



Panama City, Florida, USA

October 13, 2003

Gordon R. England
Secretary of the Navy
1000 Navy Pentagon
Washington, D.C. 20350-1000

Dear Secretary England,

I am writing to you to express my concern with the US Navy proposal to construct and operate an outlying landing field (OLF) near Pungo Lake in Washington County, North Carolina. The recent signing of the Record of Decision (ROD) underscores my conclusion that the bird strike issue was minimized in the Final Environmental Impact Statement. I know that there are many elements that are considered in site selection and that there will always be impacts that cannot be avoided. However, the potential for a catastrophic bird strike at the proposed site near Pocosin Lakes National Wildlife Refuge has not been fully addressed. The following should be considered:

- The Bird Avoidance Model (BAM), a risk model developed by the US Air Force, forecasts severe bird strike potential for the Washington County site for 50% of the year. There are very few places in the United States where this level of threat exists.
- The radar study at the proposed site near Pungo Lake was conducted late in the wintering season when bird populations would be declining. Even so, over a 12-day survey period, the vertical scanning radar detected over 450,000 birds moving through the 24-degree beam. Of these targets, over 40,000 were flocks of large birds, and over 70,000 were identified as large birds. This represents a serious threat to aircraft safety during a twelve-day period at the end of the winter.
- The ROD suggests that bird detection radar would be considered as part of the bird strike mitigation program. This OLF cannot be operated safely without the use of a sophisticated bird detection system – yet nowhere in the United States is such a radar system operational on a daily basis. The US Navy does not have operational procedures to integrate bird detection radar into air traffic control.

I have been aware of the severe bird strike hazards facing military pilots flying in this region since 1988 when I was assigned as Chief of the Bird Aircraft Strike Hazard (BASH) Team at the Environmental Engineering Division, Headquarters United States Air Force, at the Pentagon (my resume is attached). To address this concern I worked with the Air Combat Command to conduct a two-year study at the Dare County Bombing

Range in 1994. The results of that study resulted in an area-specific bird avoidance model (BAM) to assist aircrews in identifying periods of time when bird activity at the range could be hazardous. During that study, the biologists who were assigned the task of tracking birds and developing the risk model became familiar with many of the factors that contribute to the complex dynamics of bird movements in the region. Daily changes in weather patterns as well as the seasonal and yearly changes in agricultural practices made forecasting daily bird movement patterns nearly impossible. The Dare County Bombing Range BAM assisted Air Force pilots in planning periods of time when the range would be safe, but long periods of time still were identified when the range could be plagued with unacceptably high concentrations of birds moving through the area.

In January 2003, I was an employee with Geo-Marine, Inc., an environmental services company that was contracted by the US Navy to review BASH issues at each of the six proposed OLF sites. We also were contracted to conduct a radar survey of birds at Site C, near Pungo Lake, part of the Pocosin Lakes National Wildlife Refuge. It was my group that designed and built the mobile radar system that was deployed to the site in February 2003. Additionally, I was responsible for developing the survey protocol for the radar study and preparing the draft report. When initially contacted about this study by the Geo-Marine staff at Newport News, Virginia, I was concerned with how late in the wintering period the study was to be conducted, as well as the short duration of the surveys (4 weeks). I explained that the study would not be indicative of bird numbers or movement patterns throughout the winter and would serve only to show that the radar system was capable of detecting bird movements in the region.

The project also included a detailed review using the US-BAM as well as on-site evaluations. The BAM study indicated that Site C was severe 50% of the year. Only Site D, near Lake Mattamuskeet, had longer periods of severe ratings (58% of the year). Sites A and B each were severe 49% of the year, while the two sites that were not located in the immediate region indicated a dramatically lower bird strike risk with Site E being severe only 1% of the year, and Site F never reaching a severe rating. The ROD suggests that a severe rating 58% of the year was unacceptably high, and yet considered the 50% severe rating at Site C comparable to the severe ratings at NAS Oceana (31%) and NALF Fentress (36%).

