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James Foley/MNS

Jim Swift, the Bird/Aircraft Strike Hazard coordinator at Pax River, shows one method to disperse bird flocks from the runway area- pyrotechnics fired from a flare-type gun.



James Foley/MNS

The Navy's \$100 million dollar V-22 Osprey coming in for a landing at Pax River.

Bird radar prevents collisions at Navy's air base

by JAMES FOLEY
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WASHINGTON--Eagles, egrets and ornery old gulls can be especially troublesome to Navy test pilots at Patuxent River Naval Air Station, Maryland where the Navy tests its prototypes and active-use planes. The western shore of Chesapeake Bay is a major migratory route for hundreds of bird species year round.

Bird collisions are not only a problem at Pax River. In 1995, a Boeing 707 equipped with sophisticated radar collided

with a flock of Canadian geese at Elmendorf Air Force Base, Alaska.

Five birds were ingested by the planes air intakes, knocking out two of its four jet engines. Less than two minutes later the Boeing had crashed in a wooded area a mile from the runway, killing all 24 crew members.

An Air Force investigation concluded that the bird accident was partially caused because the base lacked "an aggressive program to detect and deter geese."

The problem is so worrisome that the Navy has developed a new radar program to track bird flocking patterns. At Patuxent, one concern is that live Ospreys, known to nest on base antennae, as well as other birds, could collide with costly aircraft, including the Marines' \$100 million "Osprey" transport plane.

"Birds don't recognize planes as planes," said Jim Swift, coordinator of Pax River's Bird/Aircraft Strike Hazard (BASH) reduction program. "We've heard reports of red tailed hawks diving at planes to scare them off."

The Defense Department reported 3,000 bird aircraft strikes last year. The FAA reported that birds cause more than \$600 million in damage to civilian and military aircraft each year.

"The Chesapeake is a winter water fowl haven," Swift said. "Aircraft and birds competing for the same airspace don't work out so well. The biggest issue is flocking birds -- blackbirds, gulls, Canadian Geese."

Fortunately, Pax River has never had a plane crash from a bird strike.

One reason for its pristine record may be the new bird radar system dubbed eBird Rad that is being used to supplement the traditional habitat management and dispersal techniques used to keep birds away from runways.

Essentially a modified shipboard radar normally used to monitor weather, eBird Rad was adapted to see an entire airfield and the airspace immediately around it, said Swift. The system records and tracks what are considered bird targets.

"We can review 24 hours of data in two minutes and plot bird targets, zooming in on a specific times and parts of the airfield," Swift said. "We then notify the towers to be on the look out for birds at those times and areas."

Interestingly enough, older birds that have nested around Pax River seem to avoid the airfields. The ones who are hit are often fledglings just sprung from their nests.

Although the eBird Rad has yet to develop real-time warning systems, Swift explained that he's seen the same patterns of blackbirds on radar in the morning and the flocks leaving in the same direction at sundown.

The good news is "birds can be conditioned" by using fireworks and other devices, said Swift.

Pax River is one of five sites- three Navy, one Air Force at Elemendorf, Alaska and one research and development site, since 1998 that used earlier versions of the bird radar. Sid Gauthreaux, a Clemson professor, developed the original radar system to identify bird migration patterns.

"It's hard to put a number on how many bird strikes you've prevented," Swift said. "Yes, it's an effective tool that makes us aware of birds in the area. We can see birds we didn't see before, and we spend less man-hours driving around the airfield looking for birds."



James Foley/MNS

A stuffed osprey. There are two to three dozen osprey nests on Pax River's 8,000 acres.

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