

Citizen Science Q&A: Issues with Aerial Photography from Kites and Balloons

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Through the Citizen Science Association Law & Policy Working Group, the Emmett Environmental Law & Policy Clinic at Harvard Law School has volunteered to make its students available to answer questions about relevant laws and policies raised by citizen science projects. The questions below were submitted through the working group's [question submission form](#).

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Question 1: What rights do individuals generally have to take aerial photographs?

Answer 1: The general rule in the United States is that anyone may take photographs of whatever they want when they are in a public place, provided that such photographs are communicative, or they have permission to do so.¹ Courts have found communicative photography to include pictures taken in the furtherance of political activism and educating the public.² Absent a specific legal prohibition such as a time, place, or manner ordinance or restriction, you are legally entitled to take photographs. Examples of places that are traditionally considered public are streets, sidewalks, and public parks. Property owners can limit photography on their premises but cannot limit others from photographing their property from areas outside their land.

Some categories of restrictions on this general right to take photographs are discussed below.

The Espionage Act and Economic Espionage Act

Citizen scientists taking pictures should be aware of potential criminal liability under both the Espionage Act and Economic Espionage Act.

Under the Espionage Act, anyone who “for the purpose of obtaining information respecting the national defense with intent or reason to believe that the information is to be used to the injury of the United States, or to the advantage of any foreign nation . . . goes upon, enters, flies over, or otherwise obtains information concerning” national defense infrastructure, including navy yards, fueling stations, canals, factories, mines, research laboratories and stations, can be held criminally liable.³ This restriction applies to anyone who takes or attempts to take, make, or obtain photographs of anything connected to national defense.⁴ Those convicted under this section must forfeit any property or proceeds gained.⁵ Additionally, a violator will incur fines, face imprisonment of not more than ten (10) years, or both.⁶

Under the Economic Espionage Act, an individual who photographs a trade secret, intending or knowing that the offense will benefit any foreign government, can be fined not more than \$5,000,000 or imprisoned not more than fifteen (15) years, or both.⁷ An organization that commits such an offense will be fined not more than the greater of \$10,000,000 or three times the value of the stolen trade secret to the organization.⁸

Trade Secret Laws

Someone who discloses or uses someone else's trade secret, without a privilege to do so, may be criminally charged and/or civilly liable to the other person if she discovered the secret by improper means.⁹ A trade secret is "all forms and types of financial, business, scientific, technical, economic, or engineering information," that the owner has taken reasonable measures to keep secret and that derives economic value by not being generally known.¹⁰ If an individual is found to have *intentionally* stolen, photographed, or knowingly received a stolen trade secret, she may be fined, imprisoned not more than ten (10) years, or both.¹¹ Any organization that steals or photographs a trade secret may be fined not more than the greater of \$5,000,000 or three times the value of the stolen trade secret to the organization.¹² An owner of a trade secret that is misappropriated may also bring a civil action for damages as long as the trade secret is related to a product or service used in, or intended for use in, interstate or foreign commerce.¹³

While we have not found any cases that address trade secret violations resulting from *unmanned* aerial photography, the Fifth Circuit has held that aerial photography of plant construction from an airplane "is an improper means of obtaining another's trade secret."¹⁴ By contrast, courts have also held that the U.S. Environmental Protection Agency (EPA) may use aerial photography to investigate facilities as it has statutory authority to do so and because governments, unlike competitors, do not seek to appropriate trade secrets of the private sector.¹⁵ Citizen scientists do not have a statutory authority to investigate polluters. However, similar to the EPA, they do not seek to appropriate private sector trade secrets in their use of aerial photography for scientific and/or educational purposes.

- More research into trade secret cases would be necessary to better determine the applicability of trade secret law to this context.
- Future research could also examine whether private entities have any reasonable expectation of privacy around trade secrets that are visible from above, given the existence of Google Earth and other sources of satellite imagery.

