



2021 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 (TW). Eglin encompasses 464,000 acres of land and 120,000 square miles of water ranges and is responsible for the development, acquisition, testing, deployment, and sustainment of all air-delivered conventional weapons. The TW and its 50 associate units accomplish their missions through a symbiotic relationship with 106 rare and endangered plant and animal species found in 34 distinct ecosystems.

More than 250,000 acres of Eglin's reservation are open for compatible-use outdoor recreation to the 11,000 military personnel, 9,500 civilian

employees, 57,000 family members and retirees, and the general public. Eglin's economic impact to the area exceeds \$2.7 billion annually.

Background

The Eglin Natural Resources Team (NRT) uses the Integrated Natural Resources Management Plan (INRMP) as a planning tool to coordinate and guide all activities related to natural resources management on the installation. The plan is reviewed and updated annually in collaboration with the U.S. Fish and Wildlife Service (FWS) and Florida Fish and Wildlife Conservation Commission (FWC) and certified by the TW commander. In 2020 amid significant communication challenges with our partner agencies, the NRT still managed to coordinate an annual review and obtained concurrence from both the FWS

and FWC by the end of FY20. In compliance with DoD Instruction 4715.03, *Natural Resources Conservation*, the NRT developed a streamlined process of developing an Annual Report that documents progress towards meeting all objectives contained in the plan. All required signatures were obtained by September 2020.

Eglin's NRT is comprised of a Wildlife Element and a Forestry Element who work for the Environmental Management Branch - a part of the 96th Civil Engineering Group. Integrated with these employees are four members of the Eglin Wildland Fire Module who report to the Air Force (AF) Wildland Fire Branch. Maintaining integration of these functions is a top priority of the Natural Resources chief. Wildlife and Forestry are comprised of 22 Civil Service employees and the team coordinates 31 contractor/cooperator man-years of effort, four man-years of non-appropriated fund labor and four man-years of volunteer help. All are entrusted with conserving the ecological treasures found on the Department of Defense's (DoD) largest forested installation.

Integration with the installation's primary mission facilitates the flow of communication, which is key to the success of Eglin's NRT. They maintain active membership in many committees, including Eglin's Range Configuration and Control Committee, the Eglin Range Development Executive Steering Committee, the Eglin Safety and Occupational Health Council, the Airfield Operations Board and the Eglin Outdoor Recreation Committee. All are chaired by the TW commander or designee.

Eglin takes advantage of a multitude of formal agreements established between the AF and other agencies to execute the most complex natural resources management program in the DoD. These cooperative agreements, MOU's,

MOA's, and interagency agreements span the spectrum from partnerships that allow Universities SMEs to directly support protected species recovery and INRMP implementation, to agreements with the FWC to implement prescribed burns along shared boundaries. Other examples of the NRT's ability to secure improvements for resources protection are the recently signed Conservation Law Enforcement Program Operational Plan (CLEP-OP), signed by the TW commander in March 2019, and the highly successful Readiness and Environmental Protection Integration (REPI) project taking place on state land adjacent to Eglin. The CLEP-OP resulted in 2 FWS law enforcement officer's being stationed at Eglin to focus on the protection of natural and cultural resources. The REPI project, now in its third year, continues to exceed productivity expectations with the discovery of 6 new Reticulated Flatwoods Salamander (RFS) breeding ponds. These discoveries and persistent habitat restoration efforts continue to move the RFS towards recovery while eliminating mission restrictions on 25,000 acres of Eglin land.

Summary of Accomplishments

Setting the Path for Salamander Recovery

To meet this critical conservation challenge head-on, the NRT entered into a long-term collaborative effort with the FWC, FWS and Virginia Tech University to balance the conservation and enhancement of this salamander population while maintaining mission sustainability.

Recent RFS accomplishments include 1) in-kind AF contributions of \$161.5K that leveraged \$422K funding from the FWC Aquatic Habitat Restoration and Enhancement program; 2) over 2,000 man-hours contributed by partnering employees of the FWS and Longleaf Alliance; 3) installed 12,300 linear

feet of feral hog exclusion fencing to eliminate damage to RFS breeding habitat; and 4) dozens of man-days donated by AmeriCorps members and private volunteers. These efforts restored over 21 acres, the equivalent of 23 percent of the total historically-occupied RFS breeding habitat and eliminated feral hog damage on an additional 140 acres of habitat.

