

AirWaves

A Publication of West Michigan Air Care



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www.AirCare.org



WMAC will have a new helicopter soon! (See page 3.) Pictured here is "Alpha", our current ship at a recent early morning scene at Colon Community Fire and Rescue. Thanks, Corey Aulbach, for the photo!

Drone Hazards

The presence of drones in shared airspace is becoming a pressing safety issue for manned aircraft, including medical helicopters. Do you know the law? This article will help you understand the FAA's regulations on drones so you can educate others and prevent injuries on scene.

Last year drones, also known as "unmanned aircraft systems" (UAS), flew close to aircraft more than 1,200 times in the US, according to the Federal Aviation Administration (FAA). In response, the agency has moved quickly to regulate UAS. New rules for commercial operators go in to effect August 29 and existing rules for recreational drone owners have been clarified on the Federal Aviation Administration (FAA) webpage (faa.gov/uas/). Releasing a long list of UAS infractions, the FAA says it wants to "send a clear message that operating drones around airplanes and helicopters is dangerous and illegal." Violators are subject to "stiff fines and criminal charges, including possible jail time."

The FAA regulations have come none too soon—drone purchases are soaring—but prior regulations and guidelines for UAS have not been observed well, even close to home here in Michigan. Barry County

officials in Hastings, Michigan, are still looking for the operator of a large drone that passed over an EMS helicopter near a motor vehicle crash scene on June 24. Two other helicopters, including West Michigan Air Care's ship, also landed in the same area to retrieve victims from the crash. It is against FAA guidelines to fly drones over emergency response efforts. Though technically not an illegal action for recreational operators, it is an illegal action for commercial operators to fly over people unless they obtain a waiver. Regardless, any drone operator can be fined and jailed if their actions are deemed an irresponsible hazard to manned aircraft or other life and property. The safest approach is to land the drone when an aircraft is heard or expected in the local airspace. There are 33 registered drones in Hastings and hundreds more in Southwest Michigan. (See sidebar.) Far more are likely present but unregistered, and it is illegal for anyone to fly an unregistered drone.

Most aircraft encounters with drones in the US have occurred within the 5-mile restricted area around airports and 92 percent of the most recent sightings occurred above 400 feet, indicating an alarming lack of education or disregard for

the guidelines and human safety among UAS operators. Passenger jets have had several near misses with drones worldwide.

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"If we ignore this, I can promise you it will be a problem, warned Captain Tim Canoll, president of the Air Line Pilots Association, International (ALPA). "It will be a contributing problem to an accident." The pilots union is advocating geo-fencing technology, embedded software that would automatically disable any unauthorized drone entering restricted air space.

Unfortunately, some media outlets have downplayed the risks, quoting a paper that suggests bird-strike data can be used to estimate drone-strike damage potential. The authors concluded that lone small

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Drone Hazards

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drones up to 4.41 pounds likely pose only a minimal risk to large aircraft. These “micro drones” may indeed be regulated differently in the future, especially if designed to shatter on impact. But the authors were quickly criticized by other researchers and ALPA for comparing the impacts of soft bird tissue with metal and composite drones. It remains unknown whether a small drone could take down a commercial jet, but one simulation of a 9-pound drone ingested into a large jetliner engine destroyed the engine in 1/200th of a second, creating not only engine failure, but fan-blade projectiles that could cause further catastrophe in an aircraft.

Medical helicopters are obviously smaller and arguably more at risk from drone

hazards than commercial airliners. They are more likely to encounter drones because they operate at lower altitudes and land and take off from scenes and hospitals that are often far from the 5-mile drone-restricted airport radius. Clearly, it’s important for first responders and helistop managers to know the rules for UAS operation so they can help enforce them to assure everyone’s safety.

What are the FAA’s new rules for UAS owners?

The FAA has separate rules to regulate recreational versus commercial use. The FAA’s new Small UAS Rule (Part 107) will be effective August 29, 2016 and applies to commercial UAS. Recreational UAS (drones flown for

fun) are governed by Model Aircraft Operating Standards (AC No. 91-57A.)

If you own a drone weighing over 0.55 pounds (8.8 ounces), regardless of use, you must register your drone with the Federal Aviation Administration’s UAS registry before its first flight. Registration has been mandatory for several months. According to the FAA’s website, “a federal law effective December 21, 2015 requires unmanned aircraft registration, and you are subject to civil and criminal penalties if you don’t register.” Drones must also weigh less than 55 pounds with all attached equipment including cameras and batteries.

