



2020 Secretary of Defense

Environmental Awards

Natural Resources Conservation – Small Installation
Hurlburt Field

Introduction

Hurlburt Field is the ‘Tip of the Spear’ for Air Force Special Operations, and accomplishes missions with more than 11,000 dedicated military and civilian personnel, utilizing 55 fixed and tilt-rotor aircraft including the CV-22 Osprey, AC-130U Spooky Gunship, MC-130H Combat Talon II, and U-28A. Hurlburt Field’s 6,634 acres include 674 acres of improved area, 834 acres of semi-improved area, 5,069 acres of unimproved area, 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. 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 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 endangered reticulated flatwoods salamander.

52% of Hurlburt Field is jurisdictional wetlands.

Background

Hurlburt Field’s Integrated Natural Resources Management Plan (INRMP) directs all activities related to natural resources management on the Installation and establishes specific yearly program goals. INRMP goals are fully incorporated into the Environmental Management System to ensure maximum visibility and provide a highly effective means of tracking progress to completion. During the accomplishment period, Hurlburt Field successfully reached an incredible 100% of its lofty INRMP goals.

The INRMP is updated yearly in close coordination with the United States Fish and Wildlife Service (USFWS) and Florida Fish and Wildlife Conservation Commission (FWC). The latest INRMP annual update successfully concluded with the Wing

Commander's designee signing a certification memo on 13 September 2019.

Responsibility for management of Hurlburt Field's Natural Resources Program and implementation of INRMP activities falls under the 1st Special Operations Civil Engineer Squadron, specifically the Environmental Element. An Air Force Natural Resources Manager and two USFWS employees work the program fulltime and are assisted by six other Environmental professionals as needed.

The Natural Resources Team is active in many Air Force and external committees, boards, and steering groups, including the Vegetation/Tree Board, Bird Hazard/Bird Air-Strike Hazards (BASH) Working Group, Airfield Operations Board, West Panhandle Bear Communication Team, West Panhandle Bear Stakeholder Group, Installation Environmental, Safety, and Occupational Health Council, Statewide Bear Technical Assistance Group, and Tri-County Partnership Initiative serving as Ecotourism Co-chair.

Summary of Accomplishments

Overall Natural Resources Conservation Management

Hurlburt Field is part of the Air Force's partnership with the USFWS. This partnership, modeled in the State of Florida, supports both Air Force and USFWS missions by integrating USFWS personnel in natural resources sections across Florida Air Force Bases (AFBs). At Hurlburt Field, the two assigned Fish and Wildlife Biologists are an integral part of the Natural Resources Program.

The addition of on-site USFWS staff has significantly reduced the time required for coordination with the USFWS Panama City Field Office, resulting in same-day no-effect determinations for proposed projects and shortening the National Environmental Policy Act review process. Of 545 dig permits, 244 designs, 104 work requests, and 29 environmental impact assessments reviewed in

Fiscal Years (FY) 2018 and 2019, zero projects received notices of violation from Federal regulators, zero were delayed, and zero required formal consultations. All informal consultations and no-effect determinations were conducted in-house, reducing regulatory burdens on the installation, and accelerating the approval process.



Electrofishing

A Hurlburt Field Fish and Wildlife Biologist holds two largemouth bass caught during electrofishing at Hurlburt Lake. Fish tissue samples will be collected to test for heavy metals and other contaminants within the lake habitat.

Staffing the Natural Resources Team with USFWS personnel also increases the expertise of the section regarding compliance with Federal laws and regulations and streamlines funding. Surveys of Hurlburt Field's nine Federally listed species, 10 petitioned/candidate species, and 25 state-listed species are performed directly by USFWS staff rather than being channeled through contractors, saving the Air Force time and money.

The USFWS/Air Force partnership facilitates shared resources that may not otherwise be available. No cost, expert advice from Department of Interior personnel helps greatly with document reviews, site visits, and training, and is vital to meeting the established Hurlburt Field INRMP goals. In addition, USFWS

Fisheries Biologists stationed at Eglin AFB were instrumental during the electrofish effort at Hurlburt Lake to collect fish tissue samples for contaminants testing.