During FY19/20, the NRT released RFS eggs and larvae into two unoccupied breeding wetlands. In a first for this species and the AF, sub-adult RFS were re-captured several weeks later leaving both breeding wetlands. Demonstrating the efficacy of reintroduction will accelerate RFS recovery everywhere. Under expedited consultation with FWS,



RFS Work

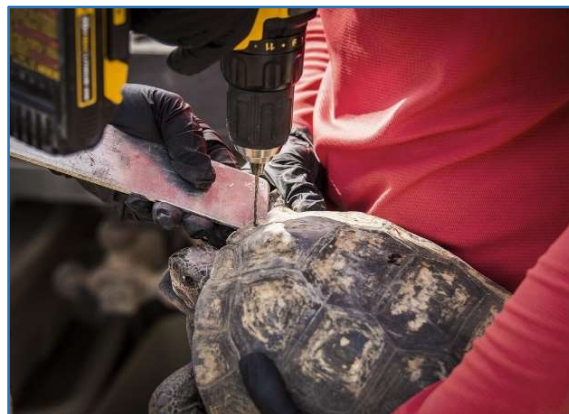
A team of biologists sample a breeding wetland to detect the presence of larval Reticulated Flatwoods Salamanders to collect data on any larvae caught to confirm the pond is indeed a RFS breeding site. Eglin released RFS eggs and larvae into two unoccupied breeding wetlands, and sub-adult RFS were re-captured several weeks later leaving both breeding wetlands - a first for this species and the Air Force

Eglin can now decide on short and long-term RFS management actions with greater agility where future military missions may need to accommodate RFS breeding habitat.

Saving the Gopher Tortoise

The gopher tortoise (GT) has been a FWS federal candidate species since 2009.

Knowing that pending federal listing for the GT could significantly encumber Eglin's diverse mission sets and other installations in the southeast US, the NRT sought to secure maximum flexibility for the mission before the species was listed under the Endangered Species Act (ESA).



Tortoise Tag

Members of Eglin Air Force Base's Natural Resources office tag a gopher tortoise by drilling holes on the corners of its shell before releasing it into its new home deep within the base's range. Oct. 26. The first of approximately 250 tortoises were released into their 100-acre environment after being rescued from urban development at their previous home in South Florida. Increasing the gopher tortoise population here could prevent the U.S. Fish and Wildlife Service from listing the animal on the Threatened and Endangered Species list, which would benefit numerous military installations within the species range.

Eglin's NRT developed a four-pronged approach to GT conservation. First, consult with FWS through the ESA section 7 process to permit all current, ongoing and planned mission activities that may affect GT populations. Next, establish an installation-specific recovery goal for the species. Third, re-establish viable populations of tortoises within the installation that do not conflict with mission activity, and finally, make significant progress for the species conservation to influence final listing determination in CY23.

In FY20, Eglin completed the DoD's first pre-listing programmatic Conference Opinion.

With the path to protect the mission from regulatory constraints clearly outlined, Eglin NRT turned its focus to influencing the final listing determination by making big strides in GT conservation. Through an MOA signed in FY20 with FWC and Florida Fish and Wildlife Foundation, Eglin was designated the primary recipient site for GTs displaced by alternative energy production across Florida. During the period of FY19-20, 2,301 GTs have been moved to the installation, and the NRT is on track to reach the goal of 6,000 tortoises by 2023.

Solar Array Stabilization Success



Solar Array Success

A ravine, caused by torrential rain resulted in over 30,000 cubic yards of sediment discharging into a tributary of Toms Creek, both the tributary and the creek are home to the federally threatened and narrowly-endemic Okaloosa darter. Nine months after project completion, the stormwater re-design and downstream habitat restoration successfully handled the unprecedented back to back record-setting 24-hour rainfall totals of 8.41” and 7.97”.

In June 2017, a stormwater failure on the Eglin 30 MW solar array resulted in over 30,000 cubic yards of sediment discharging into Toms Creek, home to the federally threatened Okaloosa darter. The sediment completely smothered or impaired habitat essential to this species. A multi-year, multi-partner response commenced immediately to stop ongoing erosion and reconstruct the damaged array.

Upon completion at the end of 2019 and within 30 months of failure, approximately 100,000 cubic yards of material were removed to stabilize the landform, construct stormwater features and restore 7.34 acres of the site’s wetlands and streambeds. Currently, more than 300 captivity-bred darters have been released into the site.

