

## Collision Avoidance

Reports like those below from the FAA's regional operations centers come in almost daily to the Fort Worth-based Rotorcraft Directorate:

On January 16, a helicopter pilot reported from Hawaii that a drone, or unmanned aircraft system, was spotted next to the aircraft. Three days later, a helicopter pilot reported that a drone was spotted 1,300 feet above the ground near the Jefferson Memorial in Washington, D.C. The next day a police helicopter near St. Louis spotted a drone about 1,200 feet from the ground.

Sometimes helicopters are prevented from taking off due to drones operating nearby. News reports have surfaced about helicopters being grounded for 45 minutes at Cook Children's Medical Center in Fort Worth, Texas, or being grounded during firefighting efforts in California, and other parts of the West, because airborne drones have made helicopter takeoffs too dangerous.

Also in California, a police helicopter rescue crew had to suspend a mission in January to save a man who fell off a coastal cliff because a drone was in the area. After the drone was removed from the scene, the helicopter crew resumed its rescue mission. The drone operator was arrested for impeding first responders at an emergency scene.

Medical, news, police, agricultural, and firefighting helicopters are particularly vulnerable because they often must fly low (less than 400 feet above the ground) over highly populated areas or over areas or events that people want to photograph or view remotely. The risk for collisions increases because of the nature of these high workload flights.

FAA regulations restrict the use of commercial drones above 400 feet above ground and beyond visual line of sight. Hobbyists have more flexibility. In every case, FAA rules prohibit drones from engaging in careless and reckless operations. Regrettably, that rule is sometimes ignored despite potential criminal and civil penalties that can range from \$21,000 to \$231,000 each time a drone operator interferes with an emergency operation.

"I think we all know that the regular operators we've interacted with over the last several decades are people who know aviation. They know the rules, and they go through specific training that helps get them there," said Jim Stroiney, director of the FAA Enterprise Program Management Service during a recent video

interview. "Now we're going to be dealing with a whole set of pilots and individuals who are hobbyists who may not actually understand all the rules of road."

To help pilots contend with this new reality, the United States Helicopter Safety Team (USHST) ([www.usbst.org](http://www.usbst.org)) has released about 30 suggestions for rotorcraft pilots to help them avoid colliding with drones. They include:

- Use available helicopter lighting to increase visibility to drone operators.
- When climbing, consider a cruise climb that maximizes visibility. Understand that helicopters are particularly vulnerable to a drone strike when they lift off or land.
- Listen closely to radio reports, including on 121.5 MHz, of drone sightings. Pilots should report any drone sightings to the nearest law enforcement agency.
- Conduct a high reconnaissance flight at any off-airport landing locations to provide a visual and aural warning to nearby drone operators.
- Keep airspeeds at or near the best autorotation speed when flying low; flying higher improves safety margins.
- If you need to move quickly to avoid colliding with a drone, be aware that windscreens, jet intakes, and rotor systems are particularly vulnerable to drone strikes. You could actually increase your risks of a strike, depending on how you try to evade a drone.
- If you see an aircraft with non-standard lighting, consider that it might be a drone.
- Maintain greater separation from a drone than might otherwise appear necessary. Be prepared for the unknown.
- Fly predictably so drone operators can better avoid you.

Keeping the skies safe requires vigilance, including reporting any drone collisions or near misses to an FAA Flight Standards District Office ([www.faa.gov/about/office\\_org/field\\_offices/fsdo](http://www.faa.gov/about/office_org/field_offices/fsdo)) or the appropriate Air Traffic Control facility. Identify and preserve any material evidence of an incident or a rogue drone. Reports help with enforcement and help with creating a database to promote safety with manned and unmanned aircraft operations.