

Hurlburt Field

Natural Resources Conservation — Small Installation



Located along the Gulf coast in Northern Florida, Hurlburt Field is a small installation of only 6,634 acres. It is home of the Air Force Special Operations Command (AFSOC) and the 1st Special Operations Wing (1 SOW). AFSOC's mission is to be "America's specialized air power, delivering special operations combat power anytime, anywhere".

Hurlburt Field approached 100% implementation of current Integrated Natural Resources Management Plan (INRMP) during 2007. During the same period of time Hurlburt planned and developed a completely revised INRMP. Hurlburt Field's ongoing partnerships with outside entities, both Governmental and non-Governmental, have allowed the base to take advantage of the resources those organizations bring to the table and accomplish objectives that might not otherwise be attainable for a small natural resources program. This overarching theme is apparent throughout most of the outstanding accomplishments achieved during the award period which are described in the

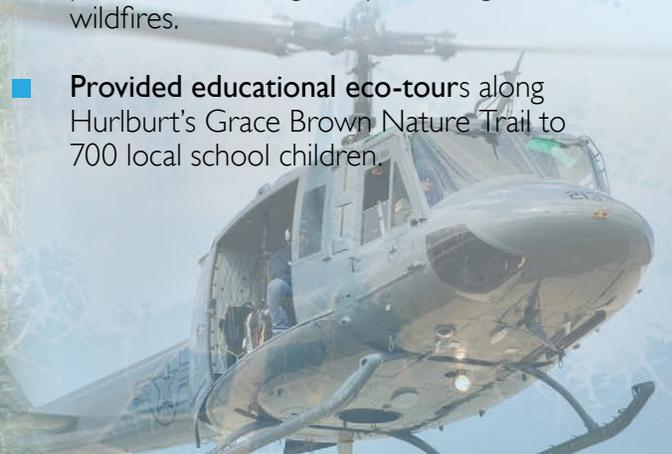
OVERALL CONSERVATION MANAGEMENT

Overall conservation management on Hurlburt Field is guided by the goals and objectives of the INRMP, which have been carefully crafted to fully support the mission while protecting and preserving Hurlburt's valuable natural resources. Hurlburt completed a major update to the base INRMP in 2007. Ninety five percent of the goals and objectives identified in the INRMP were met and 100% of the "must fund" projects were accomplished. The few objectives not met were largely due to the INRMP being a "living document" with regular reviews and modifications being dictated by changes in the military and natural environment.



SIGNIFICANT ACCOMPLISHMENTS

- Secured funding and initiated comprehensive plant and animal surveys that canvassed the entire installation.
- Eliminated 15,000 Chinese Tallow, 3,400 Privet, Mimosa, and Camphor trees along with 28 acres of Cogon grass.
- Managed 250 projects totaling over \$300 million with zero delays, while ensuring complete and total environmental compliance.
- Rehabilitated over 6,000 feet of old plow lines located in wetlands and endangered species habitat.
- Partnered with three other agencies to clear brush and remove vegetation from over 13,000 feet of secondary forest roads to create fire breaks that facilitate prescribed burning and protect against wildfires.
- Provided educational eco-tours along Hurlburt's Grace Brown Nature Trail to 700 local school children.



INTRODUCTION

The 1st Special Operations Wing (1 SOW) organizes, trains, and equips the Air Force Special Operations Forces for global deployment. Special operations activities accomplished by AFSOC include unconventional warfare, counterproliferation, direct action, psychological operations, special reconnaissance, antiterrorism, foreign internal defense, civil affairs, and information operations. The 1 SOW motto is "Any Time, Any Place".



Approximately 7,322 active duty, 10,860 family members, and 853 civilians live or work at Hurlburt Field. Hurlburt Field's 6,634 acres, managed under the installation's Integrated Natural Resources Management Plan (INRMP), include 674 acres of improved area, 834 semi-improved, 5,069 unimproved and 57 acres of surface water bodies.

