

Unauthorized Drone Activity at Sporting Events

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According to the U.S. Department of Homeland Security (DHS), “unmanned aircraft systems (UAS), also known as unmanned aerial vehicles (UAV) or drones, are aircraft without a human pilot onboard that are controlled by an operator remotely or programmed to fly autonomously” (2017, p.1). Drones range in power, size, and weight and are powered electronically with an onboard battery or a small combustion engine. Drones can weigh a few ounces to over 50 pounds and are a few inches to several feet in size. The operational ceiling varies from a few feet to over 1,000 feet. Flight times range from over 30 minutes for electronically powered models to over an hour for internal combustion-powered models. Drones also have camera capabilities to stream live video and audio via Bluetooth (U.S. Department of Homeland Security, 2017).

Pursuant to the Federal Aviation Administration (FAA) regulations, drones are not permitted to fly within three miles of an NFL, MLB, or NCAA Division I Football stadium from one hour before the event starts until one hour after the event ends (Rattigan, 2022). However, unauthorized drones flying over sports stadiums have posed problems in recent years. For example, during the NFL 2022 season, stadiums encountered 2,500 drone incursions, up from 1,300 the year before. In October 2023, a drone spotted over the Ohio State-Maryland college football game caused a suspension of the televised contest, including removing players from the field so the authorities could track the pilot to be detained (Berg, 2023). Violations include fines of up to \$37,000 and criminal prosecution. Illegal drone activity is expected to increase as the number of registered drones increases. The FAA projects that the United States could have more than 2.6 million drones by 2025 (Rattigan, 2022).

Although drone technology usage by facility/event managers can benefit safety and security operations (e.g., assist with real-time video, crowd movement analytics, and public address announcements), drones can be used for malicious purposes to disrupt, harass, or cause physical injury or destruction of property. Drones can transport contraband and explosive or weaponized payloads, conduct prohibited surveillance and reconnaissance for nefarious purposes, and perform cybercrimes involving intellectual property theft of trade secrets, technologies, or other sensitive information (Hall et al., 2023).

Preventing unauthorized drone activity around a venue requires clear communication with fans, residents, businesses, and local law enforcement. Sport venue operators/event organizers must review laws and regulations to ensure the venue is covered under the law (14 CFR 99.7), which restricts unauthorized drone activity at stadiums with a seating capacity of 30,000 or more. Temporary Flight Restrictions (TFRs) may also be granted for special events. Engage with law enforcement, including the Federal Bureau of Investigation (FBI) and the FAA, to notify them of upcoming events, request resources or tools, and assist in developing a protection and response plan. Promote public awareness of flight restrictions and how to report unauthorized flight activity. Connect with local drone user groups as well as eventgoers. Identify potential drone launch points around the venue and display “no drone zone” signage. Venue operators/event organizers should also connect with their local Protective Security Advisor (PSA), who are mitigation experts provided by the DHS Cybersecurity and Infrastructure Security Agency (CISA) and located across the country to conduct vulnerability assessments, deliver training, and offer guidance on security improvements (Cybersecurity and Infrastructure Security Agency, n.d.).

A multi-step approach is required to protect a venue from unauthorized drone activity. First, management should conduct a site survey of the venue and surrounding area, noting critical assets, potential launch

points, and options for positioning detection equipment. Connect with law enforcement for drone detection resources and to learn about legally approved counter-drone technologies. Update security plans to include drone response actions and ensure staff are familiar with these plans through training and exercises. This will help personnel identify illegal activity and suspicious payloads or drone modifications, as well as how to report an incident (Cybersecurity and Infrastructure Security Agency, n.d.).

It is recommended to take action immediately following a drone sighting or crash, communicating with security personnel, game officials, and law enforcement. If the drone is flying outside the venue and not over the playing area, notify law enforcement and utilize drone detection technology to locate the operator and communicate with them to cease operations. If the drone is flying directly over the playing area, pause the event, clear the area, and dispatch security personnel to provide guidance to prevent panic and utilize public address systems. Try to locate the drone operator using law enforcement and detection technology to cease operations. Venue operators/event organizers do not have the authority to apprehend or 'take down' the drone. This is only allowed by the DHS and Department of Justice (DOJ), and the FAA will investigate to levy fines and possible prosecution. If the drone crashes, secure and clear the area, do not handle the drone as it becomes evidence, and immediately activate the emergency response plan. (Cybersecurity and Infrastructure Security Agency, n.d.)

This presentation will describe the various unmanned aircraft systems available, highlight the potential threat to sporting events, and discuss specific prevention, protection, and response strategies to unauthorized drone activity over sporting venues.

References

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