Hurlburt Field is part of the Northwest Florida Sentinel Landscape Partnership application (with all Department of Defense installations in northwest Florida), a project that will strengthen military readiness, bolster agricultural productivity, preserve natural resources, and increase access to recreation.

Land Use Management

Hurlburt Field's natural resources primarily consist of pine flatwoods ecosystems and wetlands. To conserve and protect water quality, the Natural Resources Team works with the Stormwater Project Manager to implement erosion control best practices for all projects that may impact wetlands.

Hurlburt Field utilized 89 million gallons of treated reuse water for landscape irrigation, significantly reducing potable water usage. In 2019 alone, Hurlburt Field removed 100 cubic yards of sediment by sweeping 369 miles of roads, protecting water quality and wetlands both on base and in nearby communities.

Hurlburt Field expertly managed a 49-acre wetland credit compensatory mitigation project, resulting in a one-time savings of more than \$3.4 million in mitigation costs. In FY19, Hurlburt earned a fifth Clean Marina designation, recognized by the Florida Department of Environmental Protection, by implementing 85 best management practices to prevent surface water pollution at the Hurlburt Field Marina.

The Installation assesses every proposed project for impacts to migratory birds and other wildlife, promoting conservation while minimizing BASH. The Natural Resources Team worked with Wing Safety to scare juvenile bald eagles from the Airfield while protecting the eagle nest.

Hurlburt Field also follows Air Force Pollinator Guidelines, developed in coordination with the USFWS, to recommend native plants for new landscaping that will benefit pollinator populations, mitigating species declines. In FY18/19, six projects were completed to replace non-native Bradford pears with red maple trees during construction projects.

Hurlburt Field diverted 130 tons of bio-solids from the landfill by using this material as a soil supplement at local farms. In addition to improving the environment, this effort saved over \$8,000 in disposal fees in FY18/19.

Forest Management

In 2018, as requested by the United States Army Corps of Engineers, Hurlburt Field reviewed the Land Management Plan of 2000 to quantify successes driven by the plan. The review included ecosystem surveys in 52 vegetative communities to identify remaining unmet management needs. The review resulted in updated geospatial layers and management recommendations. Most areas assessed during the review were deemed high quality wildlife habitat. The areas in need of management were identified based on historically suppressed fire management and will be burned in future prescribed burns.

In FY19, the Florida Natural Areas Inventory survey for rare plant species was reinitiated at Hurlburt Field, since the last survey was conducted in 2009. The new survey report drastically updated known locations for rare plants and incorporated new species status information, which will guide natural resource recommendations for future missions, reducing mission conflicts.

In FY19, restoration of three reticulated flatwoods salamander breeding ponds were awarded as a \$33,000 habitat restoration project, with 100% of the funding provided by the FWC. Because future funding from the state is uncertain, in FY19, Hurlburt Field applied for

additional Federal grant funding to support future breeding pond restoration projects.

Hurlburt Field completed two prescribed burns of 250 acres in 2019. They partnered with the Eglin AFB Wildland Fire Module, part of the Air Force Wildland Fire Branch, to remove dense woody vegetation in salamander breeding ponds and restore longleaf pine uplands. Prescribed burns benefit the Hurlburt Field populace by improving line-of-sight for safety, reducing mission-caused wildfire, and improving perimeter fence-line security in addition to the ecosystem management benefits.

Fish and Wildlife

In FY18/19, Hurlburt Field reviewed and updated the endangered reticulated flatwoods salamander survey protocols. The new survey protocol includes the use of cutting-edge techniques such as environmental deoxyribonucleic acid (DNA), or “eDNA,” and genetic barcoding, which have allowed researchers to cost-effectively assess species occupancy while reducing negative impacts to habitat and negating the need to handle sensitive species. These new techniques and previous methods give Hurlburt Field additional tools to assess salamander breeding habitat after restoration.

The last observation of larval reticulated flatwoods salamanders on Hurlburt Field occurred in 2014, but none have been observed since, despite dip-netting surveys. The Installation partnered with the University of West Florida to analyze eDNA samples. Positive detections of eDNA confirm continued occupancy on Hurlburt Field, demonstrating that habitat management is effective and recent restoration efforts are successful. Abundance surveys using the new trapping protocol will better inform the species recovery team, guide reintroduction and recovery efforts for the species range-wide and reduce mission conflicts on Hurlburt Field.