Hurlburt Field is bounded by Santa Rosa Sound to the south and the vast East Bay River Swamp to the north. Fifty-two percent or 3,431 acres of the base are jurisdictional wetlands. A 1,000 acre natural area on the western side of the installation is comprised of longleaf pine flatwoods with over two dozen small seasonally flooded



The vast East Bay River Swamp is the northern boundary of Hurlburt Field. The swamp's extreme inaccessibility and pristine condition provide the perfect combination of habitat for many species.

wetlands known as cypress dome swamps interspersed throughout, creating a mosaic of habitat types. This incredibly rich and biologically diverse area is home to many rare and sensitive species, including pitcher plants and the federally threatened flatwoods salamander.



White-top Pitcher-Plant is a state listed endangered plant that is common in Hurlburt wetlands.

BACKGROUND

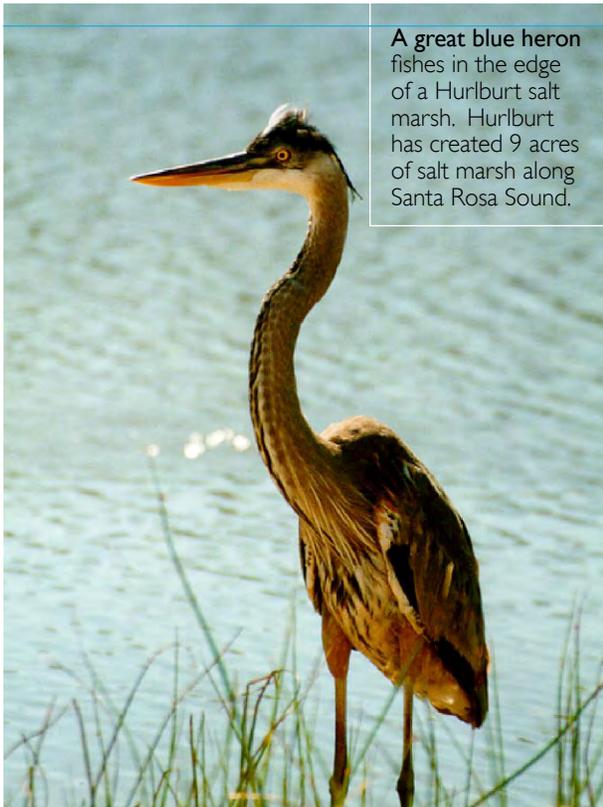
In 2007, a substantial update and rewrite was completed in-house on the base INRMP. The new INRMP was fully coordinated with the U.S. Fish and Wildlife Service (USFWS) and the Florida Fish and Wildlife Conservation Commission (FWCC) and is compliant with guidance from AFI 32-7064. Responsibility for management of the natural resources program and implementation of the INRMP falls under the 1st Special Operations Mission Support Group, 1st Special Operations 1st Civil Engineer Squadron, and specifically the Natural Resources Manager within the Environmental Flight.



Hurlburt's environmental staff includes just 7 positions with one natural resources position. With manpower so scarce, no position is solely dedicated to any one program, but must be part of a truly interdisciplinary flight. Solid planning and flawless execution combined with efficiency and resourcefulness are mandatory when manpower is so limited.

LAND USE MANAGEMENT

Water management and conservation issues are becoming a regional point of concern as the population is increasing rapidly in the southeast and more specifically in coastal areas. Recent studies show a pattern of rapid depletion of the Floridan Aquifer, where Hurlburt Field and much of northwest Florida get their drinking water. Hurlburt Field continued to lead by example in the community by partnering with Okaloosa County on a wastewater reuse project, obtaining grant funding from the State of Florida infrastructure program.



A great blue heron fishes in the edge of a Hurlburt salt marsh. Hurlburt has created 9 acres of salt marsh along Santa Rosa Sound.

In accordance with the memorandum of agreement (MOA) Fort Walton Beach is installing a wastewater reuse facility, and Hurlburt Field will provide the County with 200,000 gallons of reuse water per day. Hurlburt's advanced wastewater treatment plant produces between 500,000 and 700,000 gallons of wastewater treated to secondary and tertiary drinking water standards every day.

