

FY 2013 Secretary of Defense

ENVIRONMENTAL AWARDS

ENVIRONMENTAL QUALITY, NON-INDUSTRIAL INSTALLATION:
EGLIN AIR FORCE BASE, ENVIRONMENTAL MANAGEMENT BRANCH

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). Encompassing 464,000 acres of land and 120,000 square miles of water ranges, the installation is responsible for the development, acquisition, testing, deployment and sustainment of all air-delivered conventional weapons. The TW and its 40 associate units accomplish this mission while coexisting with 106 rare and endangered plant and animal species found in 34 distinct ecosystems. More than 227,000 acres of Eglin's reservation are open for recreation to 16,000 military personnel, 15,300 civilian employees, 72,000 family members and retirees, and the general public. During this award period, Eglin underwent an unprecedented amount of growth as a result of the 2005 Base Realignment and Closure (BRAC), adding more than two million square feet to the base's footprint. Eglin's environmental professionals were instrumental in the successful completion of \$1.2 billion in BRAC construction adding the Joint Strike Fighter Integrated Training Center and the US Army 7th Special Forces Group. Eglin's total economic impact to the area exceeds \$2.7 billion.

BACKGROUND

The Environmental Management Division of the 96th Civil Engineer Group within the TW is responsible for planning, development, and implementation of the environmental programs for Eglin AFB. The Division consists of 49 personnel in three separate sections: Environmental Compliance, Stewardship, and the Installation Restoration Program. Eglin uses its Environmental Management System (EMS) to manage operational controls and structural procedures to empower customer interaction and usage through multiple web-based management tools and an extensive audit process.

A base the size of Eglin requires the highest quality management tools to maintain compliance and focus on continuous improvement with an inventory of 7,145 environmental aspects. In place since 1997, Eglin manages the environmental impacts of its products, processes, and services through implementation of its integrated EMS. The mechanisms and real time data provided by the EMS are used daily by Eglin's environmental liaisons – the Unit Environmental Coordinators (UECs). Eglin uses EMS to ensure compliance with the following permits and other regulatory requirements:

- Storm Water Permit, 9/6/10
- Municipal Storm Water Permits, 3/5/08
- Title V Air Operating Permit, 6/1/09

- Florida Department of Environmental Protection (FDEP) Recycling Certification, 7/1/12
- Integrated Natural Resource Management Plan (INRMP), 8/31/12
- Hazardous Waste Management Permit, 10/15/10
- Cultural Resources Management Plan, 6/1/13

During a period of high budget cuts, high manpower cuts, and massive reorganization, Eglin hosted 45 external inspections with visits to more than 200 sites. In spite of the reduced manning, reduced funding and continued extensive oversight, Eglin has maintained an outstanding compliance record. In addition to mission requirements, Eglin's Environmental Management Division preserves and enhances a remarkable assemblage of biodiversity, from the fire-dependent old growth long leaf pine forest to pristine white barrier islands. Eglin has created an INRMP based on the principles of ecosystem management and biodiversity conservation. Eglin's INRMP is a "living" plan that can be rapidly modified to meet changing military missions and environmental conditions. It provides strategic interdisciplinary guidance focused on mission training and support to ensure continued access to the land, natural resources and airspace required to accomplish the diverse Department of Defense (DoD) missions, while ensuring these resources are maintained in a healthy condition and that the mission can continue.

Eglin actively seeks partnerships with regulators, special interest groups, academia, and other environmental professionals to improve the environment while furthering the mission. The US Fish and Wildlife Service (USFWS) is a highly valued partner in Eglin's natural resources management efforts. We are members of the Okaloosa County's Green Team Awareness Taskforce, the Gulf Coastal Plains Ecosystem Partnership, and the Prescribed Fire Training Center. Eglin also maintains active partnerships with its regulators for both installation restoration and compliance programs.

Eglin's award-winning environmental program is committed to the highest mission readiness with the least impact to the environment. Primary environmental concerns include: cleaning up of damage from past activities, compliance responsibilities, and reducing environmental impacts. Eglin's excellence has been recognized with the following awards.

