



2019 Secretary of Defense

Environmental Awards

Natural Resources Conservation – Large Installation
Eglin Air Force Base

Introduction

Situated along the Emerald Coast and extending into the heart of Florida’s panhandle, Eglin Air Force Base (AFB) is home to the 96th Test Wing, which is comprised of 3,065 military, 2,859 civilians, and 2,109 contractors. Encompassing 464,000 acres of land and 123,000 square miles of water test ranges, Eglin is the largest AFB in the world. The Installation is responsible for the development, acquisition, testing, deployment, and sustainment of all air-delivered conventional weapons. The 96th Test Wing hosts eight wing/wing equivalents and 37 associate units who accomplish their missions through the maintenance of 34 distinct ecosystems providing habitat for 106 rare and endangered plant and animal species. Eglin AFB’s total economic impact to the area exceeds \$2.75 billion annually.

Background

The Eglin AFB Natural Resources Team is comprised of three internationally recognized sections: Wildlife; Fire Management; and Forestry. Each section is entrusted with conserving the ecological treasures found on the Department of Defense’s (DoD) largest forested installation, while providing essential support to a multitude of Eglin AFB’s operational missions.

At Eglin AFB, the Installation Natural Resources Management Plan (INRMP) is a critical document used to guide and direct all activities related to natural resources management on the Installation. The latest annual review and update of the INRMP concluded with the Wing Commander’s designee signing the certification memo on 29

August 2018. Both the United States Fish and Wildlife Service (USFWS) and the Florida Fish and Wildlife Conservation Commission (FWC) review and sign the INRMP annually. Also, Eglin AFB has satisfactorily conducted an internal natural resources self-assessment that addresses DoD's Natural Resources conservation metrics and is documented by the Air Force Civil Engineer, Air Force Natural Resources Subject Matter Expert.

The Natural Resources Team is active in many committees including the Eglin Range Configuration and Control Committee, the Eglin Range Development Executive Steering Committee, the Eglin Environmental, Safety, and Occupational Health Council, the Air Operations Board, and the Eglin Outdoor Recreation Committee. All are chaired by the 96th Test Wing Commander.

Eglin AFB benefits from many cooperative arrangements established between the Air Force and other agencies to execute the most complex Natural Resources Management Program in the DoD. Cooperative agreements, memoranda, and interagency agreements span the spectrum from funding and money transfer to collaboration during implementation of management actions such as prescribed burns along common boundaries. Other agreements relate to Conservation Law Enforcement Officers at recreation sites within a municipal jurisdiction. The Gulf Coast Plain Ecosystem Partnership Memorandum of Understanding is an excellent example of an agreement that has been instrumental for successful INRMP implementation. Originally signed in 1996, this Memorandum and the partnership it governs has now grown from seven original partners to 15, and from a land base of 840,000 acres to approximately 1.25 million acres. The Partnership originally formed as a voluntary, cooperative enterprise with the common goals

of long-term sustainability of natural communities, enhancing the integrity of ecosystems, restoring degraded habitats, and balancing these values with the human and operational mission impacts found in the region.

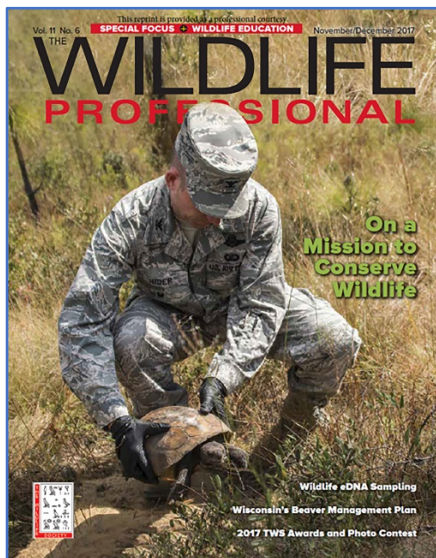
Within the last two years the Partnership has been responsible for assisting Eglin AFB with 41 prescribed burns totaling 45,152 acres, establishing two 100-acre gopher tortoise relocation pens, and processing (marking, measuring, and weighing) over 500 gopher tortoises to place in the pens.

