No Fly Zone! So you got a drone, now what? Who makes the rules?



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The Federal Aviation Administration ("FAA") is the governing authority over all aspects of civil aviation in the United States. In 2016, the FAA estimated that there were roughly 1.1 million Unmanned Aerial Systems ("UAS") (a/k/a "drones") in the United States. The FAA also expects drone usage to triple to about 3.55 million by 2021. Since December 2015, the FAA has required mandatory registration for all UAS which weigh more than 0.55 pounds and less than 55 pounds. However, a federal appeals court ruled in May that the FAA does not have the authority to regulate "model aircraft" and require mandatory registration. Still, more than 770,000 drones have been registered in the U.S.—more than double the number of manned aircrafts.

What do you want to use your drone for?

UAS or drones typically fall into two categories: (1) commercial use or (2) recreational use. The purpose for which you use your drone will dictate the registration and approval requirements, which can be found on the FAA website. If you're flying for compensation or to make money, then it's generally commercial. The main differences between the two categories is that drones for commercial use require a Remote Pilot Certificate (RPC) issued by the FAA, while a recreational drone does not require a certification. Commercial use drones also require registration of your drone with the FAA.

Where can I fly? What are the rules?

By now, I'm sure you have seen the amazing photos and videos that drones are able to capture from the elevated views, which likely prompted many recreational drone users to purchase one in the first place. Well, getting those amazing photos and videos can be a very difficult task, and in many instances, illegal. Whether flying recreationally or commercially, there are a lot of location and height restrictions on where you can legally fly your new drone. Let's lay out the basic rules and restrictions on where you cannot fly your drone.

FAA Limits:

- (1) The drone must be flown in your line of sight. This is one of the restrictions that are keeping Amazon and similar companies from delivering everyday products to your front door by drone.
- (2) The drone must fly below 400 feet. The more sophisticated drones will now limit your ability to fly above this and they track your altitude by GPS. However, for older or simpler models, monitoring your altitude is the user's responsibility.
- (3) The drone must not fly over people.
- (4) For recreational drones: the drone must not fly within 5 miles of an airport without prior notification to airport and air traffic control. Sorry, Houston— we have several airports throughout Harris County, which makes finding acceptable areas to fly within the city a little difficult without prior authorization.

Texas Legislature:

- (1) Do not fly over correctional facilities (jails, prisons, etc.). This was just added in the recent legislative session under H.B. 1424.
- (2) Do not fly over critical infrastructure facilities (petroleum facility, water treatment plant, LNG terminal, chemical facility, power plant, telecom switching office. commercial ports, railroad switching yard, trucking terminal, gas processing plant, radio or television station, etc.).
- (3) Do not fly over a sports venue (arena, racetrack, coliseum, stadiums, etc.) which has a seating capacity of more than 30,000 and is primarily used for amateur or professional athletic events.
- (4) Do not use your drone to spy or capture images of other people without their consent. Although this one is not really location specific, Texas does have a law on the books that makes this a criminal act.

Other Government Organizations:

No flying in National Parks, National Monuments, National Battlefields, and other historic sites. This restriction has positive and negative effects. While it is beneficial to keep these tranquil and historic sights quiet and free of disruptions so all visitors can enjoy



them, the negative is that these are normally the best places to use drones for landscape, nature, and wildlife photography. It is clear that preservation of the harmony and peacefulness that nature and the national parks have to offer was paramount in this rule's construction.

Other Countries:

I have personal experience with the use of drones in other countries and the approval process can be difficult and frustrating. I was told no drone use several times by the Civil Aviation Authority for Belize until finally getting approved. However, even after approval, I still could not fly over the Blue Hole because it is a World Heritage Site. Likewise, I got approval in Thailand but still could not fly over the sacred temples because of similar status. Cambodia was a no-go for Angkor Wat. Costa Rica was permissible for drone use, but they still require insurance. I highly recommend doing research regarding drone use and the approval process before attempting to take your drone into any foreign country. Customs authority of the country you are visiting can and will confiscate your drone if you do not have the right approval, documentation, or certification. So. do vour research.

What airspace am I flying in?

The FAA identifies six categories of airspace and controls the space above many people's property. The FAA Regulation Handbook provides a graphic of the Airspace Classification to better understand the three dimensional nature of airspace. The six categories are:

- 1. Class A. This is airspace from 18,000 feet to FL (600) [basically 60,000 feet]. This is where most commercial airline traffic flies.
- 2. Class B (big airports). This space will extend from the surface up to 10.000 feet.
- Class C (moderate sized airports). This space will extend from the surface up to 4,000 feet above the airport elevation.
- 4. Class D (smaller airports). This space will extend from the surface up to 2,500 feet above the airport elevation.
- 5. Class E. This airspace is controlled but is not classified as Class A, B, C, or D.



6. Class G. This is uncontrolled airspace. It extends from the surface to the overlying Class E airspace– typically from the surface to under 1,200 feet or 700 feet.

Can I fly on Private Property?

It's always been the saying that when you own a piece of property, you own everything within the boundaries from the center of the earth below to the heavens above. As I'm sure you can tell, that age-old adage is not totally accurate. You cannot do whatever you want in all the airspace above your property. So now that you know you generally cannot fly in controlled airspace without permission, you are left to fly in areas of Class G airspace (below 1,200 feet or 700 feet) in areas at least 5 miles away from airports. This can be in public places and parks where drones are allowed or over private property if you have consent. However, if it is not your property and you do not get consent, then you are technically trespassing in the airspace of another person's private property. Case law across the nation has not yet dealt with the issue of conflicting rights between the trespassing drone user and the property owner that shoots down the trespassing drone. Although the drone user may be trespassing without causing any damage (other than annoyance, nuisance, disrupting guiet enjoyment, etc.), the property owner who shoots down the drone may be found to have committed an intentional tort of conversion (taking or altering someone else's property in a way that is inconsistent with the rights of the owner). My prediction is that private airspace will eventually give way to a travel air corridor for drone operations— similar to how the FAA created airspace categories historically for commercial aircraft.

What are drones being used for?

Drones have grown exponentially in popularity over the last few years. The real estate industry is using them for surveying, mapping, GIS, flood monitoring, listing/marketing materials, and roof inspections. Other applications include: drone racing (I recently saw this on ESPN), photography, search and rescue, military operations, and police surveillance. Some new emerging areas that can be considered a disruptive technology to existing practices will include: pizza delivery (Dominos Domicopter), snowboarding (getting towed or pulled uphill), package/cargo delivery (DHL/Amazon), air mail delivery (Royal Mail), grocery delivery (Walmart, Amazon, and others), traffic control and management, railroad maintenance, agriculture, mining, first aid, and personal transportation vehicles.

Conclusion

The FAA and other governments are trying to catch up on regulations for the growth of the drone marketplace. However, as we know, legislation moves slowly and governments simply cannot keep up with the explosion of drone use in the U.S. and abroad. Until that happens and laws are clearer, do not make any assumptions about where you think you can fly. Download the FAA "B4UFLY" Smartphone App to help you determine permissible locations to safely and legally fly your drone. Check the aeronautical charts to understand what airspace you will be flying in and where the airports are located. There are far more places you cannot fly than places you can fly, so do your research and be responsible. A falling drone can cause serious property damage or physical injury, so be careful. Even though today's advanced drones can pretty much fly themselves, it is imperative that you recognize how dangerous drones can be and operate them in a safe and enjoyable manner. Stay safe, do your research, and have fun!