- 2012 AFMC General Thomas D White Sustainability Award (Non-Industrial Installations)
- 2012 AFMC General Thomas D White Natural Resources Conservation Award (Large Base)
- 2011 AF Environmental Quality Award (Non-Industrial Category)

ACCOMPLISHMENTS

Environmental Management System

The backbone of Eglin's EMS is the environmental aspects inventory which maintains data on all of its environmental aspects. The inventory is used to establish Eglin's most significant environmental aspects by prioritizing the importance of each environmental aspect, taking into account mission, impact, resources, costs, and existing regulatory trends. Consultations with program managers, process owners, and leadership produce objectives and targets for our significant aspects designed to achieve the smallest environmental impacts while maintaining the highest mission capability. The UECs, acting as the cross functional team, recommend the objectives and targets for approval by Eglin leadership through the Environmental, Safety, and Occupational Health Council. Our state-of-the-art document control system keeps 760 documents, including 39 operational controls, 10 EMS structural procedures, and 19 program management procedures, up to date and current. These systems enable Eglin to maintain a system capable of continuous improvement and real time information management. The systems have also been adopted by Edwards, Robins, and Arnold AFBs.

Significant EMS objectives and targets include:

- Establish a self-sustaining Qualified Recycling Program (QRP). The QRP met this EMS objective July 2012. The QRP eliminated \$60,000 of appropriated costs and generated more than \$250,000 dollars to be reinvested into the organization.
- Develop an Eco-system Management Agreement (EMA) between the base and the Florida Department of Environmental Protection (FDEP) to streamline storm water permitting. The EMA allows Eglin to utilize vegetative buffers to enable flexibility in the storm water permitting process. The agreement was achieved on 9 Jan 2013 and will reduce permitting fees by 80 percent.
- Tighten air emission calculations during prescribed burns. The use of more current emission factors to calculate air emission associated with Eglin's prescribed burn program leads to reduced mission interference. More accurate estimates not only increase the acreage that can be burned, but improves habitat, stimulates endangered species growth and reduces the probability of wildfires. More accurate emissions estimates demonstrated a 30 percent reduction in prescribed burn-related emissions.

Eglin's EMS boasts a "Full Conformance" rating. Recent AFCEC external audit lauded Eglin's system for completeness and interconnectivity. Inspectors awarded our EMS its

highest rating after an external audit in 2013 found zero major discrepancies. The interactive, web-based tools and resources the EMS makes available to its customers is a one-stop shop for environmental program compliance capability and guidance. The EMS provides an excellent method to comply with multiple environmental regulations, minimize use of scarce resources, provide accurate and current data, and enhance the mission.

Key EMS successes include:

- Eglin is recognized as a role model in species management. Eglin partnered with the USFWS for an approval of the first ever "blanket take" coverage for all mission impacts to the Red Cockaded Woodpecker (RCW) on Eglin Ranges. The "blanket take" enables mission planners to change mission parameters without follow-up consultations with the USFWS. The reduction of consultations will save an estimated 405 days of mission delays.
- Eglin enhanced 4,725 acres of RCW foraging habitat by applying selective herbicides to control invasive hardwood encroachment. Additionally, an in-house sand pine eradication team was combined with contracted crews to remove invasive vegetation from over 11,000 acres of RCW foraging habitat. The enhanced habitat promotes woodpecker population growth, reducing consultations, ensuring mission capability.
- Eglin's user friendly document control system refined its search and data management process. The process enables a refined web-based search capability providing customers computer access to accurate and current information. The process produced a savings of 250 man-hours per year, up-to-date information at the user's fingertips, and a strong regulatory compliance status.

Air Quality Management

In order to manage Eglin's 2,247 air emission sources, a web-based Enterprise Air Quality Resource Portal was implemented to integrate data management and compliance processes, ensuring 31,000 active duty, civilian and contractor personnel can efficiently comply with federal, state, and AF regulatory and reporting requirements. This action was recognized with the 2013 Northwest Florida Association of Environmental Professionals Environmental Excellence Award. The base-wide deployment of the portal has cultivated a shift in culture making each employee acutely aware of their personal potential to impact air quality and has resulted in a 59 percent reduction in criteria pollutant emissions at Eglin AFB, dropping from 600 tons of all criteria pollutants in 2005 to 248 tons in 2013 (mostly in the award period).

To implement the Air Quality Program Eglin established air compliance teams to provide guidance, education, and awareness to those responsible for managing the 2,247 air compliance sites across Eglin. These teams were extremely successful producing excellent results in FDEP inspections with zero violations for two consecutive years. The successful inspections and our demonstrated level of knowledge and concern has instilled a confidence with the FDEP that Eglin will properly manage its air quality program. As a result, Eglin gained relief from over-burdensome boiler maintenance inspections reducing frequency from every two years to every five years, producing a 90 percent reduction in man-hours needed.

Waste Reduction Efforts

Eglin's EMS enabled a base-wide consolidated approach to solid waste diversion. The effective use of diversion practices such as reuse, recycling, and mulching of municipal solid waste has allowed Eglin to maintain a municipal solid waste diversion rate of 73 percent. This exceeds the Executive Order 13514 goal of 50 percent by 2015 two years ahead of schedule. The program resulted in 30,089 tons diverted and \$4,964,685 cost avoidance from the cost of disposal, enabling more money to be available for the warfighter.

