day-to-day CWA compliance challenging as mission projects arose. The Team facilitated an essential updated wetland delineation using innovative and non-typical techniques. The Team established an Air Force West Region partnership with an Army Corps Laboratory, which utilized the Base's recently acquired remote sensing data. The data, paired with site visits by Army wetland scientists, resulted in an accurate, updated wetland map for Vandenberg AFB's 99,000 acres. The Team's use of these techniques resulted in \$500,000 in costs avoided over a typical, contracted field wetland delineation.

Beale, Vandenberg, and Travis AFBs have a combined total of 36,000 acres of cattle grazing through the agricultural outlease program. Newly learned technical skills and current research from the Team was shared with the bases through planning, programming, executing, and project managing for two revised grazing management plans and updates of two grazing leases. This work supported increased revenue by 65%, an additional \$363,000 per year, which can be used to offset other natural resources funding requirements.



Training and Partnering with the USFWS

Beale, Vandenberg, and Travis AFBs (shown), have a combined total of 36,000 acres of cattle grazing, but these bases also have many federally-listed species to manage. The Team shared their knowledge on the benefits of grazing in vernal pools with the USFWS. The Team has supported the expansion of grazing on two bases, generating additional revenue while better managing the protected species.

Forest Management

A pathogen known as Sudden Oak Death is a disease that has resulted in the widespread dieback of several oak species throughout the world, including California. To assess the impacts to Vandenberg AFB, the only coastal military installation within the infected zone, the Team expanded the State's disease inventory to include 3,000 acres of Air Force property. Phase two of the project will develop the first-ever tree inventory that captures the

economic value of individual trees, resulting in data that will guide planners in securing well-justified budgets for conservation.

The devastating wildfires on Vandenberg AFB in 2016 transformed 12,000 acres into a moonscape, took the life of one firefighter, and came close to crippling the military's ability to launch rockets from the western range. The Team quickly tapped into a unique contract vehicle, the Environmental Services Cooperative Agreement, to expedite the Burned Area Emergency Response plan and prevent devastating erosion. The Cooperative Agreement, first developed by the Team in 2013, amplifies installation-level proficiency in the design and execution of natural resources requirements unique to California, refines and utilizes the most cost-efficient tools in austere fiscal years, and strengthens relationships with adjacent communities and landowners while also sustaining preeminent military mission and readiness capabilities.

Fish and Wildlife

The Team demonstrated their innovation, perseverance, and expertise in ensuring that natural resources and mission requirements were balanced. One often unrecognized challenge nationwide is the electrocution of birds on installation electrical distribution systems, causing mission immobilizing power outages, wildfires, and non-compliance with the MBTA. Beale AFB has documented, since 1998, that over 40 wildfires were caused by bird electrocutions on power lines. To tackle this crucial issue, the Team established a new Avian Protection Plan at Travis AFB and provided fundamental training to the electrical engineers, lineman, and environmental staff. At Beale AFB, the Team initiated and delivered key revisions to the existing Plan and critical training. Engineers were in the process of replacing over 1,000 electrical poles. As this training addressed avian protection during the

design phase of the project, measures were taken that will ensure lasting savings in the millions of dollars for future outages and retrofits. To share lessons learned from this best management practice, the Team took this mission critical issue to the Air Force Electrical Engineer Subject Matter Expert, who initiated changes to the DoD electrical design criteria and all DoD system requirements and standards. The Team also presented the Beale AFB case study at a workshop for DoD natural resources staff. The session invigorated a team of multi-service biologists to collaborate on a DoD Legacy Funding Proposal to develop a nationwide DoD training program on this benchmark issue. These successes demonstrate the Team's truly overarching leadership role within the DoD.



California Tiger Salamander Relocation

When airfield operations staff found the federally-listed California tiger salamanders stranded on the Travis AFB runway, the Team responded to this emergency. Over a six-week period they simultaneously prepared an emergency ESA consultation and established a small team of qualified biologists to capture and relocate 665 salamanders from the breeding pond to the other side of the runway. Efforts to help protect the species did not impact normal flight operations.

When federally-listed California tiger salamanders were found stranded on a Travis AFB runway on several mornings, the Team engaged with Airfield Operations to work between flights to relocate the salamanders over several weeks. The Team also quickly organized a biological team to conduct a trapping survey, a process that would typically take over six months to plan and implement, but due to the critical situation, the Team swiftly gained approval, relying on a trusted partnership with the USFWS. They captured and relocated 665 salamanders from the traps to the other side of the runway, which was safer for the species and ensured continuing flight operations.

