



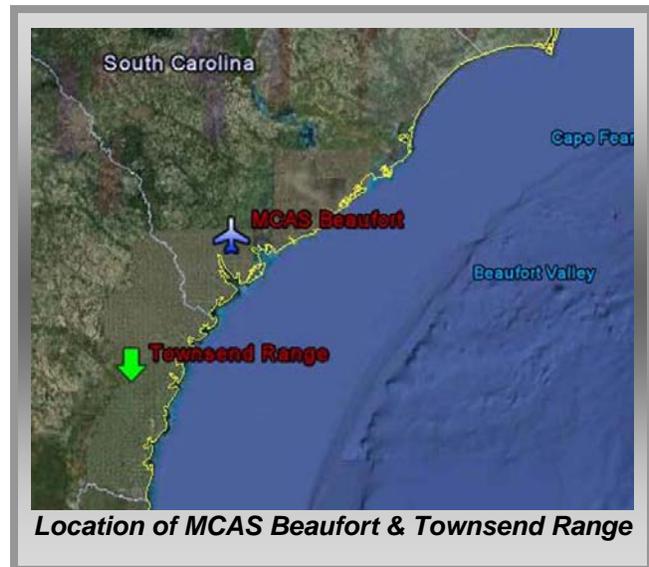
MARINE CORPS AIR STATION BEAUFORT



Nomination for
Secretary of Defense/Secretary of the Navy
2009 Environmental Awards
Natural Resources Conservation—Individual: John Luce

INTRODUCTION

Marine Corps Air Station (MCAS) Beaufort, South Carolina, serves as a home and base of operations for Fleet Marine Force units of the Second Marine Aircraft Wing and the Second Force Service Support Group. Marine Aircraft Group 31 (MAG-31) is the principal tenant and is composed of seven squadrons of F/A-18 aircraft, two of which are usually deployed. MCAS Beaufort also houses a Navy squadron. The Station's mission is to maintain and operate facilities in support of flight operations and to provide services and material to support the Marine Aircraft Group, associated Wing units, and other activities and units as designated by the Commandant of the Marine Corps.



MCAS Beaufort supports a population of more than 4,500 people, including 3,935 active-duty military personnel and 611 civilian employees. Military dependents bring the total population to more than 12,200. MCAS Beaufort is the largest single employer in Beaufort County.

Located on Port Royal Island in Beaufort County, the Air Station occupies property in one of the more ecologically valuable and sensitive environments in the southeastern United States—the South Carolina Low Country. The Air Station is bounded by rivers, estuaries, and saltwater marshes and lies near a vast, undisturbed wilderness area known as the Ashepoo-Combahee-Edisto (ACE) Basin Preserve, which consists of 134,000 protected acres of diverse estuarine communities. The main Air Station complex and the Laurel Bay (Family) Housing Area together encompass an area of almost 7,000 acres. Managed forest covers approximately 2,000 acres, of which more than 1,800 acres are open to hunting. Agricultural outleasings comprise an additional 115 acres, and jurisdictional fresh water wetlands make up over 138 acres, along with vast areas of salt marsh. Two freshwater ponds total 16 acres and five storm water retention basins add up to another 14 acres.

The Townsend Bombing Range (TBR) near Townsend, Georgia is among the Federal properties which MCAS Beaufort is responsible for managing. TBR contains an additional 5,183 acres of land. Most of this land is covered by forest, including six natural longleaf pine communities, but it also includes 1,318 acres of jurisdictional fresh water wetlands. Townsend is a Class A controlled range with scorable targets for bombs, rockets, and strafing.

BACKGROUND

John Luce is responsible for the natural and cultural resources conservation programs at the Air Station and TBR. He serves in a full-time billet in the MCAS Beaufort Natural Resource and Environmental Affairs Office (NREAO) and has three positions reporting to him, as billets at the Air Station or staff from other agencies assigned to the Air Station.

Mr. Luce manages the Air Station and TBR's natural resources in accordance with their respective *Integrated Natural Resources Management Plans* (INRMPs). The most recent revision of the Air Station's INRMP was completed and signed in July 2006. The INRMP for TBR was revised and signed in March of 2007. Both INRMPs have been fully implemented.

The excellence of the natural resources conservation program he manages has been recognized most recently with the following:

- FY07 SECNAV Natural Resources Small Installations Award (awarded in FY2008)
- Certificate of Achievement awarded for noteworthy recognition during the Commanding General Inspection 17-19 Aug 2009

Through his leadership, Mr. Luce has built on successes such as the Bird Aircraft Strike Hazard (BASH) program to spearhead working relationships with local military installations including Fort Stewart, USDA, and USFWS. His innovative approach to wetlands banking will support the mission of the Air Station now and into the future.