Other Criminal Laws & Civil Enforcement Statutes

Citizens attempting to photograph an event taking place in a public space may be subject to civil or criminal liability under other laws. Relevant criminal charges for citizen scientists to be aware of include trespass, loitering, disorderly conduct, assault, obstruction of justice, failure to obey police orders, disturbing the peace, provoking a riot, and resisting a police officer.¹⁶ Depending on the state and the severity of the crime, some of these violations may merely be offenses requiring a payment of fines. Laws that are designed to protect security interests, such as critical infrastructure, on the other hand, may carry severe penalties. For example, in Indiana, a person

who trespasses on a critical infrastructure facility commits a Level 6 felony, which carries a *minimum* of half a year in prison.¹⁷

In some states, in addition to criminal liability, civil enforcement may also be a concern for citizen scientists attempting to take photographs. For example, in Arkansas, a person who trespasses on critical infrastructure is not only committing a misdemeanor, but may also be held liable for civil damages claimed by the owner of the facility.¹⁸

Property and the Right to Exclude

As noted in the Clinic's Citizen Science Manual, under traditional common law rules, property owners owned all of the space extending above and below the surface of their land. Aircraft and federal aviation regulations have limited the common law rule as the federal government can determine where navigable airspace begins.¹⁹ The minimum safe altitude, which establishes a floor for navigable airspace, is 1000 feet for congested urban areas and 500 feet for all other areas.²⁰ Below navigable airspace, the Supreme Court has held that property owners own at least as much of the space above the ground as they "can occupy or use in connection with the land."²¹ The Federal Aviation Administration (FAA) has also promulgated flight restrictions for unmanned air systems, balloons and kites (discussed below in the answers to Questions 2 and 3).

While the FAA has enacted a comprehensive system of regulations governing navigable airspace, the FAA notes that "laws traditionally related to state and local police power" are not preempted by these federal regulations.²² These laws include questions related to property rights such as trespass. Some states have passed laws or regulations that impose trespass liability for unauthorized entry to airspace over another's property. Whether these statutes apply to balloons or kites depends on the definition of terms such as "aircraft" or "unmanned aerial vehicle." Nevada, for example, includes powered balloons within its definition of aircraft and unmanned aerial vehicle.²³ Kites, however, are not explicitly mentioned. Nevada also allows for property owners to bring trespass actions against unmanned aerial vehicle operators for flying the vehicle above their real property.²⁴ This trespass action is only available if: (a) the owner or operator of the unmanned aerial vehicle has flown the unmanned aerial vehicle over the property at a height of less than 250 feet on at least one previous occasion; *and* (b) the person who owns or occupies the real property notified the owner or operator of the unmanned aerial vehicle that the person did not authorize the flight of the unmanned aerial vehicle over the property at a height of less than 250 feet (notice may be given by fencing the area).²⁵ As noted in our answer to Question 2 below, other state laws, such as privacy and loitering laws, may also impose liability for aerial photography via kite or balloon.

- While federal law governs navigable airspace, states can impose trespass liability for entry into airspace outside of the navigable area. Future research could explore other state laws or regulations that allow for trespass actions against operators of unmanned aerial vehicles to determine if those laws could also apply to balloons or kites.

Question 2: Which laws relating to drones or critical infrastructure potentially limit the use of balloons and kites to take aerial photographs?

Answer 2: For both federal and state laws and regulations, the application of any restriction will depend on whether balloons or kites are encompassed within the statutory definition of “aircraft,” “unmanned aerial vehicle,” or any other synonymous phrase subject to the law or regulation. As the FAA defines “small unmanned aircraft” differently than balloons and kites, balloons and kites are subject to separate federal regulations than drones. A case-by-case analysis of state drone and critical infrastructure laws will be necessary to determine if such laws apply to balloons and kites in your state.

Federal Drone Laws & Regulations

Federal laws regarding the use of unmanned aircraft systems (UASs), which are codified in Title 49 of the United States Code (49 U.S.C. §§ 44801–44810), do not apply to kites and balloons. The federal UAS statute and its implementing regulations define an unmanned aircraft as “an aircraft that is operated without the possibility of direct human intervention from within or on the aircraft.”²⁶ While kites and balloons may seem on the surface to fall under this broad category, kites and balloons are actually regulated differently than small UASs (*i.e.*, drones).

