

Seen with radar the message is clear: the birds are coming!

# Birdwatching—Seriously

Radar screens that can see birds as well as bad weather are watching out for Canadian pilots.

Scientists are harnessing radar and photographic techniques to forecast the penetration of migrating birds into airport areas and along air routes in an attempt to make flying safer.

Canada's Associate Committee on Bird Hazards to Aircraft is attempting to develop a system in cooperation with the Canadian Air Force and the Department of Transport that will help reduce the threat of bird strikes on high speed jet aircraft. Most air crashes and accidents attributed to bird strikes occur after a jet engine has ingested a bird or after a large bird has struck other vital parts of an aircraft such as control surfaces.

The bird intensity forecast system was tested on a 24-hour basis during the spring and fall migration periods in 1966 at the Canadian Air Force Base at Cold Lake, Alberta. These periods were selected because of the large numbers of birds crossing air routes and airports.

In the spring tests, the forecasts proved accurate 83 percent of the time. In August they were accurate 70 percent of the time and for September, 71 percent.

The forecasts, prepared twice daily by the meteorological forecast officer, rated the expected intensity of bird movement for any given hour on a zero to eight intensity scale. This information was then used by the flight safety officer as a special weather re-

port to plan flight training programs in the region accordingly.

Only 119 out of 2,068 hours monitored in the spring and fall tests fell in the high-risk category of ratings 5 through 8. In September, the month of greatest migration activity, about 10 percent of the recorded intensities were of high-risk hours. Most of these were between sundown and midnight.

The Cold Lake project involved the use of a Polaroid-camera-equipped radar display capable of spotting bird flight within 50 miles of the base.

To prove the forecast, a time exposure of about 12 minutes was taken of the radar display and developed immediately. Bird echoes that would appear only as rather indistinct dots on the display appear as lines on the film, because of the movement of the echoes across the screen during the time exposure.

The lines are easy to see and identify as flying birds and give an accurate picture of the intensity of bird movement as it appeared during the previous few minutes. Extent, direction and altitude were not included in the tests but could be obtained from the instruments. This was done in critical situations such as geese moving through the area.

Where birds are a hazard, the committee reports, pilots can increase their margin of safety of operation by treating them the same way as they treat a thunderstorm.

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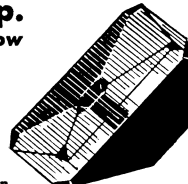
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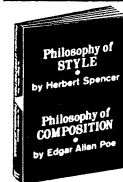
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