Recreational owners and operators must be over the age of 13 and be a U.S. citizen, permanent resident, or visiting foreign national who has completed drone registration. Recreational operation of UAS that “endanger the safety of the National Airspace System, particularly careless or reckless operations or those that interfere with or fail to give way to any manned aircraft may be subject to FAA enforcement action.” To avoid UAS operations deemed unsafe and/or unlawful, the FAA advises recreational drone owners to follow these safety guidelines:

- » Fly at or below 400 feet
- » Keep your UAS within sight
- » Never fly near other aircraft, especially near airports
- » Never fly over groups of people
- » Never fly over stadiums or sports events
- » Never fly near emergency response efforts such as fires
- » Never fly under the influence
- » Be aware of airspace requirements

Unfortunately, for UAS owners, there are many small airports with no air traffic control (ATC). If no ATC or airport management is available to provide permission, it is illegal to fly UAS within a 5-mile radius of these airports.

Commercial drones require pilot training and operators must keep their drones within line-of-site. Just like recreational operators, they may not use the on-board camera to fly outside their line-of-site. For more information, see the FAA’s Unmanned Aircraft Systems page: faa.gov/uas.

What is my role in drone control on scene as LZ commander?

Drones have delayed patient care several times due to their unsafe presence over accident scenes and landing zones (LZs).

FAA Drone Regulations		
	<i>Fly for Fun</i>	<i>Fly for Work</i>
Pilot Requirements	» No pilot requirements	» Must have Remote Pilot Airman Certificate » Must be 16 years old » Must pass TSA vetting
Aircraft Requirements	» Must be registered if over 0.55 lbs.	» Must be less than 55 lbs. » Must be registered if over 0.55 lbs. (online) » Must undergo pre-flight check
Location Requirements	» 5 miles from airports without prior notification to airport and air traffic control	» Class G airspace*
Operating Rules	» Must ALWAYS yield right of way to manned aircraft » Must keep the aircraft in sight (visual line-of-sight) » UAS must be under 55 lbs. » Must follow community-based safety guidelines » Must notify airport and air traffic control tower before flying within 5 miles of an airport	» Must keep the aircraft in sight (visual line-of-sight) » Must fly under 400 feet* » Must fly during the day* » Must fly at or below 100 mph* » Must yield right of way to manned aircraft* » Must NOT fly over people* » Must NOT fly from a moving vehicle*
Example Applications	» Educational or recreational flying only	» Flying for commercial use (e.g. providing aerial surveying or photography services) » Flying incidental to a business (e.g. doing roof inspections or real estate photography)
Legal or Regulatory Basis	» Public Law 112-95, Section 336 – Special Rule for Model Aircraft » FAA Interpretation of the Special Rule for Model Aircraft	» Title 14 of the Code of Federal Regulation (14 CFR) Part 107

*These rules are subject to waiver. From http://www.faa.gov/uas/getting_started/

West Michigan Air Care Announces Partnership with Metro Aviation

West Michigan Air Care (WMAC) is pleased to announce a new partnership with Metro Aviation, a national company that provides air ambulance services for more than 30 programs in 18 states across the country.

Beginning this September, Metro Aviation will be providing WMAC with an Airbus EC-145 helicopter as well as the pilots and maintenance technicians needed to respond to emergency calls at the scene and for inter-hospital patient transfers in southwest Michigan and northern Indiana.

While Metro Aviation will assume responsibility for the aircraft, all flights will continue to be staffed by WMAC's experienced team of critical care registered nurses who are also licensed paramedics.

"Metro Aviation has an excellent track record of providing safe, high quality air transport services and will be an excellent partner for Air Care as we continue the important work of stabilizing and transporting critically ill and injured adults, children, and newborns from throughout our region," says Charles Zeller, M.D., WMAC Board Chair. "We look forward to this new partnership with a great deal of enthusiasm"

Utilizing an outside vendor for flight operations will allow WMAC to substantially reduce the overhead costs associated with owning and operating its air ambulance helicopters while continuing to provide the essential medical service it is known for. This supports WMAC's mission of providing excellent patient care transport in a safe, cost-effective manner.

WMAC is a cooperative program sponsored by Borgess Medical Center and Bronson Methodist Hospital. It has been performing lifesaving missions to regional healthcare facilities and emergency agencies within a 75-mile primary and 200-mile secondary radius of Kalamazoo since its inception in March, 1993.

Other hospitals in the area that are also partnering with Metro Aviation for medical flight services include the University of Michigan in Ann Arbor and Memorial Med Flight in South Bend, Indiana.



By Rick Morley
Program Director
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Their presence delays landing and taking off, can create midair collisions which would ground an aircraft at best and cause catastrophe at worst. It is the job of the LZ commander to assure a safe LZ for Air Care and other medical helicopters. Report any drone activity in the area to inbound aircraft and to law enforcement as soon as possible. Make every attempt to control the airspace around helicopter flight paths on scene and at hospital heliports just as you would control bystanders on the ground.