Restrictions for small unmanned aircraft are contained in Part 107 of the Code of Federal Regulations (14 C.F.R. § 107 *et seq.*). According to FAA guidance, such regulations do not apply to moored balloons, unmanned free balloons, or kites.²⁷ Indeed, in promulgating these regulations, the FAA made a bright-line distinction:

FAA regulations define a balloon as “a lighter-than-air aircraft that is not engine driven, and that sustains flight through the use of either gas buoyancy or an airborne heater.” A kite is defined as “a framework, covered with paper, cloth, metal, or other material, intended to be flown at the end of a rope or cable, and having as its only support the force of the wind moving past its surfaces.” Based on these definitions, a small unmanned aircraft that uses powered systems for actions such as propulsion or steering is not a balloon or kite subject to part 101.6.²⁸

Since 1957, the FAA has repeatedly affirmed its position that any vehicle designed for tethered operations *only*, and not for “free flight,” should be considered a kite subject to Part 101.²⁹ Consequently, if an unmanned aerial vehicle is originally designed for “free flight,” but later operated by tether, the drone cannot be considered a kite to avoid regulation by Part 107. Federal regulations for kites and balloons thus seem to be solely articulated in Title 14, Part 101 of the Code of Federal Regulations (14 C.F.R. § 101). Importantly, however, the FAA reserves its discretion to determine in the future that a tethered device could be an aircraft subject to applicable regulations for aircrafts.³⁰

- As detailed in our answer to Question 3 below, further research is needed to assess the federal restrictions for kites and balloons under Title 14, Part 101 of the Code of Federal Regulations.

State Drone and Critical Infrastructure Regulations

Some states' laws regarding the use of unmanned aircraft potentially regulate the use of balloons and kites for aerial photography. Whether these laws apply to balloons and kites pivots on the state's definition of "unmanned aircraft." Some states define unmanned aircraft as "powered" vehicles, likely excluding balloons and kites from such drone photography restrictions.³¹ Other states' definitions, however, are broader and potentially include the use of balloons and kites.

For example, Tennessee law defines "unmanned aircraft" as "an airborne device that is operated without an individual in or on the device."³² This broad definition possibly captures the use of a kite or a balloon as both objects are arguably airborne devices without any person in or on the device. If kites and balloons are included in this definition, then Tennessee's drone laws, critical infrastructure laws, and resulting penalties may apply. In Tennessee, state drone laws make it a Class C misdemeanor for a person to use "an unmanned aircraft to capture an image of an individual or privately owned real property in [the] state with the intent to conduct surveillance on the individual or property captured in the image."³³

Additionally, Tennessee law prohibits the use of an unmanned aircraft within 250 feet of any critical infrastructure without the owner's written consent.³⁴ Assuming kites and/or balloons are included in the definition of unmanned aircraft, these laws likely restrict most photography taken by such devices of private persons or critical infrastructure. However, certain exceptions for citizen scientists may be available. For example, notwithstanding the prohibitions, it is lawful to capture an image using an unmanned aircraft in Tennessee "[f]or purposes of professional or scholarly research and development by a person acting on behalf of an institution of higher education."³⁵ We have not identified any litigation in Tennessee that has addressed the issue of whether kites or balloons are included in the definition of an "unmanned aircraft."

Therefore, when using a kite or balloon for aerial photography or the general collection of evidence, it is important to look up the applicable state laws for unmanned aircraft and consider whether such airborne devices could be captured in the definition. Additionally, the restrictions and penalties for unmanned aircraft may be more severe when operating them near critical infrastructure. While the definition of critical infrastructure varies by state, it generally includes power plants, refineries, and similar facilities. Citizen scientists considering the use of kits and balloons for aerial photography near such facilities should consult an attorney.

Finally, the state may have specific regulations regarding the use of kites or balloons. For example, Tennessee prohibits an individual from releasing more than twenty-five (25) balloons (of a certain make) into the atmosphere at one time.³⁶ Weather balloons that are used for the purpose of carrying scientific instruments during the performance of an experiment or testing procedure are excluded from this restriction.³⁷

- Further research into state laws that specifically target the use of kites or balloons may be helpful.

Other State Laws Potentially Relating to Aerial Photography by Kite or Balloon

California provides other examples of state laws provisions potentially relevant to kite and balloon operations and the preservation of privacy.