Summary of Accomplishments

Saving the Mission by Saving the Gopher Tortoise

Eglin AFB is fully committed to the conservation goals and objectives of the multi-agency Gopher Tortoise Candidate Conservation Agreement. As such, the Installation has proactively partnered with the USFWS, FWC, and Texas A&M University (Texas A&M) to translocate at-risk gopher tortoises being displaced by urban development in peninsular Florida to Eglin AFB. With 1,030 tortoises having been moved by the end of Fiscal Year (FY) 18 and a six-year goal of translocating a total 6,000 animals, this project is proving to be one of the largest conservation efforts by any of the Candidate Conservation Agreement signatories, including other DoD Services. The significance of this effort extends far beyond Eglin AFB boundaries due to the tortoise's current Endangered Species Act (ESA) candidate species status. The presence or potential presence of gopher tortoises on 23 DoD installations across the southeast would have significant operational impacts if the species were to be listed under the ESA. This extraordinary translocation work, coupled with all other gopher tortoise conservation efforts, aims to positively influence the FWS ESA final

listing determination anticipated in 2023. This effort will provide a significant contribution to precluding the need to extend ESA protection. As a concurrent contingency initiative, Eglin AFB has developed and submitted a Conference Assessment (CA) to the FWS. The CA process mirrors the ESA Section 7 Biological Assessment process for at-risk species that have yet to be formally listed. Upon agreement with the Installation's recovery plan outlined in the CA, the FWS will issue a Conference Opinion which solidifies Eglin AFB's conservation commitment and management actions to conserve and enhance the Installation gopher tortoise population and associated habitat. Securing this Opinion will provide Eglin AFB with regulatory predictability and will maximize mission flexibility in the event the FWS determines that ESA listing is still warranted.



Magazine Cover

Col. Matthew Higer, 96th Test Wing Vice Commander, places a gopher tortoise near a man-made burrow on the Eglin AFB Reservation. The tortoise is one of over 1,000 tortoises that have been relocated from south Florida to Eglin to date. Eglin AFB's effort is massive and extends far beyond Installation boundaries due to the tortoise's current ESA candidate species status and presence or potential presence of gopher tortoises on 23 DoD installations across the southeast.

Salamander Habitat Restoration & Population Expansion

Eglin AFB is faced with long-standing training mission restrictions in areas occupied by potential habitat for the critically endangered Reticulated Flatwoods Salamander (Flatwoods Salamander). Since proving the absence of the species seemed nearly impossible, the Installation submitted the DoD's first-ever Readiness and Environmental Protection Integration (REPI) project without procurement of a conservation lease. This project proposed to conduct habitat and species management on 3,500 acres on the Escribano Point Wildlife Management Area (EPWMA), which is state owned land adjacent the Installation. Eglin AFB submitted, and successfully defended this proposal which resulted in an award of \$530,000 REPI funds for the first year with no DoD land acquisition component.

By partnering with the FWC and the Longleaf Alliance, the REPI project fast tracked habitat restoration and population expansion efforts for the Flatwoods Salamander. Specifically, Eglin AFB duplicated a "head-starting" technique within the EPWMA to dramatically increase the species survival rates through the aquatic larval stage. The Flatwoods Salamander currently exist in small scattered remnant pockets of suitable breeding habitat due to decades of fire suppression operations. At least ten such pockets make it one of only three known breeding wetland complexes remaining on Earth that have more than one or two occupied wetlands. By duplicating decades of habitat management activities at Eglin AFB, EPWMA habitat quality and availability has improved, thereby increasing larvae survival rates. Results could allow this habitat to support one to two orders of magnitude more Flatwoods Salamander than is currently supported on the EPWMA. Poised to continue for the next five years, the project represents both a win for the

species greatly reduces long-standing training restrictions on the Eglin AFB Reservation. To further support Eglin AFB INRMP goals for Flatwoods Salamander recovery, the Installation partnered with the FWC to burn the EPWMA bordering Eglin AFB as off-site habitat improvement.



Adult Salamander

Eglin AFB successfully submitted the DoD's first-ever REPI project to conduct only habitat and species management on adjacent property with no land acquisition component at all. Partnering with the FWC and the Longleaf Alliance, the REPI project supported a greatly accelerated approach to habitat restoration and population expansion efforts for the Flatwoods Salamander, greatly reducing long-standing training restrictions on the Eglin AFB Reservation.

Using Fire Saves Threatened and Endangered Species

Eglin AFB possesses the largest and most ambitious Prescribed Fire Program in the Air Force. Prescribed fire is a relatively cheap and effective forest management tool that benefits the Air Force mission. Prescribed fire simultaneously reduces hazardous fuels and associated large wildfires used for training missions, while providing rapid habitat improvement for fire-dependent endangered species. In FY17 and FY18, the Installation conducted 160 prescribed burns across more than 145,000 acres of the Eglin AFB Reservation. This proactive effort removed

over 290,000 tons of hazardous fuel biomass, reduced mission-caused wildfire starts on Eglin AFB test areas by 20% and decreased the amount of time spent suppressing wildfires by over 300 man-hours. These efforts are reducing mission-caused fire starts and minimizing mission down time.