Nine months after completion, the restored site successfully handled an unprecedented back-to-back record-setting 24-hour rainfall totals of 8.41” and 7.97”.

Saw Palmetto (*Serenoa repens*) Berry Harvest – Innovative Non-traditional Forest Products

Saw palmetto naturally occurs across the lower coastal plain of the Southeastern US and throughout the Eglin reservation. The oils and compounds contained in its berries have medicinal properties. When a palmetto berry crop shortage in south Florida occurred, Eglin’s NRT took advantage of the opportunity by conducting a large-scale commercial harvest. Through close coordination with biologists, law enforcement officers and mission planners, Eglin executed the DoD’s largest palmetto berry harvest ever. By sustainably harvesting Eglin’s palmetto berries, NRT generated over \$450,000 in revenue for the Eglin Forestry budget. Revenue from the sale restored 850 acres of critical T&E species habitat by removing invasive hardwoods and planting 400,000 longleaf pine seedlings.

Forest Management during Natural Disasters

Hurricane Michael, the third-strongest hurricane to hit the United States in 100 years, made landfall 60 miles from Eglin at Tyndall AFB in FY19; Tyndall lost 90 percent of their 12,000-acre forest overnight. The Eglin NRT donated enough seed to Tyndall to grow 2.5

million longleaf pine seedlings and were able to include Tyndall's seedling needs in the Eglin nursery contract. By combining contracts, Eglin saved the taxpayers \$50,000 in seedling costs. These efforts are a critical first step on a long path to recovery for Tyndall's natural resources.

Supporting the Mission with Fire



Rx Burn

Hollister Hurt, Eglin NRT forestry technician and wildland fire specialist, monitors the progress of a fire set for a prescribed burn at White Point, an 85-acre recreation area on the Choctawhatchee Bay.

Eglin is home to the largest, most productive prescribed fire program in the AF. Eglin NRT established an ambitious objective to prescribe burn 90,000 acres annually across the Eglin reservation for wildfire mitigation and to bolster compliance with the Endangered Species Act. Eglin NRT accomplishes this Herculean task through a unique partnership between Eglin NRT and the AF Wildland Fire Branch Eglin Wildland Support Module.

In FY19/20 combined, Eglin NRT conducted 162 prescribed burns across 153,577 acres of the Eglin reservation, making Eglin one of the top five most productive prescribed fire programs in the CONUS across all federal agencies. Despite shutdowns to prescribed fire activity over three months in Spring FY20 due to COVID-19, Eglin NRT completed 56

prescribed burns over 56,605 acres in FY20 while following all COVID-19 mitigation protocols during fire operations. Through an aggressive and approved prescribed fire program that removed over 300,000 tons of hazardous fuel biomass, Eglin NRT reduced mission-caused wildfire starts by 20 percent over the 5-year average and saved over 400 man-hours of wildfire suppression time. Reducing mission-caused wildfires minimizes mission downtime, prevents mission cancellations and saves costs to missions associated with reserving range space/time and associated Operation and Maintenance support.

On 15 March 2020, an F-22A Raptor, from the 325th Fighter Wing assigned to Eglin, crashed in the forested interstitial area on Eglin. Eglin NRT firefighters were requested to support the emergency response and crash recovery efforts due to their specialized training and equipment and were instrumental in locating the downed aircraft, building a road through the forest into the crash site, and leading first responders into the site.

Enabling Warfighter Use of the EGTR

Eglin AFB has been modeling and analyzing acoustic impacts to marine mammals since 2015 and is seeking ways to generate more useful data in protecting them and reducing mission costs. In consultation with the National Marine Fishery Service, the NRT developed a strategy to design and deploy a passive acoustic monitoring array at current and future Eglin Gulf Test and Training Range (EGTTR) underwater detonation sites - the first DoD acoustic monitoring of munitions delivery in the EGTTR. Detailed preliminary analysis indicates over-conservative distances-to-effect for protected species, validating current two-dimensional acoustic



Military Munitions Study

In consultation with the NMFS, the NRT developed a strategy to design and deploy a passive acoustic monitoring array at current and future Eglin Gulf Test and Training Range underwater detonation sites. The data helps protect marine mammals and reduces mission costs to the warfighter.

modeling. This validation informs decision-making that will shrink avoidance areas for protected marine species and save the AF tens of thousands of dollars per year in range management costs.