Salamander Survey

Using dip nets, Hurlburt Field Fish and Wildlife Biologists attempt to capture the endangered reticulated flatwoods salamander in one of Hurlburt Field’s breeding ponds. Partnering with the University of West Florida, efforts to collect environmental DNA will determine salamander occupancy within the Installation.

To identify and mitigate mission conflicts prior to Endangered Species Act listing, Hurlburt Field implemented acoustic surveys for tricolored bats on Hurlburt Field and Eglin AFB to identify structures used by the species for winter roosting. Scheduling maintenance for these structures outside winter bat roosting season will allow the mission to continue while protecting this at-risk species. Hurlburt Field also partnered with Eglin AFB to create drilled artificial cavities in longleaf pines to provide nesting options for endangered red-cockaded woodpeckers.

The Hurlburt Field Natural Resources Team deployed wildlife cameras to monitor high bear activity areas and developed strategies to ensure personnel safety. They also completed annual wildlife surveys. Gopher tortoise hatchings were detected on Hurlburt Field in FY19, the first sighting in more than five years, indicating successful habitat management.

Other Natural Resources

Because Hurlburt Field’s mission is Special Operations, public access to the Installation is restricted. However, Installation personnel,

Active Duty, and military families have many recreational opportunities.



Family Day Fishing

SrA Erika Mota and her family enjoy a fishing outing at the new Hurlburt Lake dock. The new dock provides easy access to recreational freshwater fishing and opportunities to view wildlife, such as alligators and waterfowl.

The Grace Brown Nature Trail is located along the Santa Rosa Sound, directly behind base housing, and meanders through several different ecosystems. The trail is used for multiple opportunities such as fun runs, Halloween “Haunted Trail,” and Eagle Scout projects, and offers excellent wildlife viewing. It is an easy, enjoyable hike for physical fitness, and has several shoreline fishing access points and put ins/take outs for kayaks. The Natural Resources Team coordinated two clean-ups/trail maintenance days during the accomplishment period to improve safety and reduce trash entering the Santa Rosa Sound.

In 2019, a new \$150,000 fishing pier on the Soundside improved Hurlburt Field’s recreational fishing opportunities for redfish, mullet, and flounder. A \$65,000, 100-foot dock was also installed at Hurlburt Lake supporting near-record size bass fishing, as well as bluegill, crappie, and bowfin. These new structures provide military families and base personnel with fee-free places to fish on base.

Because of the increased access created by the new dock, Hurlburt raised the question of the

quality of fish being captured and the potential safety hazards associated with contaminants. If personnel and base residents wish to take home their fish, the fish should be checked for safe consumption. Hurlburt Field partnered with the USFWS Fish and Wildlife Conservation Office to catch electrofish the Lake and send tissue samples for contaminant analysis. Results will influence future fishing regulations on base.

Invasive Species and Pest Management

As of 2019, Hurlburt Natural Resources Team staff members are licensed Florida pesticide applicators resulting in more accurate species-specific targeting of invasive vegetation in natural areas, decreasing non-target impacts to native plant species.

In FY18/19, Hurlburt Field saw a rapid expansion of invasive apple snails, a species that denudes vegetation, degrades natural areas impacting Threatened & Endangered species, and can pass zoonotic diseases to humans. They responded by capturing 53 adult snails, removing 3,510 egg masses, and securing 10 AmeriCorps interns to increase trapping in 2020. Connections created by increased communication with USFWS, Florida FWC, University of Alabama, and Rollins College partners increased the available knowledge base to incorporate previously unpublished information to improve capture protocols and techniques across the region and on other public lands in the United States.

In FY18/19, the Hurlburt Field Natural Resources Team, in partnership with the United States Department of Agriculture/Wildlife Services, removed five feral hogs, preventing damage to sensitive habitat and archaeological artifacts.