Once the drone operator is located, law enforcement will request proof of registration, check that the drone is marked

with the correct registration number, and take appropriate action. Negligent drone operators tend to be uneducated regarding UAS law, but are otherwise law-abiding citizens. Therefore, an excellent approach to controlling the airspace on scene may be to promote public awareness of drone rules in your community. New and existing drone owners may be referred to the website Know Before You Fly (KnowBeforeYouFly.org), an educational campaign founded by the Association for Unmanned Vehicle Systems International and the Academy of Model Aeronautics in partnership with the Federal Aviation Administration to promote the safe and

responsible operation of UAS. Make sure drone owners know that you want them to land their drone immediately if they hear an aircraft in the area.

Drones and their on-board cameras are becoming more numerous in the sky. Like "rubberneckers" on the ground, they must be managed to prevent delayed patient care and secondary accidents. With your help and proper education of scene personnel and helistop managers, Air Care hopes to preserve safety on scene and in the sky in this new age of drones.

Want more information on drones?

- » flightforlife.org/news/drones-more-of-what-you-need-to-know/
- » flightforlife.org/news/ffls-drone-safety-psa-is-live/
- » mercatus.org/publication/do-consumer-drones-endanger-national-airspace-evidence-wildlife-strike-data
- » faa.gov/uas/getting_started/fly_for_fun/
- » bloomberg.com/news/articles/2016-04-04/drones-are-the-new-threat-to-airline-safety



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Registered Drones Near You (As of July 1, 2016*)

Albion 17	Coldwater 31	Homer 5	Plainwell 25
Allegan 26	Coloma 12	Jackson 143	Portage 95
Athens 3	Colon 2	Kalamazoo 215	Richland 28
Augusta 7	Constantine 7	Lansing 190	Saint Joseph 60
Bangor 3	Decatur 6	Lawrence 3	Saugatuck 9
Baroda 4	Delton 9	Lawton 11	Schoolcraft 16
Battle Creek 114	Dorr 24	Leonidas 2	Scotts 8
Benton Harbor 19	Dowagiac 22	Marcellus 10	South Haven 1
Berrien Springs 23	Fennville 11	Marshall 24	Stevensville 21
Bridgman 9	Galesburg 11	Martin 6	Sturgis 18
Bronson 4	Hamilton 14	Mattawan 19	Three Rivers 24
Burr Oak 4	Hastings 33	Mendon 3	Watervliet 7
Cassopolis 15	Hickory Corners 7	Niles 44	Wayland 25
Charlotte 42	Hillsdale 21	Otsego 14	White Pigeon 15
Climax 5	Holland 176	Paw Paw 25	Zeeland 51

*Note: many UAS have not yet been registered. This is a legal requirement before flying a drone. Source: <http://www.faa.gov/news/updates/?newsId=85548>

LZ Training Available 24-7 Online!

Need an LZ refresher? You'll find our 20-minute landing zone (LZ) video and quiz online at AirCare.org/resources/lz-training. Complete the quiz while watching the video for a quick review of all aspects of LZ safety for West Michigan Air Care. This is a highly efficient training tool for first responders and helistop managers.

To schedule a free on-site LZ class at your facility worth one (1.0) operations credit, please go to AirCare.org/contact/event-request or call 1-800-337-2500. Classes will be scheduled to take place after September 1st.

Fall Conference 2016 is Fast Approaching! Register soon!

For food, fun, and networking all while receiving good education and lots of nursing and EMS credits, join us Saturday, October 1st for WMAC Fall Conference! Plan on a great time and lots of giveaways. Look for our announcement and registration at AirCare.org for more details.

West Michigan Air Care Receives Continuing CAMTS Accreditation

West Michigan Air Care is proud to announce the CAMTS Board has given us full accreditation for another three years. According to Jan Eichel, Director of Clinical Operations at Air Care, "This comes with everyone having a focus on excellence in safety and patient care. Full accreditation is not given easily nor to all who apply. We set the bar for transport programs everywhere, I am so proud to be part of this team!"

Get Our Mobile Website on Your Phone!



On your phone, go to AirCare.org/mobile and save the "AC" icon to your home screen.

- » Review how to set up a landing zone.
- » Use the Fly Guides to see if a patient needs air transport.
- » Call to request the helicopter.

Sign Up to Receive AirWaves by EMAIL!

This year AirWaves will begin arriving by email instead of your mailbox. Don't get left behind! Join our online newsletter at AirCare.org. It's a convenient way to stay in touch, learn something new, and save some great photos!

Find electronic copies of AirWaves at our website: AirCare.org

Please email comments to AirWaves Editor and Flight Nurse Dawn Johnston at dmjohnston@aircare.org.



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