One critical element of Eglin's solid waste diversion is seeking sources for reuse of non-hazardous municipal solid waste. Eglin reused over 13,034 tons of material. This included pallets, stable waste, cooking oil, steel drums, waste water treatment plant sludge, tires recapped, etc. Based on the average refuse hauling contract disposal cost of \$165 per ton Eglin's reuse efforts accounted for \$2,150,610 of cost avoidance for Eglin's waste disposal contract.



Eglin uses innovative Pollution Prevention practices to divert over 17,000 tons of non-hazardous municipal solid waste from landfill disposal annually. Diversion involves reclamation, reuse, recycling, donation, and composting. The program saves an average of \$2,000,000 per year in disposal costs.

A second part of Eglin's solid waste diversion is our base-wide recycling efforts. Eglin recycles items such as paper, cardboard, toner cartridges, steel and aluminum cans, and plastic containers from 1,168 sites across the installation. Eglin's recycling efforts processed 15,086 tons of recyclables generating \$2,489,190 in cost avoidance from its refuse contract and provided more than \$250,000 to be reinvested in the installation.

The third facet to our waste diversion is mulching landscape debris and scrap wood to be land applied for erosion control and soil enhancement to promote vegetative growth. Mulching produced a solid waste diversion of 1,969 tons and a \$324,885 cost avoidance from waste disposal.

Additional waste reduction efforts come from Eglin's robust hazardous material tracking program. Eglin used the Hazardous Material Management System (HMMS) to manage 145,038 transactions and maintain 21,863 Material Safety Data Sheets (MSDS) enabling a comprehensive hazardous material tracking process. Tracking hazardous materials resulted in the elimination of a methylene chloride gasket remover, a lead based solder, and a gun cleaner containing a large amount of substances that were hazardous air pollutants. Eliminating these hazardous materials reduced harmful chemical exposure, hazardous waste collection costs, toxic release inventory (TRI) reporting, air emissions, and associated environmental liabilities.

Natural and Cultural Resources Management

Eglin's assemblage of biodiversity includes 34 distinct natural community types ranging from barrier islands to old-growth longleaf pine forests. Eglin's Natural Resources Section (NRS) manages 255,269 acres that are open to the public for recreational use, including 55 acres of lakes, 186 miles of streams, 40 miles of Choctawhatchee Bay shoreline, and 20 miles of Gulf of Mexico shoreline. Eglin's NRS is responsible for managing the DoD's largest public use outdoor recreation program, as Eglin issued 34,538 recreational, hunting, and fishing permits during the award period.

The NRS also executed 314 prescribed fires (controlled burns) on 204,769 acres on the Eglin reservation. This exceeded the prescribed fire acreage goal of 90,000 acres per year by an additional 10 percent over this period, while causing zero mission impact due to science-based smoke management practices. Eglin's prescribed fire program enhanced the sustainability of the fire-dependent longleaf forest ecosystem. Prescribed fire also restored and maintained habitat for federally-listed species including the RCW, reticulated flatwoods salamander and Eastern indigo snake. Approximately 140 newly-drilled artificial cavities were created in old growth longleaf pine trees during the award period to increase the rate of occupation for the restored habitat. Previous studies on Eglin have shown

growth rates averaged one to two percent using standard management practices; however, with intensive management using artificial cavities we increased this rate to six to seven percent.



Eglin's environmental team executed 314 prescribed fires on more than 200,000 acres on the Eglin AFB reservation. This exceeded the prescribed fire acreage goal of 90,000 acres per year by an additional 10 percent over this period. The expert application of science-based smoke management practices resulted in zero mission impacts.

The endangered reticulated flatwoods salamander is a very rare amphibian which is now found primarily on Eglin property. The population continues to decline and as a result of drought conditions has had periods of restricted breeding. During the winter of 2011-2012, drought conditions were again present so Eglin tested methods of artificially hatching eggs and raising larvae. Eggs from natural ponds that were drying were removed and transferred to artificially created ponds within the natural habitat. A total of 90 eggs were added to each of the two aquaria and the pond. All of the eggs were successfully hatched and at least seven metamorphosed and returned to the surrounding habitat.

Eglin coordinated with the General Services Administration, United States Coast Guard, Florida State Historic Preservation Office, Gulf County, and the City of Port St Joe to relocate the historic Cape San Blas Lighthouse District that was being severely impacted by dynamic shoreline erosion. The District consists of two Keepers Quarters, an Oil/Storage Shed, and

the Lighthouse. Historic American Building Survey/Historic American Engineering Record (HABS/HAER) recording was conducted prior to the conveyance and the buildings were temporarily moved back to avoid further impact. This solution saved the AF millions in erosion barrier costs and ensured the preservation of the District for public and future generations.