Maximizing Compatible Public Use Outdoor Recreation

During FY19-20, 50,716 outdoor recreation permits were issued, resulting in \$834,032 in revenue. FY20 permit sales reached an all-time record, a historic milestone that was achieved in the face of COVID-based restrictions. Quick action to bring the NRT customer service lobby into compliance with CDC guidelines, combined with 24-hour online permitting capabilities via iSportsman, a web-based Interactive Recreational Sports Management System developed specifically to support DoD's wildlife management and outdoor recreation programs, resulted in the ability to exceed customer service needs during this challenging period. Providing such opportunities during a period of unprecedented social isolation, most assuredly improved the quality of life for those in the surrounding communities and assisted with the ability to cope during the pandemic. In 2019, two FWS Law Enforcement Officers

dedicated solely to Eglin reservation began integrating with State of Florida wildlife officers and Eglin's 96 Security Forces Squadron. In the first six months, those two officers alone made 1,630 visitor contacts/compliance checks, issued 204 warnings and 29 citations, and made two arrests. Overall, user compliance has seen marked improvements.



Increased Recreational Use Permits

Eglin NRT member, Nancy Reese, issues a permit during COVID. Eglin realized a 10 percent increase of online sales demonstrating the importance of the web-based system to Eglin recreational users. Providing such opportunities during a period of unprecedented social isolation most assuredly improved the quality of life for those in the surrounding communities and assisted with the ability to cope at the outset of the pandemic.

Promoting Hunting and Fishing Heritage – Eglin Special Opportunity Events

The greatest public demand for Eglin's land areas is for hunting and fishing, specifically, deer hunting. More than 240,000 acres of

Eglin land is open to the public for multiple outdoor recreational activities, including NRT sponsored special opportunity events. During FY19-20, NRT hosted 18 special opportunity events involving 971 outdoor enthusiasts, including 602 youth and 87 mobility-impaired participants.

Preserving Natural Communities – Controlling Invasive Species

While the ecological impacts of feral pigs on Eglin are well documented, the military mission is also not immune to their destructiveness. Feral swine have undermined erosion control efforts, destroyed buried cables on test ranges, chewed on wiring for automated targets, rooted up sod and grass seed in construction sites and have the potential to spread disease to humans.

Partnering with USDA Wildlife Services, NRT reduced feral pig populations in areas with restricted access due to UXO contamination. By using helicopters for aerial harvesting, portions of Eglin’s reservation that otherwise cannot receive effective swine management and harbor a high density of pigs, are safely and effectively relieved of feral pig populations. In FY20, 141 feral pigs (equivalent to 4 months of traditional control effort) were removed from UXO areas and test ranges in less than 18 hours of flight time.

Invasive exotic plants also present challenges to protected species recovery. During FY19-20, Eglin surveyed over 4,250 acres, cataloging close to 4,000 new invasive plant populations and removed 14,000 invasive plant populations across the installation’s 464,000-acre landscape. Documenting new populations allows NRT to establish an annual prioritized eradication schedule rapidly addressing the most pressing conservation concerns.

Recovery and Sustainment Partnership

In 2018, the DoD and FWS initiated the Recovery and Sustainment Partnership (RaSP) to promote recovery of listed species on DoD lands and prevent future listings through collaborative conservation and management. Two focal species from Eglin were selected as part of this initiative; the Okaloosa darter and Red-Cockaded Woodpecker (RCW). The Okaloosa darter is found almost exclusively on Eglin, and Eglin is a major recovery unit for the RCW. In FY19/20 the NRT supported the RaSP initiative by initiating innovative projects like groundwater mapping for Okaloosa darters that achieve recovery goals. More importantly, with the support of Eglin and DoD, Species Status Assessments were completed for both species and results point toward recovery. The RCW was recently proposed for down-listing from endangered to threatened, and FWS is preparing to propose delisting the Okaloosa darter from the ESA. The RaSP partnership is making strides nationally; however, the Southeast is the only region where both focal species are being formally reclassified under ESA - Eglin’s work has been essential to these decisions

Direct Mission Forestry Support

Annually, Eglin welcomes new test/training areas and range expansions that require clearing. Forest covers 400,000 acres of the Eglin reservation, so the Eglin NRT utilizes traditional timber sale markets and niche markets to remove vegetation for mission requirements. In FY20, NRT removed 7,200 tons of vegetation at zero cost from six new mission emphasis areas. The NRT’s efforts resulted in a cost avoidance of over \$800,000 and allowed the new mission requirements to be met on or ahead of schedule.