



Secretary of Defense Environmental Awards Category: Natural Resources Conservation-Individual Award Period: FY-08-FY09 (1 Oct 07-30 Sept 09)

Background

Stephen M. Seiber
0401/Natural Resources Program Manager
Eglin Air Force Base, Florida

Situated along Florida's Emerald Coast, in the heart of Florida's Panhandle, sits Eglin Air Force Base, the largest Air Force installation in the free world. Encompassing 464,000 acres of land and 130,000 square miles of water ranges, Eglin is a showcase of diverse ecosystems that provide sanctuary to 89 rare and endangered plant and animal species.

Boasting one of the most robust natural resources conservation programs in the Department of Defense (DoD), Mr. Seiber provides sustained management and protection of Eglin's natural resources, including proactive environmental planning and analysis of proposed actions on the installation to ensure the military mission can be accomplished without significant adverse impacts to the environment or the mission.

Much of the successes of Eglin's natural resources program can be directly attributed to the leadership of the University of Tennessee alum and his 37 years of natural resources management experience. Mr. Seiber's innovative concepts, stakeholder involvement, and program achievements have become the model for other DoD installations and land management agencies throughout the United States.

Mr. Seiber's accomplishments in FY08-09 have conserved a thriving habitat for Eglin's native species, striking a unique balance between the tranquility of old growth longleaf pine forests to sugar-white sand beaches mixed with the development, testing and deployment of lethal air power.



Secretary of Defense Environmental Award nominee for Natural Resources Conservation, Mr. Stephen M. Seiber, provides sustained management and protection of Eglin Air Force Base's natural resources program.

Position Description

As an integral member of Team Eglin, Mr. Seiber serves the 96th Air Base Wing as the 96 CEG's Chief of Natural Resources Management Section, holding the post since September 2003.

Mr. Seiber skillfully managed the installation's responsible stewardship of natural resources by integrating a management approach that maintains ecosystem viability and conserves biodiversity, while providing compatible uses to meet the mission requirements of the Air Force and DoD.

With an unsurpassed arrangement of more than 50 specific test areas, Mr. Seiber oversees the resource management of 724 square miles of reservation, along with 130,000 square miles of water ranges. Mission activities include weapons research, development, test and evaluation, military training and space operations.

Mr. Seiber leads a staff of 30 full-time civil service employees and 19 Colorado State University and Virginia Tech contractors divided over three major sections; Forestry, Fire Management and Wildlife. He also enables the local community to become actively involved in the installation's natural resources programs by providing year-round volunteer and educational opportunities not found in any classroom.

Operating on an annual budget of \$9 million, Mr. Seiber is entrusted to manage 270,000 acres of recreational land, open to the public, which includes 55 acres of lakes, 186 miles of canoe-able streams, 40 miles of Choctawhatchee Bay shore line and 20 miles of gulf shore line. More than 16,700 recreational, hunting and fishing permits were sold in 2009.



Eglin's 96th Civil Engineer Group Natural Resources Management section, more famously known as Jackson Guard, is led by Mr. Stephen M. Seiber, who is entrusted with conserving the installation's ecological treasures. His staff is divided over three major sections; Forestry, Fire Management and Wildlife. Much of the successes of Eglin's natural resources program can be directly attributed to the leadership of the University of Tennessee alum and his 37 years of natural resources management experience.

Awards and Service

The Air Force selected Mr. Seiber as the recipient of the 2009 General Thomas D. White Natural Resources Conservation Award for his outstanding accomplishments. This award serves to recognize installations and individuals for natural resources conservation, environmental quality, restoration, pollution prevention and recycling.

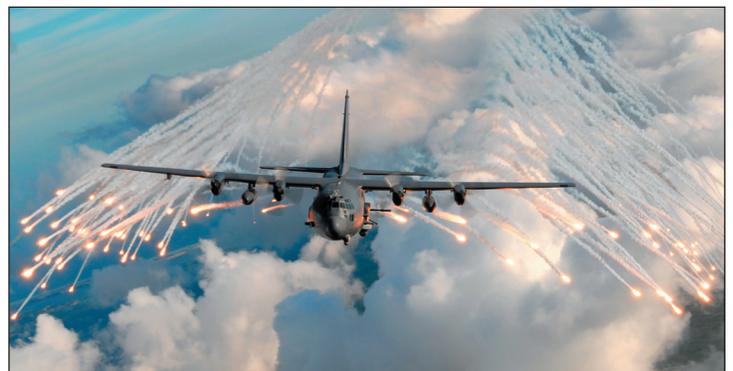
Mr. Seiber and the other members of the JG received the 2008 National Land Stewardship Award, presented by the National Wild Turkey Federation for outstanding contributions to natural resources through land stewardship and partnership.