The portion of the reuse line to be constructed on Hurlburt is nearing completion, including a section that supplies Hurlburt's aircraft clear water rinse facility. The extensive irrigation system at Hurlburt's 18 hole golf course is the next facility to be connected to the wastewater reuse line, saving millions of gallons of potable water per year.

Hurlburt has a long working relationship with the local branch of the U.S. Department of Agriculture's Natural Resources Conservation Service (NRCS) that has facilitated the accomplishment of numerous land management projects over the years.

During the award period, the NRCS assisted Hurlburt in creating and maintaining firebreaks along urban interface areas to facilitate prescribed burning. Hurlburt also used the NRCS to replace a culvert that deteriorated to the point that it created an erosion problem. The culvert was located on a secondary woods road at a stream crossing within an 800 acre restoration area. The restoration area and the wetlands located there are home to numerous rare plants and animals.

Hurlburt Field was selected as a Groundwater Guardian Community by the National Groundwater Foundation for the 9th consecutive year. Some activities that contributed to this prestigious recognition included:

- Demonstrated model of the Floridan Aquifer to 550 second graders
- Installed 300 storm drain markers in base housing advising not to pour contaminants down drains.
- Obtained state and federal permits for 6 projects - Best Management Practices (BMP) were utilized .

FOREST MANAGEMENT

Hurlburt Field has taken swift and proactive measures to combat the recent seemingly endless onslaught of tropical storms on its urban forests. Literally thousands of mature trees, many of them longleaf pine, have been lost from Hurlburt's urban forests in the last decade as a direct result of storm damage.

To help offset this unusually high mortality, an aggressive tree protection/replacement program has been put in place at Hurlburt Field. An application must be submitted to the base natural resources manager for authorization to remove any tree over six inches in diameter at breast height. Each application is reviewed to ensure there is sufficient justification to remove the tree(s) and analyzed for alternatives to removal. For every tree that has to be removed, three large trees are planted in its place. The burden of replacement costs for the tree falls on the individual or organization wishing to remove

the tree(s), and many times results in an acceptable alternative to removal. Another policy that has protected hundreds of trees on Hurlburt is the requirement to utilize directional boring in lieu of trenching when installing utilities and pipelines. This practice is especially beneficial on Hurlburt, a small base experiencing explosive growth, where there is seldom enough space to work around the trees.

Hurlburt Field recently received the National Arbor Day Foundation's Tree City USA Award for the 13th consecutive year. Hurlburt has also received the Tree City Growth Award for 6 of the last 10 years. In 2007, Hurlburt Field celebrated Arbor Day by creating an art display, planting trees, and presenting a tree preservation themed play featuring a cast of 105 children.



The pine flatwoods communities on Hurlburt Field are maintained in a healthy ecological state through regular prescribed burning.

In an effort to provide better fire breaks that will facilitate prescribed burning and protect against destructive wildfires, Hurlburt requested and obtained assistance from the NRCS, Eglin AFB, and the State Division of Forestry to clear brush and remove vegetation from over 13,000 feet of existing secondary and tertiary roads.



Tree planting to commemorate Arbor Day 2007 on Hurlburt Field. Hurlburt has been a Tree City USA for 13 consecutive years.

FISH AND WILDLIFE

Hurlburt Field is located in an area with one of the highest concentrations of black bears in the state of Florida. During the award period, Hurlburt environmental personnel responded to over 30 calls concerning bears, resolving all situations without incident. In one instance, the base Natural Resources Manager met with adjacent property owners, to answer questions and quell concerns over frequent bear sightings in their neighborhood.



A young Florida black bear climbs a fence in base housing. Hurlburt's environmental flight responded to over 30 calls concerning bears during FY 06-07.

When several bears began frequenting base housing and raiding trash cans, over 600 pamphlets titled "Understanding Florida's Black Bear", were distributed door to door to residents. When a female bear and her two cubs were spotted on several occasions feeding from a dumpster near one of Hurlburt's dorms, the dumpster was modified, making it bear proof. Motion sensor cameras revealed that the bears returned on several occasions, but when attempts to gain access to the dumpster failed, the bears quickly returned to more natural foraging behavior in the surrounding woodlands.