PROGRAM SUMMARY

The more notable achievements in the natural resource programs at the Air Station and TBR during this achievement period include special projects in the management of wildlife pests, endangered species protection, wetlands management, and the protection of Air Station operations through the preservation of undeveloped land surrounding it.

ACCOMPLISHMENTS

Program-wide Improvements

Through Mr. Luce's efforts, the Air Station enhanced program capabilities by acquiring new equipment to facilitate existing efforts and also manage forests with dense understory at both the Air Station and TBR. Equipment acquisitions include an 18-wheel truck/trailer, one skid steer loader with one cutting head for the Air Station and one cutting head for TBR, an electro-fisher for fish pond management, one pumper unit for wild land fire control at each location, a pump/sprayer unit for invasive species control, and a disc harrow for food plot management. As in the past, the Air Station purchased the equipment using proceeds from Air Station timber sales to augment operating funds.

Mission Enhancement

During this achievement period, Mr. Luce directed or assisted on several projects that were directly related to preserving and forwarding the mission of the Air Station, including:



John Luce

- Acquisition of property around the Air Station to provide a noise buffer for surrounding communities.
- Targeted timber harvesting to eliminate interference in radio communications at the Air Station's tower.
- Completion of wetlands mitigation projects, receipt of a 5-year jurisdictional determination from the USCOE for both the Air Station and TBR, and initiation of a wetlands banking project that will facilitate projects in the future.
- BASH initiatives to ensure the safety of training flights

These efforts are described in greater detail below.

Protecting Land and Mission

As the area around the Air Station develops, it becomes more and more important to create and preserve buffers for Air Installation Compatible Use Zones (AICUZ) and Accident Potential Zones (APZ). During this achievement period, Mr. Luce assisted the Air Station's point of contact, the Community Liaison Officer, in a cooperative effort to preserve parcels of land in these zones that were changing hands and being slated for development.

The property in question was the Clarendon Plantation, which was annexed by the City of Beaufort on December 6, 2006. The 4,150-acre, family owned plantation, which had been used privately for recreation, was originally marked for mixed residential and commercial development. However, the City of Beaufort expressed a desire to preserve and protect areas located in the AICUZ and APZ to avoid future conflicts with the Air Station's mission.

Negotiations eventually included the Beaufort County Open Land Trust (BCOLT) and the Department of the Navy, and resulted in binding agreements to protect all interests. This was the first multi-partner agreement of this sort in the USMC, and provided a lesson in dealing with sophisticated land owners over long period of negotiations; using multi-partner and multi-year agreements to enable negotiations to continue; using the property exchange legislation; and accommodating fund limitations with phased purchasing. All these aspects of the project are transferable to other installations.

Pest Management

The Air Station's greatest pest management challenge remains keeping populations of deer and birds under control, which would otherwise present a hazard to aircraft operations. Under Mr. Luce's direction, the BASH program has evolved to effectively address these issues. Of late, regularly-scheduled hunting programs have not been effective in managing the deer population. Mr. Luce arranged the removal of more than one hundred deer with help from the USDA. The venison harvested was distributed to Marines and Sailors through the Chaplain's office.

Mr. Luce's efforts to reduce bird-strike hazard during this period included two new initiatives. The first was a project to remove undesirable vegetation in drainage ditches at a former agricultural outlease site. A quick survey of the site identified that the ditches' ability to move water had been compromised by encroaching vegetation, and the resulting standing water attracted waterfowl. The vegetation removal eliminated one more "attractive nuisance" that could have had potentially deadly effects. The second project involved testing bird detecting radar at the Air Station. The project builds on past efforts to track the movement and habitat of

various bird species around the Air Station over time using more conventional means such as tagging and tracking using GPS. This project is still underway, but initial results are positive.

Finally, Mr. Luce began efforts to solve a wildlife control problem not previously addressed at TBR, which is the damage caused by feral swine to the range's natural resources. Populations of swine range over the entire property, and the population density appeared to be substantial. Mr. Luce invited two USDA Wildlife Services representative from the Air Station to survey damage caused by feral swine, who found the following:

- Danger to reptiles, amphibians, and the eggs of ground nesting birds; feral swine are known predators of these species and would likely interfere with their management, as well as the protection of certain threatened and endangered species.
- Degradation of wetlands caused by swine.
- Extensive damage to wildlife food plots intended for the benefit of white-tailed deer, wild turkey, and other managed species; the feral swine were destroying the food plots as they rooted for seed before germination.