Mr. Seiber was also nominated for 2009 American Fisheries Society's Ricker Resource Conservation Award for setting the standard of excellence in soil conservation, federally protected species management and habitat and species protection.

Accomplishments

While most Integrated Natural Resource Management Plans (INRMP) are reviewed every five years, Mr. Seiber realized this management approach was not conducive to Eglin's fluctuating military test and evaluation missions. By developing a web-based INRMP which includes seven component plans that are continually updated with new data models and regulator input, he was able to keep this document fresh and eliminate the \$198,000 five-year reviews. He created a truly adaptive management tool for JG by employing "hot-links" that enables JG personnel and military planners, along with state and federal regulators, to easily access specific, detailed resource management topics with emphasis placed on fire management plans, forestry, outdoor recreation, threatened and endangered species, ecological monitoring, erosion control and native grasses found within the installation's boundaries. This access allows mission planners a better grasp of environmental requirements with individual species and species habitats. In turn, planners can select alternatives test sites that will mitigate impacts to wildlife. A comment and review platform was introduced to allow stakeholders the opportunity to review mission requests and provide instant feedback that creates a free flow discussion and opinions on how to best accomplish Eglin's military missions while accomplishing environmental goals and objectives. This "living" document saves countless hours by introducing natural resource protection in the early stages of military operations planning. Currently, the Air Force Center for Engineering and the Environment is using his plan as a template to develop an electronic INRMP that will be implemented throughout the Air Force, making it the standard for years to come.

After recent and historical missions over the Eglin Gulf Test and Training Range (EGTTR) came under scrutiny by federal regulators, Air Force Special Operations Command missions were halted due to perceived impacts of high-explosive 105 mm rounds from AC-130 gunships on protected and endangered marine species in the Gulf of Mexico. Due to a lack of marine mammal and sea turtle habitat information, the National Marine Fisheries Service (NMFS) could not predict the presences of endangered species anywhere in the gulf with any certainty and required further aquatic studies to grant incidental take permits. In an effort to get these missions back on track, Mr. Seiber organized a partnership with Air



EGLIN AIR FORCE BASE, Fla. --An AC-130U gunship from the 4th Special Operations Squadron jettisons flares over Eglin's reservation. The flares are a countermeasure for the heat seeking missiles that may be launched at the aircraft during real world missions. (U.S. Air Force Photo by Senior Airman Julianne Showalter)

Force and Navy mission planners and marine biologists, in coordination with state and federal regulators to develop a proposal to compete for DoD Legacy Program funds to develop habitat models with acquired updated aerial survey line transect data, in combination with remotely sensed habitat parameters that included sea surface temperatures and chlorophyll (CHL), as well as spatial density models for porpoises and sea turtles. Once the DoD accepted the proposal and granted the necessary funds, Mr. Seiber turned to the NMFS to conduct the surveys. Because the data was being collected and validated by the NMFS, consultation times have been reduced by 40 percent for mission planning in the EGTTTR. NMFS now uses this data for all consultations in the Gulf of Mexico. The newly obtained information also allows mission planners to steer missions toward low-density areas, reducing operational impacts to protected and endangered gulf species. To compliment the NMFS Gulf surveys, Mr. Seiber developed a NMFS approved marine mammal observer training course. The training course educated 175 Hurlburt Field aircrew members on how to identify marine mammals occupying target areas. Armed with this knowledge and using aircraft instrumentation, aircrews survey target areas for the presence of aquatic mammals in the target area prior to conducting missions. If spotted, pilots have the flexibility to select an alternative target site to significantly reduce the number of marine mammal incidental takes in the EGTTTR.



Another potential impact concerning a protected gulf species was discovered after the Navy Explosive Ordnance Disposal School, an Eglin tenant unit, requested incidental harassment authorization to perform under water detonations to fulfill training requirements. With so little data about the endangered Gulf Sturgeon, the NMFS couldn't provide enough solid answers on how to mitigate potential impacts. Again, Mr. Seiber stepped up. Using another Legacy Fund project, in coordination with the U.S. Fish and Wildlife Service (USFWS), Gulf Sturgeon were tagged and tracked during the winter of 2009. This pilot study of the Gulf Sturgeon's movement and behavior in the Gulf of Mexico is expected to close the data gaps that hindered the National Environmental Protection Act, Endanger Species Act of 1973 and Essential Fish Habitat process and improve mission capabilities by providing mission avoidance zones. Initial data has already proven useful in mitigating impacts to the sturgeon and is expected to speed up the permit time frame by 35 percent, and keeping the the mission moving forward.