Fire Lines

Mr. Brett Williams, Eglin Wildland Fire Section, takes wind measurements with a portable weather meter during a prescribed burn on the Eglin AFB Reservation. Landscape-level prescribed fire application contributed to additional population expansion of the fire-dependent, federally endangered Red-Cockaded Woodpecker while breaking new ground in wetland habitat for the Flatwoods Salamander.

Concurrently, landscape-level prescribed fire application contributed to additional population expansion of the fire-dependent, Federally endangered Red-Cockaded Woodpecker while breaking new ground in wetland habitat restoration for the Flatwoods Salamander. By re-introducing fire into 200 acres of degraded flatwoods adjacent to urban-interface housing developments, Eglin AFB simultaneously met habitat restoration and wildfire mitigation strategic objectives. Finally, to proactively preclude Federal listing of the rare Florida Bog Frog, the Installation conducted more than 200 acres of prescribed fire within riparian buffers

of streams known to contain bog frogs to reduce woody encroachment for habitat improvement.

Using Science to Enable Military Testing and Training

Eglin AFB collaborated across the DoD to develop science that addressed growing safety concerns for the public along the northern Gulf Coast due to decades of inconsistently-tracked munitions used offshore in the Gulf of Mexico. Proactively, the Installation conceived and implemented the first seafloor munition mobility experiment in nearshore Gulf waters. This complex study involved deploying groupings of nine different inert weapons for tracking using hydroacoustic telemetry and monitoring via underwater remotely operated vehicles. The data provided invaluable insight into munition fate and transport in the seafloor environment to include movement distance, burial rate, and corrosion. The results significantly alleviated concerns regarding such a risk to the Eglin AFB core mission of developing and delivery of aerial munitions. Moreover, these results will inform policymaking across both the DoD and other Federal agencies for years to come.

Simultaneously, Eglin AFB completed a challenging consultation under the Marine Mammal Protection Act and was granted a five-year authorization to deploy a variety of live munitions in the Eglin Gulf Test and Training Range (Range) by the National Marine Fisheries Service. Eglin AFB also successfully completed two other consultations with the National Marine Fisheries Service under the ESA and the Magnuson-Stevens Fisheries Management Act for Range missions, resulting in a Letter of Authorization (LOA) as the capstone of two-and-a-half years' effort. The LOA will support all Range missions involving live weapon employment now and for the foreseeable future. Efforts highlighted the need

for additional work to develop and implement a fine-scale, passive-acoustic monitoring experiment to validate the theoretical modeling used to define the current predicted level of effects of underwater detonations on marine mammals. It is anticipated this validation will reduce the regulatory burden for Eglin AFB and its customers by more accurately depicting a narrower zone of influence than estimated using current models. Complying with existing Range consultation requirements, Eglin AFB implemented conservation measures during dozens of missions which included 34 detonations at or just below the sea surface. Effectively implementing these conservation measures resulted in use of only six of the 157 "Level B behavioral" takes of marine mammals allotted under the LOA; sustaining Eglin AFB's unique capability for test and evaluation of next generation of DoD weapons/munition over the water ranges.

Enhancing the Military Mission with Healthy Forests

The Eglin AFB Forestry Program also appreciably supports the military mission by harvesting timber for lines of sight, maintaining airfield clear zones, complying with Federal laws, and building trust with regulators. Program revenue is put back into habitat management for the benefit of Threatened and Endangered species.

The Forestry Program converted 204 acres of highly degraded lands into productive longleaf pine habitat for threatened and endangered species. It created over 100 acres of new longleaf pine habitat by removing noxious weeds and grasses from a former spray field and planting over 50,000 longleaf pine seedlings. The Program also successfully merchandised over 6,700 tons of fire-damaged timber on 104 acres. By rapidly assessing and advertising the damaged timber, the Program saved \$120,000

in potentially lost revenue while also generating \$150,000 in revenue used to support habitat restoration.

In addition, the Program was able to restore and improve 8,000 acres of existing forest by removing approximately 150,000 tons of invasive, off-site sand pine and replacing it with over 900,000 Eglin AFB-genotype longleaf pine seedlings. Restoration activities generated over \$1 million in revenue. The Program also planted over 254,000 native wiregrass plugs, the most ever planted on Eglin AFB. The native grass is essential to successful management of longleaf pine habitat. Altogether, these projects comprise the largest forest restoration effort on DoD lands.