The first pertains to a *physical* invasion of privacy. California law provides that:

“[a] person is liable for physical invasion of privacy when the person knowingly enters onto the land or into the airspace above the land of another person without permission or otherwise commits a trespass in order to capture any type of visual image, sound recording, or other physical impression of the plaintiff engaging in a private, personal, or familial activity and the invasion occurs in a manner that is offensive to a reasonable person.”³⁸

It is not clear whether this law applies only to physical invasions by a person or would also extend to the use of kites and balloons in the lower reaches of the airspace above the land. A case currently pending in the California Court of Appeals, *American River Ag, Inc. et al. v. Ambrose*, in which the defendant Ken Ambrose captured aerial photographs from a helicopter and a drone depicting alleged nuisance conditions emanating from plaintiffs’ dog food factory in Sacramento County, may provide clarification on this question.³⁹

In addition, under California law, a person is liable for *constructive* invasion of privacy if the individual “attempts to capture, in a manner that is offensive to a reasonable person, any type of visual image, sound recording, or other physical impression of the plaintiff engaging in a private, personal, or familial activity, *through the use of any device*, regardless of whether there is a physical trespass.”⁴⁰ A constructive invasion of privacy claim may thus be brought against a person who took aerial photographs by kite or balloon of another in a secluded portion of his or her property even though neither the photographer nor the device physically invaded the person’s property.⁴¹

Importantly, as noted above (and particularly with regards to the *Ambrose* case), both of these provisions limit invasion of privacy claims to “private, personal, or familial activity.” Court treatment of the provisions in the past has focused on more traditional invasion-of-privacy concerns, and the statute forms part of California’s “anti-paparazzi legislation.”⁴² Accordingly, California’s trespassing laws related to personal privacy may have little impact on citizen scientists.

Moreover, in California, the issue of aerial surveillance of critical infrastructure is complicated by the presence of a misdemeanor loitering statute (referenced in the Clinic’s Citizen Science Manual).⁴³ The Penal Code section provides: “It is unlawful to loiter in the immediate vicinity of any posted property. This section does not prohibit picketing in such immediate vicinity or any lawful activity by which the public is informed of the existence of an alleged labor dispute.”⁴⁴ Posted property can include the following enumerated list of entities:

- (a) An oil well, oilfield, tank farm, refinery, compressor plant, absorption plant, bulk plant, marine terminal, pipeline, pipeline pumping station, or reservoir, or any other plant, structure, or works, used for the production, extraction, treatment,

handling, storage, or transportation, of oil, gas, gasoline, petroleum, or any product or products thereof.

(b) A gas plant, gas storage station, gas meter, gas valve, or regulator station, gas odorant station, gas pipeline, or appurtenances, or any other property used in the transmission or distribution of gas.

(c) A reservoir, dam, generating plant, receiving station, distributing station, transformer, transmission line, or any appurtenances, used for the storage of water for the generation of hydroelectric power, or for the generation of electricity by water or steam or by any other apparatus or method suitable for the generation of electricity, or for the handling, transmission, reception, or distribution of electric energy.

(d) Plant, structures or facilities used for or in connection with the rendering of telephone or telegraph service or for radio or television broadcasting.

(e) A water well, dam, reservoir, pumping plant, aqueduct, canal, tunnel, siphon, conduit, or any other structure, facility, or conductor for producing, storing, diverting, conserving, treating, or conveying water.

(f) The production, storage, or manufacture of munitions, dynamite, black blasting powder, gunpowder, or other explosives.

(g) A railroad right-of-way, railroad bridge, railroad tunnel, railroad shop, railroad yard, or other railroad facility.

(h) A plant and facility for the collection, pumping, transmission, treatment, outfall, and disposal of sanitary sewerage or storm and waste water, including a water pollution or quality control facility.

(i) A quarry used for the purpose of extracting surface or subsurface material or where explosives are stored or used for that purpose.⁴⁵

In other words, most pollution-emitting facilities that citizen scientists might be interested in observing with a kite or balloon in California would likely be covered by this statute. It is important to note, however, that these facilities must be posted according to the statute in order for the anti-loitering provision to apply. The posting process is described as follows:

(a) If it is not enclosed within a fence and if it is of an area not exceeding one (1) acre and has no lineal dimension exceeding one (1) mile, by posting signs at each corner of the area and at each entrance.