A bear cub unsuccessfully tries to gain access to a dumpster after the dumpster had been modified with a locking mechanism.

When a state listed threatened falcon became trapped above the bird exclusion netting in a hangar, several shops worked together to free the bird. A self fashioned trap was baited with a white mouse and secured on the rafters above the netting using 1st Special Operations Civil Engineers high reach bucket. The small raptor quickly took the bait, became ensnared in the trap and was successfully released to a more suitable location.

Hurlburt worked with the NRCS to close six roads that were being used to illegally gain access to areas for off-road riding by the public. The unauthorized off-road riding was taking place in an ecologically sensitive preserve that is home to numerous rare species. It is currently undergoing restoration through prescribed burning, removal of exotic species, and plantings of desirable natives. A sign at each entry point describes the ecological importance of the area and the need to close the roads to motorized traffic.

After proper coordination with the Florida Department of Environmental Protection (FDEP), the Corps of Engineers, and USFWS, Hurlburt worked with the NRCS to rehabilitate over 6,000 feet of old fire plow lines located in wetlands and flatwoods salamander habitat. Plow lines may represent obstacles to the federally threatened flatwoods salamander and other rare amphibians as they attempt to migrate to breeding ponds.

Rehabilitation removes the obstacle by returning contours to pre-disturbance grades and by restoring the natural hydrology of the area.



The Flatwoods Salamander is a federally threatened species found on Hurlburt Field. Prescribed fire is an important tool in the management and conservation of this species.

Hurlburt worked with the USFWS to create a habitat modeling program based on the ideal flatwoods salamander habitat found on Hurlburt Field.

In 2007, the USFWS contractor, Mr. John Palis wrote the Service concerning his findings relative to a prescribed burn that had recently been conducted on Hurlburt: "The fire is a great example of ideal flatwoods salamander habitat management (i.e., burn wetlands during a drought). The small ponds that burned completely through are absolutely beautiful right now. There is a lush carpet of graminaceous vegetation throughout both sites and the adjacent wiregrass is flowered post-fire."

The thousands of acres of swamp and other wetlands found on Hurlburt provide ideal habitat for many species of wildlife, including alligators. There are resident alligators in most ponds and even in storm water ditches located

around the base. Periodic newspaper articles, brochures, and signs posted in strategic locations explain that feeding alligators is dangerous, against the law, and provide guidance on recommended behavior when alligators are encountered.

Airmen and alligators co-exist very well on Hurlburt, but occasionally preemptive measures must be taken to ensure everyone's safety. In 2006 the FWC was contacted to assist in removal of four large and potentially dangerous alligators from a popular recreational pond after they began exhibiting behavior suggesting they had been fed and had lost their natural fear of humans. The relocated alligators ranged in length from eight feet to ten feet.



An alligator stops morning traffic at Hurlburt's back gate as it crosses the road. Education through newcomer's briefings and frequent articles in the base paper help to ensure alligators and Airmen continue to co-exist well.

In 2007, Hurlburt secured funding and partnered with Florida's State Heritage Organization in the creation of the Florida Natural Areas Inventory. Work began on a year long comprehensive survey of the entire 6,634 acre installation for rare, threatened and endangered species and their habitats. This updated inventory will provide the base natural resources manager with the best possible information to ensure the continued protection and proper management of rare flora and fauna on Hurlburt Field.



The **Least Tern** is a state listed threatened species. Every spring hundreds of the small birds nest on building roof tops on Hurlburt Field. The base takes special precautions to protect the birds and their nests and ensure they are not disturbed during this critical time.

INVASIVE SPECIES CONTROL AND PEST MANAGEMENT

Exotic plant species are the primary concern and threat to Hurlburt's natural environment. The base has had an active invasive vegetative species management program for 13 years. The program has matured into what is now a maintenance approach as no large contiguous stands of invasives remain. Instead, small pock-

ets and newly established areas are routinely sought out and eliminated.

During the award period Hurlburt worked with NRCS to remove 15,000 Chinese tallow, 3,400 Privet, Mimosa, and Camphor trees and 28 acres of Cogon grass. Permit requirements associated with a mitigation package submitted by the base to FDEP and the Corps of Engineers will ensure funding for invasive species management for years to come.