Big Smoke

In FY17 and FY18, the Installation conducted 160 prescribed burns across more than 145,000 acres of the Eglin AFB Reservation. Through an aggressive prescribed fire program that removed over 290,000 tons of hazardous fuel biomass, the Installation reduced mission-caused wildfire stats on Eglin AFB test areas by 20% and saved over 300 man-hours of wildlife suppression time.

Leading the State of Florida in Conservation Law Enforcement

Recognizing the importance of an effective enforcement program to fully achieve Eglin AFB INRMP goals and objectives, the Installation has entered into an innovative

partnership with the FWC to augment Security Forces Squadron conservation law enforcement efforts. This “enhanced patrol” program employs a pool of more than 30 eligible off-duty FWC officers, acting in official capacity, to patrol the Installation and promote compliance. During the Program’s first year, the FWC logged more than 2,729 patrol hours and performed 6,054 compliance checks resulting in 473 warnings, 29 citations, and 14 arrests. The patrol program has been expanded to include five other Air Force installations across the state of Florida.

Furthering this effort, Eglin AFB is working in concert with the USFWS to coordinate and finalize a new Conservation Law Enforcement Plan that will support two full-time Federal wildlife officers at Eglin AFB beginning in late winter, FY19. Officers will be co-located within the Eglin AFB Environmental office and will work collaboratively with the FWC to maximize productivity and focus on high priority enforcement issues and needs.

Eliminating Invasive Species

Eglin AFB works with multiple partners to proactively manage invasive and exotic plant and animal species. During the accomplishment period, treatment efforts were completed on 1,835 acres infested with non-native species. Efforts included the complete eradication of beach vitex, a plant known to entrap and cause sea turtle hatchling mortality. Feral swine, the most pervasive exotic animal species on the Installation, are known to cause irreparable damage to globally significant archeological sites and destroy and disrupt sensitive wildlife habitat. Left uncontrolled, the population could double their number in four months. Utilizing new capabilities like aerial swine removal, Eglin AFB removed 558 hogs.

Additional accomplishments include eliminating 46 predators or strategically removing coyotes directly preying on sea turtle and shorebird nests on Eglin AFB-owned areas of Santa Rosa Island. These coyotes developed a taste for translocated adult gopher tortoises and their hatchlings. To better understand the impacts from coyote predation on tortoises, Eglin AFB and Texas A&M implemented a predator monitoring program. Remote sensing camera arrays are established at three tortoise translocation sites to document coyote presence and density. Initial results indicating high concentrations of coyotes triggered an aggressive control effort that began in early FY19.



Cogon Spray

Mr. Travis Davis, an Eglin AFB contractor, applies foliar herbicide to a highly invasive stand of cogon grass on the Eglin AFB Reservation. Eglin AFB works with multiple partners to proactively manage invasive and exotic plant species. During the accomplishment period, treatment efforts were completed on 1,835 acres infested with non-native species.

Providing Public Access

Eglin AFB continues to successfully manage the largest natural resources-based outdoor recreation program in the DoD. This effort is a critical part of the Installation's community relations program. With more than 250,000 acres conditionally open to an annual customer base that exceeds 27,000 active duty, DoD, and public customers, daily access control and

coordination are key to ensuring user safety and mission compatibility. Success is achieved through an innovative web-based access schedule which details daily or short-term closures needed to support test and training missions. A georeferenced mapping application for smart devices allows users to track their location in relation to areas closed to public access.



Youth Fishing Rodeo

Mr. Mike Nunley and his son Parker encourage brother Mason as he reels in a catfish during the Annual Eglin AFB Youth Fishing Rodeo. Eglin AFB and members of the USFWS stocked the pond with approximately 3,000 channel catfish and the Installation purchased approximately 1,000 pounds of catfish that was added to the pond before the event. With more than 250,000 acres conditionally open to an annual customer base that exceeds 27,000 active duty, DoD, and public customers, daily access control and coordination are key to ensuring users safety and mission compatibility.

Eglin AFB maximized compatible use access to more than 250,000 acres to accommodate broad and diverse hunting and fishing interests. The Installation supports many other outdoor recreation opportunities to include hiking on 71 miles and cycling on 36 miles of designated trails, canoeing and kayaking on more than 186 miles of rivers and streams, and camping at 13 designated primitive camp sites. The benefits of these vast recreation opportunities promote public awareness and appreciation of the concerted efforts to preserve Eglin AFB's natural environment.