On land, balancing a 362,000 acre fire-dependant ecosystem with sensitive military test and evaluation missions is no easy task. According to the U.S. Forest Service (USFS), Mr. Seiber and his team of wild-land firefighters led the nation with 112,600 prescribed fire acres in fiscal year 2009, for a total of 210,000 acres burned over the last two fiscal years. With one of the largest, most complex fire management programs in the country, Mr. Seiber was able to reach these numbers by streamlining Jackson Guard's prescribed fire process using a prioritized burn block plan. Each block, or specific piece of land, is assigned

a burn packet that lays out a unique plan using maps, preparation concerns and scheduling information. Armed with this data, Mr. Seiber's planning team can schedule prescribed burns using a software program that shows all planned military missions over Eglin's ranges. Once a site is selected, a smoke plume model is generated based on forecasted weather patterns. The plans are then submitted to the 46th Test Wing Range Operation Control Center for coordination. This process reduces the chance for a potentially catastrophic, uncontrolled wildfire igniting from mission related activities, while preserving and protecting the fire-dependant Longleaf Pine forest ecosystem. His aggressive plan supports hundreds of plant and animal species especially adapted to the conditions that exist in a healthy Longleaf Pine forest. A direct result of his management is evident due to a 40 percent reduction in uncontrolled wildfires and a record population increase of the endangered red-cockaded woodpecker (RCW), leading to another significant milestone.



EGLIN AIR FORCE BASE, Fla. – David Grimm, a Jackson Guard forestry technician and wildland fire specialist, uses a fire drip can to start a fire line during a prescribed burn. Endangered species such as the red-cockaded woodpecker, depend on fire that is typically caused by either lightning strikes or Eglin's resident fire managers to survive. (U.S. Air Force Photo by Staff Sgt. Mike Meares)



A member of Jackson Guard examines a red-cockaded woodpecker. Due to Eglin's thriving Long-Leaf Pine ecosystem vital to their survival, the endangered woodpeckers are making significant strides and exceeding U.S. Fish and Wildlife Service's recovery goals.

Requiring mature pine trees, generally over 80-years-old, the RCW is the only woodpecker which excavates nest cavities exclusively in living pines. Since much of its ecosystem disappeared from wide spread commercial timber harvest and the turpentine industry, the USFWS declared the recovery of the RCW is dependent on hard work from biologists, foresters, technicians, researchers and land managers. Mr. Seiber took this as a challenge. Implementing a progressive prescribed fire plan, along with drilling more than 200 nest cavities and the removal of invasive Sand Pines, he created a thriving RCW habitat that saw active clusters increase from 390 to 420 and breeding pairs increase from 347 to 371 in one season. These numbers exceeded the USFWS recovery targets by seven percent and five years ahead of schedule, marking the first RCW population to reach this goal on a property under single ownership. In addition, this substantial boost grants mission planners more flexibility due to an expedited USFWS consultation process, reducing processing time by 30 percent.



Bill Tate, U.S. Fish and Wildlife Service, examines two endangered Okaloosa Darters discovered in a freshwater stream on Eglin. Due to Jackson Guards extensive habitat restoration projects, the darter is in the final stages of being reclassified as threatened.

USFWS, the Three Rivers Resource, Conservation and Development organization, the Florida Fish and Wildlife Conservation Commission and the Eglin Golf Course to divert segments of Mill Creek, which runs through portions of the Falcon Course, into newly created stream channels which allow the creek to flow freely. Additionally, manholes with transparent lids were installed in a 200-foot culvert to provide an added source of sunlight that should encourage the fish to swim through the culvert, since it won't swim in complete darkness. According to Bill Tate, a USFWS biologist, this was the first time anyone attempted to light a culvert in a project of this scale. He also estimated a population boost of 1,000 in the project area. Early monitoring sessions have already documented a 25 percent population increase at many of the sampling points. Due to these extensive habitat improvements, and other erosion control projects, this delicate fish, found almost exclusively on Eglin is in the final stages of being reclassified from endangered to threatened status by the U.S. Department of the Interior, a first on DoD lands for a vertebrate species.