Hurlburt Field also partnered with the University of West Alabama to secure a grant to conduct research on the exotic/invasive swordtail, a common pet aquarium fish found in many of Hurlburt Field’s drainages. They

completed invasive vegetation removal projects at various Installation locations as well, reclaiming more than 200 acres for native plants.



Invasive Apple Snail Trapping

Hurlburt Field Fish and Wildlife Biologists respond to the growing expansion of invasive apple snails. Trapping, cutting-edge techniques, and capturing protocols were implemented for controlling the growing invasive populations.

Community and Conservation Outreach

In 2019, to increase outreach efforts and inform the Installation population about their status as a BearWise Community, Hurlburt Field worked with the FWC to present Florida black bear information to the Youth Center. They also increased coordination with Public Affairs to communicate conflict prevention techniques, sending reminders about seasonal bear activity, garbage control measures, and state law enforcement no-feeding regulations via social media and the Installation-wide Roll Call.

Dumpster awareness was a focus in 2019 because Hurlburt Field Natural Resources Team members responded to 40 bear incidents in FY18/19. They worked with Public Affairs to publish a video detailing how base-wide dumpsters are being modified with impact-resistant lids and bar-locks to keep bears out.

Hurlburt Field also provided four training sessions during the accomplishment period on aversive conditioning techniques so that personnel can safely respond to conflict

incidents and haze bears. Efforts reached over 150 personnel, including Security Forces trainees, city code enforcement officers, and police.

The Natural Resources Team is working on a BearWise Community Plan to include as a Component Plan in the 2020 INRMP, describing Hurlburt's commitments and activities. Every newcomer to Hurlburt Field also receives in-person natural resources training. More than 1,000 personnel each year are given Installation-specific information on bear awareness, natural resources conservation, and volunteer opportunities.



National Public Lands Day Volunteers

The Hurlburt Field Natural Resources Team secured a National Public Lands Day grant to repair the Grace Brown Nature Trail. Their dedication to volunteerism and community service was instrumental in earning the base the National Public Lands Day Department of Defense Legacy Award.

2018 marked the 100th anniversary of the Migratory Bird Treaty Act. The Natural Resources Team was awarded a National Public Lands Day Department of Defense Legacy Award for \$1,873 to purchase equipment and supplies to celebrate. More than 20 volunteers representing Active Duty and military families constructed and installed birdhouses to promote migratory bird conservation and wildlife viewing. Volunteers agreed to monitor, collect, and submit birdhouse nest records as part of the

Cornell Lab of Ornithology's National NestWatch Project.

In 2019, the Natural Resources Team was awarded a National Public Lands Day Department of Defense Legacy Award for \$5,476 to purchase supplies to celebrate. They recruited 17 volunteers from Active Duty and military families to repair seven boardwalks along the Grace Brown Nature Trail. Volunteers completed 100% of work needed to maintain the Grace Brown Nature Trail.

2018 marked Hurlburt Field's 25th year as an Arbor Day Foundation Certified Tree City. To celebrate, they partnered with base housing to honor Arbor Day by planting trees with three Installation families in new housing areas.

The University of West Alabama's Conservation Biology class toured Hurlburt Field to learn about and observe active management and conservation. Students viewed reticulated flatwoods salamander habitat, red-cockaded woodpecker artificial cavities, and learned about the challenges and benefits of invasive apple snail and swordtail control.

In FY19, the Hurlburt Field Natural Resources Team introduced a Niceville, Florida, Girl Scout Troop to macroinvertebrate survey techniques used to assess aquatic ecosystem health. Efforts helped the Troop to earn several badges related to wildlife conservation.

During the accomplishment period, Hurlburt Field participated in the "Skype a Scientist" program that matches scientists with classrooms around the world to inspire future scientists. The Natural Resources Team presented to three classrooms, reaching more than 50 elementary to middle school students, including a special education classroom. Hurlburt Field also authored 24 environmental newsletters to keep the Hurlburt community well informed on all environmental happenings.



Conservation Biology Students

Hurlburt Field Biologist leads future conservation biologists from the University of West Alabama on a tour of the natural resources managed at Hurlburt Field. Through partnering and outreach programs the Natural Resources Team was able to secure a \$33,000 grant for salamander habitat restoration.