Environmental Assessment



An Eglin environmental team member conducts an assessment inspection on a parts washer degreaser. Environmental Assessments are a component of the Air Force Environmental Management System. Eglin's periodic inspections help provide systematic and continuous improvement.

Eglin utilizes environment auditing to increase awareness, reinforce compliance, and ensure personnel are provided the highest level of training possible. During the 2012 Tier II internal assessment, Eglin utilized a 30 member team established from personnel across the base to assess 433 environmental sites and 488 environmental records. All findings were uploaded into a web-based database to provide base-wide visibility of the findings and their solutions for all personnel to see. The assessment provided commanders with an outstanding picture of Eglin's compliance status ensuring superb results from regulatory inspections.

In 2013, Eglin transitioned to the Management Internal Control Toolset (MICT) process with the implementation of over 300 shop level self-inspections. Commanders are provided real time knowledge of all environmental issues through the newly established Commander Self Inspection process. Commanders now have complete visibility of any environmental issues.

Additionally, Eglin conducts routine program assessments further assuring environmental compliance and mission capability. Program managers from the HazMat, Storage Tank, Hazardous Waste, and Solid Waste programs audit 1,503 sites with a daunting 64,000 potential environmental violations. These proactive assessments ensured zero regulatory violations and no loss of mission capability.

Training



Environmental training is one of the foundations of Eglin's environmental program. Base environmental managers teach 17 advanced courses to almost 1,500 students annually. The students then apply that knowledge which contributes to a record of no highly visible enforcement actions.

Eglin provides military and civilian personnel with a solid foundation of basic and specialized environmental knowledge and skills through a comprehensive environmental training program. This program ensures the 7,145 EMS-identified environmental aspects actually maintain compliance with environmental regulations. There are 17 advanced environmental courses taught by Eglin environmental managers. These courses are offered throughout the year to ensure environmental requirements are effectively communicated to responsible parties. Eglin processed 2,771 students through these courses which contributed to a successful compliance record of no highly visible enforcement actions. Continued compliance enhances the environmental regulator's trust in Eglin's environmental commitment and guarantees no loss of mission capabilities due to environmental issues.

The NRT initiated a new protocol to address problems discovered during past Army training events. In the past, the NRT relied solely on incidental reports from field personnel of training damage or violations that had often already reached reportable levels. Now during each 20-day training cycle (average of 12 per year), Eglin biologists meet with US Army Ranger Instructors two days ahead of their scheduled missions to review any recurring, seasonal, or area specific natural resource issues. Incorporating this information, Ranger Instructors were able to execute their training missions to minimize natural resource disturbance. During post training surveys after 4,000 troop days of training covering 38,700 acres, no observations of reportable violations were documented.

Community Relations

Stakeholders in the clean-up of Eglin's past environmental damage are an important part of the base's environmental management structure. Eglin hosts a Restoration Advisory Board (RAB) which meets on an annual basis to discuss the status of the Installation Restoration Program (IRP). The

meeting is co-chaired by the Eglin Environmental Management Chief, the Hurlburt Environmental Management Chief, and a Public member. The RAB consists of staff from Eglin, Hurlburt Field, FDEP, Environmental Protection Agency's (EPA) regional office, County officials, and select members of the general public. The RAB establishes a partnership between its members to enable the best and most efficient method to clean up past damage. The RAB reinforces Eglin's commitment to the community we live in and enhances mission capability through reclamation of acreage for mission use. Additionally, the new RAB configuration enables one meeting for both Eglin AFB and Hurlburt Field saving duplicative administrative resources and a total of \$26,000 in overhead costs.

Eglin continues a long established partnership with state regulators by maintaining a quarterly compliance partnering meeting between FDEP and the AF. This partnership provided Eglin a temporary solution to the continuous use of a critical fuel pipeline while a permanent solution was worked. Loss of this pipeline use would have resulted in severe mission degradation and a significant increase in resources needed to fuel aircraft.

Eglin AFB annually hosts several special type events specifically designed to provide high quality outdoor experiences for children. Each February, Eglin AFB hosts 50 youth hunters on a weekend deer and feral hog hunt. This event and the general season youth hunt weekend in January provide lifelong memories and provide a perfect setting to take first time hunters into the field in pursuit of game. The Eglin AFB Spring Youth Fishing Rodeo draws more than 250 children annually and always results in a fresh stringer of channel catfish. Children and adults who spend time recreating in the outdoors and communing with nature learn to love and understand our fragile environment. They become more interested in knowing the role that they play in conserving and enhancing our resources. With that knowledge, they may become better stewards of our resources making more informed choices about their daily activities that affect the environment and helping to influence others to cherish and enhance our natural heritage.