Young Chinese tallow saplings are treated with the herbicide Garlon. Chinese tallow is a highly invasive medium sized tree that out competes native vegetation and reduces bio-diversity.

Significant improvements have been made to Hurlburt's Bird Air Strike Hazard (BASH) program through the incorporation of multiple tools. Creation of an avoidance model using bird strike entry data and trend tracking, pyro-

technics, the use of a trained border collie for wildlife harassment, and trapping resulted in a 100% reduction in lethal control measures.



A screech owl sleepily peers out of an artificial cavity box outside Hurlburt's Child Development Center.

When a large flock of pigeons led to three bird strikes in one week to Hurlburt aircraft, a trapping program was quickly implemented that resulted in over 300 pigeons being removed from the airfield, eliminating the bird strike threat from this source. These improvements translated into savings of hundreds of thousands of dollars in potential strike damage to aircraft and a safer environment for our Airmen.

CONSERVATION EDUCATION AND COMMUNITY RELATIONS

Hurlburt Field has established and continues to foster a symbiotic relationship with the local scouting community. The base provides quality projects of adequate complexity, supplies, and in some cases technical expertise along with opportunities for the young scouts to grow and learn, while the scouts provide a quality finished product with real community value.

This relationship produced the 16th Eagle Scout to date in the summer of 2007. Hurlburt environmental staff began working with two other scouts on Eagle projects during the award period that should be completed in the near future. Hurlburt Field's Grace Brown Nature Trail is



Hurlburt's natural resources manager talks to a group of school children and their parents, as they prepare for a nature walk down the Grace Brown Nature Trail. Ms. Denese Brown of West Navarre Primary School said: "Our visit to Hurlburt was the best field trip of the year".

1.5 miles long and has been constructed almost entirely with the help of scout troops and other community volunteer groups. The trail winds along the shoreline of Santa Rosa Sound and includes interpretive signs, benches, bridges, and elevated boardwalks through lush coastal wetlands.

In the last two years Hurlburt's Environmental Flight has provided 12 guided eco-tours to 700 local school children along this trail. The tours are designed to educate children about the diverse local ecosystems and the flora and fauna that reside there. Tours also provided children with experiences in a natural setting with a diversity of wildlife including water snakes, a bald eagle, and a family of bottlenosed dolphins.

NATURAL RESOURCES COMPLIANCE PROGRAM

Hurlburt's environmental staff successfully balanced the tremendous amount of growth associated with the current high operations tempo of AFSOC with protection of the natural environment. All installation activities are evaluated for impacts to natural resources through an automated Environmental Impact Analysis Process computer program.

During the award period environmental staff efficiently and effectively reviewed 76 environmental assessments, over 1,450 Civil Engineer Work requests, 900 dig permits, and managed over 250 projects totaling \$300 million with zero delays while ensuring complete and total environmental protection.

Hurlburt Field has had 91 regulatory inspections in the last 11 years with only one self identified and self reported notice of violation. This feat becomes all the more impressive when prefaced by the fact that the base is over 50% protected wetlands and is home to 16 rare, threatened or endangered plants and animals.

CONCLUSION

At Hurlburt Field, exemplary natural resources stewardship is key to the success of the INRMP implementation. Excellent INRMP program management has successfully integrated natural resources management and protection with the super high tempo of special operations. Mission oriented innovative techniques, such as the use of border collies to control wildlife on the runway, were very successful.

Because the INRMP is a collaborative effort of the Environmental Flight programs, the foundation for its success has been established. Hurlburt Field partners with its regulatory and governmental stakeholders in making sound resource decisions, providing many ways for the community to be involved in activities at Hurlburt Field.

Sound natural resources management is critical to maintaining mission readiness and reinforces Hurlbert Fields motto:

"Celebrate Earth Day Every Day"

2007

SECRETARY OF DEFENSE
ENVIRONMENTAL AWARDS



Natural Resources Conservation — Small Installation

Hurlburt Field

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