During July 2008, wild hog trapping began on TBR and from July 2008 through January 2009, approximately 50 wild hogs were removed from the range. More recently, range personnel have observed a rapidly growing coyote population, which was corroborated by the USDA Wildlife Services representative during his visit to TBR. Evidence of predation on young wild turkey has also been observed. Mitigation of this current issue is still under development.

Wetlands Management

During the reporting period, Mr. Luce completed a wetland restoration plan for MCAS Beaufort and oversaw the completion of a wetland mitigation survey at TBR. The survey assessed wetland areas at the range for potential restoration and enhancement opportunities. These areas will be used to offset wetland impacts created by future development of the range.

A major achievement during the achievement period was the development and initiation of a wetlands banking/mitigation project. The project will convert a 115-acre site that was previously in the Agricultural Outlease Program to a Wetland Mitigation Bank. When combined with adjacent timbered areas, the total wetlands banking area will be 252 acres. There had been little or no agricultural interest in the subject property in recent years. By placing the property in a mitigation bank, the Air Station will reduce maintenance costs associated with upkeep of the property (i.e., mowing); improve water quality; provide additional area for hunting and other outdoor recreation; and further protect the mission of the Air Station. Of great importance to long-term planning at the Air Station, the mitigation bank will provide a means to move forward quickly with future projects that might otherwise be delayed to the potential negative impacts to jurisdictional wetlands; such projects would require mitigation to offset wetland losses before they could proceed. The mitigation bank will require several years to complete, but was initiated



in FY2009 with funding totaling \$137,000. Under Mr. Luce' direction, the following tasks have been completed: (1) the restoration plan was finished; (2) the Mitigation Banking Instrument (MBI) was updated; and (3) baseline and reference monitoring was completed. Earth moving and planting activities are scheduled for FY2010.

Finally, Mr. Luce worked toward a Wetlands Jurisdictional Determination from the US Army Corps of Engineers (USCOE) for both the Air Station and TBR. This determination, valid for five years, involved application of USCOE and South Carolina Office of Ocean and Coastal Resource Management (OCRM) wetland delineation principles. Freshwater wetland delineation at the Air Station was completed to the sub-meter level and entered into the Air Station's GIS. The new determinations effectively reduced wetlands at the Air Station from 536 acres to 187.65 acres and from 115 acres to only 6.87 acres at Laurel Bay Housing Area, an overall 71 percent reduction in wetlands. This effectively provides more land for mission and training and vastly reduces the acreage where mitigation might be necessary for future projects.

Protection of Endangered Plants and Animals

As he has in the past, Mr. Luce recruited biologists from The Citadel to assist the natural resources program—this time to perform biological survey work at the Air Station. The biologists accomplished the following:

- Established and re-sampled four monitoring plots on the Air Station to track the effects of Laurel Wilt Disease on native plant communities over time. These plots occupy several areas of interest including some Federally-endangered pondberry (*Lindera melissifolia*) colonies. The plots are sampled annually in conjunction with a state-wide project to monitor changes in plant communities associated with Laurel Wilt Disease and the associated effects on sassafras, pondberry, pondspice, and bay trees.
- Conducted multiple scouting trips to improve the Air Station's plant species list. Thirty-two new species have been added to the list of flora, which represents an increase of 16.5% in the total number of species at the Air Station. It is expected that up to a dozen more species may be added after specimens and datasheets from the past summer's work are reviewed.
- Monitored pondberry populations over the last year for evidence of Laurel Wilt Disease. No sign of Laurel Wilt Disease has been observed on pondberry definitively, though it has been observed in adjacent individuals of *Sassafras* and *Persea*.

Continuing efforts to evaluate the presence of the endangered pondberry aboard the site, Mr. Luce coordinated with the USFWS to continue stem count surveys and monitor pondberry sites at the Air Station, including Site D which was discovered in 2007. Two new pondberry sites were identified during the achievement period. As more sites are identified, their management will be made easier with the mapping of the boundaries for identified sites; site boundaries are now mapped to sub-meter accuracy.

To avoid damage to pondberry sites from the use of herbicide in managing forest undergrowth, Mr. Luce consulted with the USFWS immediately upon discovery of the sites and secured a contractor to wick-apply herbicide to vegetation encroaching into pondberry sites. This implementation was based on the success of a wick-applied herbicide trial conducted in 2006.