The purpose of the on-site assessments was to identify potentially hazardous conditions that would further exacerbate the bird and wildlife strike hazard concerns. Site D (deemed unacceptably risky) is situated close to Lake Mattamuskeet. Site C is situated within five miles of Pungo Lake (a major wintering area for tundra swans and snow geese). None of the other sites in the study were situated close to such habitats. And yet, only Site D was determined to have unacceptable bird strike risk potential.

The Record of Decision (ROD) and the Environmental Impact Statement (EIS) for the Introduction of the F/A 18 E/F (Super Hornet) to the East Coast of the United States on which it was based concern me greatly. The written decision suggests that the bird strike risk at the Washington County field site (Site C) is similar to other sites in the area and

that a standard Bird Aircraft Strike Hazard Plan can be developed to mitigate this concern. This conclusion is erroneous. It completely ignores the data that show that Sites A, B, C, and D are forecast as Severe at almost half of the year and that two sites (D and C) are situated extremely close to areas known to support large populations of wintering waterfowl. The decision also ignores the recommendation that radar should be used if Sites A, B, C, or D are selected and that the use of radar for real-time bird avoidance is still in development and not currently part of naval air operations anywhere in the world.

I understand that there are many factors that are considered in selecting a new OLF and that BASH concerns are only one. I do think, however, that in light of the extraordinary concentration of large flocking birds in close proximity to the Washington County site, and the very limited studies that have been conducted there, that the bird strike risk should be revisited and that a safer location considered. Additionally, a detailed assessment of bird detection radar systems should be conducted to determine the capability and reliability of the systems commercially available.

Sincerely,

Ronald L. Merritt
President, DeTect Inc.

Cc: Governor Michael F. Easley

Encl. Resume



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Ronald L. Merritt
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Education

B.S. Zoology, University of Arkansas, 1975
M.S. Biology, North Texas State University, 1978
Graduate Studies, PhD-ABD, University of North Texas,
1987

Professional Organizations

Bird Strike Committee – USA
National Military Fish and Wildlife Association
Air National Guard Civil Engineering Association

Experience

Mr. Merritt has been instrumental to the development of AHAS, a methodology for providing bird strike risk assessments for low-level, military flight operations. Mr. Merritt is a retired Air Force major with over 20 years of experience as scientist and senior staff biologist. He was an Assistant Professor of Biology at the United States Air Force Academy and the course director for the department's largest core course in general biology. As an officer assigned to the Air Force Institute of Technology, he conducted research in environmental physiology and aquatic toxicology. The last seven years of his Air Force career were spent as the Chief of the Bird Aircraft Strike Hazard (BASH) Team, Environmental Engineering Division, Pentagon, Washington D.C., and later at the Air Force Civil Engineering Support Agency, Tyndall AFB, Florida. He was responsible for providing on-site technical assistance to major commands and bases worldwide in reducing bird strike hazards on airfields and weapons ranges. Additionally, he assisted flying units in developing and scheduling operations on high-speed low-level training routes to avoid hazardous bird concentrations. During this time he conducted on-site surveys of bird and wildlife hazards at over 85 airports in 12 countries. He provided technical assistance in the investigation of eleven aircraft mishaps. He was the Air Force expert witness in public hearings and legal proceedings concerning off base land use issues that posed bird and wildlife hazards to aircraft operations. Mr. Merritt has conducted research at many landfills and commercial airports to identify potential bird/wildlife hazards, develop comprehensive management plans, and conduct control training. His experiences in aircraft operations as well as academic and technical aspects of biological sciences have allowed Mr. Merritt to gain a sound background in biological issues that pertain to aviation safety and the associated federal, state, and military regulations concerning these issues. This knowledge has been enhanced by extensive worldwide field experience in airfield evaluations, investigations, and classroom instruction and training. He has given lectures on bird strike hazards and related topics at international conferences in Spain, Germany, England, Finland, Belgium, Israel, New Zealand, Panama, Canada, and Chile.