Invasive Species Control and Pest Management

The Team pioneered a \$4 million California statewide invasive plant strategy for 427,000 acres, and crafted detailed work plans ensuring long-term sustainable land management. A large up-front investment in this program is expected to result in significantly lower annual costs in the future. The life cycle cost programming and execution processes demonstrate the Team's superior program management.

Feral pigs are a damaging invasive species throughout California, and specifically on Vandenberg AFB where they cause harm to open space areas inhabited by T&E species and sensitive cultural and archaeological sites. The Team spearheaded an effort to develop the area's first-ever feral pig management plan. They collaborated with the National Wildlife Research Center to develop the plan, which included innovative techniques to remotely monitor traps and cameras, analysis of specific control methods, and a decision matrix to guide future control activities. Plan results are expected to be replicated in other known feral

pig damaged areas on Air Force installations and across the DoD.

Education and Outreach

The Team deftly negotiated with three federal and state fish and wildlife resource agencies to work through substantial challenges with Beale and Travis AFB INRMPs. Strong working relationships, persuasiveness, and persistence saved six months of processing time on one plan and instigated an interim solution for compliance on another plan until a large-scale revision could be completed.

The Team used their contacts and expertise to develop a nature tour with an expert tour guide for Travis AFB. The tour was attended by base personnel and housing residents, including children. Taking valuable time and resources to educate the community on the beauty and value of their unique surroundings is one more effort the Team accomplished in this award period.

The Team established the first ever agreement with the California Department of Fish and Wildlife to provide Conservation Law Enforcement Officers, advancing natural resources legal compliance on Edwards AFB's 300,000 acres. The Team continues to collaborate with federal agency partners to employ Conservation Law Enforcement Officers throughout the West Region to fulfill DoD natural resources management requirements.

The Team has excelled at assisting bases where they have knowledge gaps or lack of expertise in the BASH program. Through patient and persistent negotiation, they worked to establish and improve communication channels, mediate, build professional relationships, and continuously improve four standalone BASH programs between AFCEC, the Air Force Safety Center, United States Department of Agriculture - Wildlife Services, and the base

environmental offices. At Beale AFB, the Team negotiated the first-ever Air Force MBTA violation settlement with the USFWS by identifying failure points and pulling the entire group together for a partnering meeting to improve working relationships. The Team regularly engages and skillfully reasons with regulators to reach mutually beneficial agreements to manage natural resources in a compliant manner.



Earth Day Nature Tour

Travis AFB held a nature tour for Earth Day. The Team used their expertise and professional contacts to lead portions of the nature walk, in addition to providing the Base with a local tour guide with expertise in giving nature tours. The springtime tour focused on the species that were visible that day, but also discussed other species that occur on the base and their importance in the overall ecosystem.

Environmental Enhancement

One of Beale AFB's foundational INRMP goals has been to partner regionally on the restoration of Dry Creek, which is habitat for salmon and federally-listed steelhead trout. The fish are only seen in high flow years due to local impediments that block fish passage from downstream. On the base, main impediments to fish are a 1940s-era concrete dam and its antiquated fish ladder. Due to its age and outdated technology, the fish ladder has limited functionality. The Team partnered with the USFWS and National Marine Fisheries Service to study the creek's temperature and flow,

which demonstrated that this stream was one of the best opportunities in the watershed for improving fish passage. Around the same time, an engineering study of the base's dams indicated that the dam in Dry Creek was failing and needed removal or repair immediately. In 2017, the Team acquired \$1.1 million in Sikes Act funding for dam and fish ladder removal and upstream restoration. In collaboration with the USFWS, the Air Force saved \$3 million in engineering funds that would have been required to rehabilitate the dam and fish ladder. When the project is complete, the Team will have restored a threatened fish species to a stream where they have been presumed absent for 75 years.



Dry Creek Dam and Fish Ladder

The Team acquired \$1.1 million in Sikes Act funding for the removal of a failing dam and inoperable fish ladder that were serving as impediments to federally-listed fish passage at Beale AFB. Previous studies of stream flow and temperature modeling indicated that this stream was the highest priority for restoration in the watershed.

The dedicated professionals from the Travis Installation Support Section have made credible and pragmatic accomplishments in protecting and conserving precious natural resources while making lasting and continuous monetary and man-hour savings in support of the Air Force mission.