Mr. Seiber actively promotes environmental awareness and stewardship through community involvement. This involvement raises public support and helps the community to understand the work and planning behind management decisions. His volunteer program is exemplary and recruits civilians and non-civilians across a range of ages and socioeconomic strata to participate in management and research activities. Last year, more than 575 volunteers devoted 14,425 hours to vegetation surveys, forest restoration projects and sea turtle monitoring. Mr Seiber has been instrumental to the success of an outreach program that provides under-privileged teen students from the Young Women's Leadership School of East Harlem, N.Y., with hands-on opportunities to perform environmental research and engage in service learning. Of the 28 students that have participated in this program, each one has gone on to college. An additional 43 undergraduate and graduate students, from five universities, have conducted research projects thanks to financial, logistical, and intellectual support provided by Mr. Seiber and his team. Some of these projects include research on ecology and conservation of stream fishes on Eglin's reservation.

Christened a "National Recovery Champion" by the USFWS, Mr. Seiber achieved key milestones in the Okaloosa Darter Recovery Plan that boosted darter population from an estimated 1,500 to 300,000, primarily through an outstanding erosion control program that rehabilitated 497 acres of highly eroded borrow pits, unpaved stream crossings, and over 2,000 miles of clay roads leading to military test areas. Through Mr. Seiber's oversight and direction, JG and CEG implemented Best Management Practices and changed their road paving techniques resulting in the massive reduction from approximately 60,000 tons of soil lost into darter streams to under 1,000 tons lost annually - the primary reason for the darter's recovery! Another successful venture was the Mill Creek restoration project on Eglin's golf course. Mr. Seiber partnered with the



EGLIN AIR FORCE BASE, Fla. -- Seven students from the Young Women's Leadership School in Harlem, N.Y., assisted in various aspects of the Mill Creek stream restoration project at Eglin Air Force Base, Fla., in April. The students planted vegetation, measured the width of the stream and depicted the stream's features on grid paper. (U.S. Air Force photo by Jerron Barnett)

Overall Natural Resources Conservation Management

- Exceeded USFWS recovery goals for the endangered Okaloosa Darter and RCW, reducing military mission related USFWS consultation times by 30 percent. Facilitated the first ever vertebrate species that occurs primarily on a military installation to be downlisted under the Endangered Species Act.
- Led partnership with USFWS, Florida Department of Environmental Protection (FDEP), FWCC and Eglin's Morale, Welfare and Recreation (MWR) to restore critical habitats at base golf course. The \$350,000 project restored streams to supporting an additional 1,000 Okaloosa Darters.
- Aggressive fire management program led the nation with 112,600 acres of prescribed fire. Effectively suppressed 326 wildfires, ensured resource protection; realized a 40 percent reduction in wildfire starts; proactive ecosystem management through application of fire is paying dividends.
- Drew national attention as the "hot-spot" for advancements in fire science and management. Hosted the nations foremost fire researchers conducting the largest prescribed fire experiment ever. Six research teams collected invaluable scientific fire dynamics data that was featured on the Discovery Channel's program "The Daily Planet."
- Restored 5,747 acres of critical endangered species habitat through the removal of invasive sand pines; another major contributing factor to exceeding USFWS recovery goals five years ahead of schedule.
- Developed "endangered species" database. Database provides mission planners with valuable endangered species avoidance information, nearly eliminating the need for USFWS consultations.
- Implemented the use of seven USFWS-approved herbicides. This selection eliminated the previous one-size-fits-all herbicide. With more versatile application methods and site specific treatment, this environmentally friendly suite is expected to save more than \$2 million over the next 5 years.
- Partnered with USFWS, U.S. Geological Survey and Florida's Fish and Wildlife Conservation Commission (FWCC) to monitor Gulf Sturgeon movement and behavior in the Gulf of Mexico. Closed data gaps that hindered National Environmental Policy Act (NEPA), Endangered Species Act (ESA) and Essential Fish Habitat (EFH) process to improve mission capabilities.
- Implemented the first erosion control component plan into an INRMP. Eglin continues to be the lead rehabilitation steward in the DoD, protecting critical wetland habitat and aquatic ecosystems with threatened and endangered species.
- Partnered with the U.S. Department of Agriculture (USDA) to remove invasive species from watersheds and seepage slopes, protecting these vulnerable ecosystems from destructive feral hogs.
- Granted \$1.3M million from Strategic Environmental Research and Development Program to measure long-term restoration of longleaf pine sandhills. Burned 6000 acres of experimental plots to support this research effort in fiscal year 09.
- In order to achieve Base Realignment and Closure (BRAC) requirements, Mr. Seiber ordered the removal of 14,000 tons of forest debris from the U.S. Army's 7th Special Forces Group bed down project area. This kept construction targets on track for the September 2011, BRAC completion goal, while saving the Air Force \$1.5M in additional contract costs.
- Hosted more than 1,000 special opportunity hunt participants; seized the face-to-face opportunity to educate citizens on Eglin's conservation efforts.