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# Close calls between drones, planes on the rise

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Near-collisions between drones and planes are increasingly common.

### **By Matt Rocheleau**

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On a warm, sunny mid-June afternoon, about 20 miles out from Logan International Airport and a half-mile in the sky, the pilot of a Jazz airline flight from Montreal on its final approach spotted a

red-and-black object.

It was a drone, and it was way too close.

It missed colliding with the hurtling 50-seat plane by just 25 yards, according to a report filed with the Federal Aviation Administration.

The close encounter with the drone was one of 26 in Massachusetts reported to the FAA during the nine-month period ending Aug. 20. They are among the <u>increasingly common</u> near-collisions that have aviation safety officials warning that it is just a matter of time before some of the popular unmanned crafts crash into planes and helicopters, potentially causing significant damage and even deaths.



Massachusetts had the seventh-highest total of drone encounters of any state. Seventeen of the reports to the FAA were made from Boston, which tied for the sixth-highest total of any city nationwide.



## 5 graphics that explain drone encounters in Massachusetts

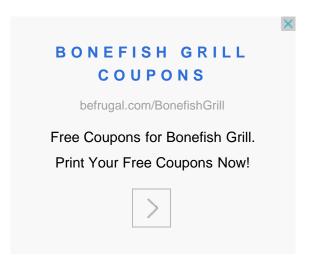
Even a small drone could cause major problems if it were to collide with an aircraft.

"Everyone at Logan is concerned about drone use near airports — which is illegal," said Matthew Brelis, a spokesman for Massport, the state agency that runs Logan. "Drones represent a hazard to aviation the same way that birds do. Depending on the size of the drone or bird, they can pose a significant risk to flight."

If a drone is sucked into the airplane's engine or collides with its wings, tail, or other vulnerable equipment, the result can cause catastrophic damage, according to recent research.

Even a small drone could cause major problems if it were to collide with an aircraft. A near-collision could also cause pilots to suddenly veer off course. Helicopters are considered most at risk because they spend more time at the same altitudes as drones.

"The FAA wants to send a clear message that operating drones around airplanes and helicopters is dangerous and illegal," the agency said in a statement. "Unauthorized operators may be subject to stiff fines and criminal charges, including possible jail time."



During all of 2014, the FAA received 238 reports of drone sightings nationwide. In the first seven and a half months of this year, the agency received 721. Some reports have been made by pilots flying as high as 10,000 feet.

The vast majority of the reports are collected from plane and helicopter pilots or air traffic control officials. In Massachusetts, 22 of the 26 reports were made by pilots and air traffic officials; four others were reported by law enforcement officials on the ground or other witnesses.

In addition to sightings at or near Logan, there have been sightings reported near airports in Worcester, Martha's Vineyard, Beverly, New Bedford, Lawrence, Norwood, and at Hanscom Field in Bedford.

#### Other local encounters include:

- On the afternoon of May 3, the pilot of a Hawker Beechcraft BE90 jet reported a near-collision with a 20-foot-long drone at an altitude of 2,500 feet nine miles northwest of Boston. The pilot also reported spotting one the day before in the same general area.
- On the evening of Aug. 17, the pilot of a JetBlue flight waiting to take off saw two unmanned aircraft at about 1,000 feet flying across the arrival end of two Logan Airport runways and notified State Police.
- In the western part of the country, drones trying to get a close-up look at raging wildfires have forced firefighting aircraft to be grounded temporarily.
- Researchers at the Center for the Study of the Drone at Bard College, for a <u>report</u> released this month, analyzed hundreds of drone sighting incidents tracked by the FAA and the Department of Interior. They found that in 36 percent of the incidents, the drone presented some level of hazard to manned aircraft. In the remaining 64 percent of cases, the drone "did not pose immediate danger of collision," the study found.
- The number of drones owned nationwide is estimated to be in the hundreds of thousands. Their popularity is expected to continue to rise as small drones designed for recreational use <u>have become cheaper</u>.
- The Consumer Technology Association has estimated that 700,000 drones will be purchased in the United States this year, including 400,000 in the holiday shopping season.
- <u>Flying drones recreationally</u> is legal. But federal aviation rules still apply. The rules say people cannot fly the devices more than 400 feet in the air; must keep the devices away from other aircraft, particularly around airports; must keep them in sight; and must keep them outside of restricted areas.
- The FAA <u>announced</u> last week that owners of small drones must register their devices with the agency and mark the machines with the owner's unique registration number by mid-February .
- The FAA has <u>levied civil fines</u> for a number of unauthorized flights in various parts of the country and has dozens of open enforcement cases.

The commercial use of drones is largely banned, although the agency is in the process of drafting rules that would allow the unmanned aircraft to be flown for commercial purposes.

In the meantime, the FAA has issued more than <u>2,600 special permits</u> for companies, <u>including more than 20 in Massachusetts</u>, to operate drones on a case-by-case basis. Insurance company Liberty Mutual and defense contractor Raytheon are among the commercial permit holders in Massachusetts.

Logan airs public service announcements inside the airport, telling the traveling public not to fly drones near airports, and airport officials have asked vendors there to remove drones from their stores, Brelis said.

Both Logan and the FAA also work with law enforcement to investigate illegal drone activity.

Tim Canoll, president of the Air Line Pilots Association, has urged the FAA to regulate the use of unmanned aircraft. He said they can be used to accomplish various tasks that would be dangerous for manned aircraft.

But allowing drones to share national airspace "must be done safely," he said. "We have to do this right, or the enviable safety record we have achieved in airline operations will be at risk."

Senator Edward J. Markey and others in Congress have called for oversight of drones to improve safety and to protect privacy.

Even some drone industry groups support better oversight and want rules in place as soon as possible.

But others have called for the FAA to slow down the process or to revise proposed regulations.

Dave Mathewson, director of the Academy of Model Aeronautics, which represents model aviation hobbyists, in a <u>recent statement</u> called the FAA's new registry requirement "an unnecessary burden for our more than 185,000 members who have been operating safely for decades."

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