Eglin's environmental team hosts Marsville annually, which is an educational experience with local elementary schools, parents, civic volunteers, and the local ROTC. Students collaborate and plan a self-contained "Mars colony" that solves problems relating to air quality and other environmental concerns, providing education and environmental awareness to more than 5,500 students to date. Efforts like this help to promote environmental learning to today's youth.

Eglin attaches a great value on information, education and outreach as a way to stress the importance of good environmental stewardship. Throughout the year, team Eglin has a number of outreach programs including Earth Day, America Recycles Day, and Arbor Day. During these events, the Eglin environmental management team displayed various environmental initiatives such as; reducing air emissions, increasing green procurement, utilizing alternative vehicles, recycling, protecting endangered species, energy reduction and water savings. These events were attended by over 3,000 Eglin personnel and local community members. Community members gained a stronger appreciation of environmental issues resulting from our mission and Eglin's commitment to the environmental quality of the area. Understanding and trust developed from these outreach efforts reinforces favorable community opinions as new missions are proposed.



The Eglin Environmental Management Branch's volunteer program has been instrumental in the success of many environmental programs. In 2012 and 2013, volunteers gave 11,289 hours of time participating in T&E species projects, Gulf Sturgeon monitoring, sea turtle nesting surveys, native tree planting, and Okaloosa Darter stream erosion control projects. The volunteers also conducted six cleanups to remove 47,164 pounds of household waste debris illegally dumped on Eglin AFB reservation.

The Volunteer Program has been instrumental in the success of many NR programs. In 2012 and in 2013, volunteers gave 11,289 hours of time participating in 12 threatened and endangered (T&E) species projects including RCW Translocation, Gulf sturgeon monitoring, sea turtle nesting surveys and Okaloosa darter stream erosion control projects. Volunteers have also assisted with the continued population monitoring of the Santa Rosa beach mouse, burrowing owls and bog frogs as well as four beach cleanups that have helped to remove debris that could negatively affect shorebirds and sea turtles while nesting. Natural Resources personnel and volunteers have conducted six cleanups to remove household waste and construction debris that have been illegally dumped on the Eglin Reservation.

NEPA

Through compliance with the National Environmental Policy Act (NEPA) of 1969 along with other environmental directives, the Eglin Environmental Section ensures zero negative mission impacts. In accordance with NEPA, the Environmental Planning Office pointed the way to environmental compliance through the evaluation of 1,200 Requests for Environmental Impact Analysis and 2,400 Base Civil Engineer Work Requests, the completion of 90 Environmental Baseline Surveys and Waivers to Environmental Baseline Survey, and through the management of three Environmental Impact Statements and 20 Environmental Assessments (EAs). Through coordination of the innovative online Environmental Impact Analysis system, the Eglin Environmental Section teams with planning, legal, public affairs, bioenvironmental, and safety officials across the base in a web-enabled platform, reducing required labor costs for interdisciplinary reviews by 75 percent. Environmental officials approved categorical exclusions for 1,254 Base Civil Engineer Work Requests, eliminating the need for separate interdisciplinary assessments and reducing costs by \$65,000. Eglin concluded the Final Environmental Impact Statement of the DoD's largest housing privatization effort to date and launched the \$150,000,000 dollar project to its final stage. By conducting four Joint Strike Fighter (JSF) Supplemental Environmental Impact Statement public hearings to address local concerns, the Eglin Environmental Section helped to establish the DoD's first joint graduate flying and maintenance training wing for the F-35A, B, and C Lighting II. Through public meetings and by taking a proactive approach to implementing NEPA, the base overcame local opposition, resolved misconceptions and gained community support for the JSF beddown. Eglin's Environmental Planning Office also completed the DoD-directed Aviation Foreign Internal Defense (AvFID) EA for the beddown of AF Special Operations Command (AFSOC) missions in record-time, fewer than 90 days, less than half the AF standard of 180 days for EA completion. This paved the way for execution of \$41.2 million dollars in AvFID construction projects in fiscal years 2012 and 2013, an unprecedented program that was instrumental to AFSOC's stand up of an Active Component Combat Aviation Advisor squadron and Aircraft Maintenance Unit (AMU) at Eglin Auxiliary Field 3 (Duke Field), including the beddown of 16 C-145A Skytruck aircraft.