TBR is located in a region known to be home to an endangered species, the flatwoods salamander. To aid in managing wetlands and other flatwoods salamander habitat on the Range,

a hydrology study at TBR was completed, which delineates areas of concern near their breeding sites.

Forest Management

As lead of the natural resource program for the Air Station, Mr. Luce organized and coordinated sales of timber and directed the use of the funds for additional equipment to further the natural resources management programs at both the Air Station and TBR. The sale at the Air Station consisted of thinning 236 acres of timber and clear-cutting another 57 acres. A record \$217,000 was generated from this sale, representing the most ever for one sale at the Air Station.



In the midst of the FY2009 timber sale, a request was received from Air Operations to remove trees that were interfering with tower to aircraft radio communication. Mr. Luce quickly mobilized the timber contractor to remove the offending trees, and Air Operations reported immediate improvement to radio communication from the tree removal. During preparations for this supplemental removal project, a previously unknown pondberry site was discovered. Per standard procedures for threatened or endangered species, Mr. Luce consulted with USFWS, with the resolution that the timber sale could move forward.

Timber was also scheduled for harvesting at TBR. Under Mr Luce's direction, 180 acres of timber were marked to be offered for sale. A forestry team from nearby Fort Stewart, under a memorandum of understanding (MOA) secured through his efforts, will begin marking approximately 200 acres of timber in the winter of 2010, with the timber to be offered for sale in FY2010. Mr. Luce and a NAVFAC forester met with timber contractors in September and October 2009 to review the marketability of pole logs on the Range. Much of the timber at TBR may be contaminated with fragments from the range activities, and will be unacceptable for use in pulpwood and saw timber products. Use in the timber pole market provides a valuable outlet for the timber that might not otherwise be marketable.

During the past year, Mr. Luce directed the prescribed burning of 173 acres of forested area at the Air Station, with another 20 acres of grassland burned in support of the Blue Angels Air Show. Prescribed burning ensures that understory and other undergrowth is managed properly, mitigating a potential source of wild fires. With large areas of land at TBR to be burned, Mr. Luce worked with the forestry team from Fort Stewart in Georgia in the prescribed burning of 1,400 acres of forested land, which is a new seasonal record for that location. This was the second consecutive year that the



Fort Stewart team conducted prescribed burning at TBR.

Using funds from the timber sales to augment operating funds, Mr. Luce directed the procurement and use of a skid steer loader and cutting head to reduce underbrush in forested areas at the Air Station and Townsend Range. The reduction of underbrush will benefit the BASH program, invasive species management, and game and non-game species programs.

In a cooperative effort, Headquarters Marine Corps personnel, MCAS Beaufort staff, and TBR staff met with representatives of McIntosh County to discuss purchase of McIntosh County's timber rights at TBR. At that meeting, Navy Facilities Engineering Command Southeast (NAVFAC) agreed to perform a timber appraisal on the forested areas where the county maintains timber rights. The appraisal, conducted during the summer of 2009, addressed approximately 3,000 acres.

Invasive Species Control

Executive Order 13112 requires Federal agencies to address the growing ecological and economic damage caused by invasive species. Historically, the Air Station's herbicide spray program to eradicate invasive species has been executed by contract. However, in FY2009, Mr. Luce initiated a program to spray herbicides in-house, with acquisition of the needed equipment for this program funded by timber sales. Not only does this bring management of the program directly under the Air Station's control, but will also yield cost savings.

With concurrence from USFWS, Mr. Luce directed the use of herbicides in areas where forests were thinned in FY2009 to reduce understory that could provide undesired deer habitat in areas close to runways. Mr. Luce further directed the application of herbicide to approximately 30 acres of forested land that was infested by Chinese privet and Chinese tallow.

Community Relations

Every year the Air Station hosts a number of public outreach events, including an Earth Day celebration (with poster and recycling contests for school children) and the Blue Angels Air Show. MCCS and TriCommand Housing now lead the annual fishing rodeo, but NREAO participates by ensuring the ponds aboard the Air Station are properly managed before the event. During the past year, Mr. Luce completed a project to remove undesirable vegetation at station ponds, making them more accessible to fishermen and other recreationalists. His program purchased an electro-fisher to survey fish in the station ponds. Also, two of the storm water retention ponds were stocked with bass and bream. Finally, he coordinated NREAO's involvement in the renovation of a boat ramp on Albergottie Creek to enhance recreational use.

At TBR, he continues to work with resident staff in putting on public hunts and the Paralyzed Veterans of America (PVA) hunts, using the Huntmaster elevating platform.



Electro-fisher in Action at MCAS Beaufort