(b) If it is not enclosed within a fence, and if it is of an area exceeding one (1) acre, or contains any lineal dimension exceeding one (1) mile, by posting signs along or near the exterior boundaries of the area at intervals of not more than 600 feet, and also at each corner, and, if such property has a definite entrance or entrances, at each such entrance.

(c) If it is enclosed within a fence and if it is of an area not exceeding one (1) acre, and has no lineal dimension exceeding one (1) mile, by posting signs at each corner of such fence and at each entrance.

(d) If it is enclosed within a fence and if it is of an area exceeding one (1) acre, or has any lineal dimension exceeding one (1) mile, by posting signs on, or along the line of, such fence at intervals of not more than 600 feet, and also at each corner and at each entrance.

(e) If it consists of poles or towers or appurtenant structures for the suspension of wires or other conductors for conveying electricity or telegraphic or telephonic messages or of towers or derricks for the production of oil or gas, by affixing a sign upon one or more sides of such poles, towers, or derricks, but such posting shall render only the pole, tower, derrick, or appurtenant structure posted property.⁴⁶

Assuming that most major industrial facilities will be adequately posted, the question is whether kite and balloon photography can be achieved without “loitering” near the facility in question. Courts in California have not cited this provision since 1976⁴⁷ and offered the only discussion of the provision in 1968.⁴⁸ Thus, the manner in which a court would interpret what constitutes “loitering,” and even whether the loitering statute might be considered void for vagueness (explained below) seems to be an open question.

Void for Vagueness

According to the U.S. Supreme Court in *Connally v. General Construction Co.*, 269 U.S. 385, 391 (1926), a law is unconstitutionally vague when people “of common intelligence must necessarily guess at its meaning.” Loitering laws that do not address additional crimes or restrictions (*e.g.*, loitering with the intent to commit a crime) are considered constitutionally suspect as they fail to specify ascertainable standards of guilt and thus raise due process concerns. *Papachristou v. City of Jacksonville*, 405 U.S. 156, 171 (1972). Whether California’s loitering law for critical infrastructure provides sufficiently clear standards to pass constitutional muster is unclear.

In sum, aerial surveillance by balloon or kite would face challenges specific to state law that are distinct from FAA regulation concerns. Citizen scientists should be vigilant of privacy, trespassing and loitering laws that could be used against them by entities hostile to citizen scientist monitoring. California represents a slightly special case because of its unique loitering statute, but the set of laws and cases discussed here may have relevance to other states. Citizen scientists should consult with an attorney to determine which laws in their state may impact kite and balloon use.

Question 3: What further research is needed on laws impacting the use of kites and balloons to take aerial photographs and gather data?

Answer 3: As discussed above in our answer to Question 2, kites and balloons are regulated differently than unmanned aircrafts under FAA regulations.⁴⁹ Future research would delve into

these regulations and any administrative decisions or case law regarding violations to determine potential liability and/or civil penalties for citizen scientists using these airborne devices. Furthermore, as shown with the example in Tennessee, state laws regarding the use of kites and balloons may also impact citizen science activities. State-by-state analysis of these laws would help identify additional obstacles.

Another area of future research is what airspace is considered “public.” The applicability of the general rule that a person can photograph in public space for scientific or educational purposes relies on the assumption that the kites or balloons are *in fact* operating in “public” airspace. Although kites are allowed to operate within 500 feet of the ground,⁵⁰ this still may not be considered “public” airspace for First Amendment purposes and therefore the general ability of persons to photograph may not apply. The FAA has set various altitudes at which aircraft, balloons, and kites are allowed to operate, and further research into these limitations and their interplay with state trespass laws and private airspace rights would be helpful.

Moreover, tensions have recently been brewing between journalists and states regarding restrictions on the use of drones. For example, on September 26, 2019, two press associations challenged a Texas law adopted in 2015 that bans all drone use below 400 feet above sports venues, prisons, and “critical infrastructure facilities,” including oil fields, pipelines, refineries and animal feedlots.⁵¹ As the complaint points out: “When read in conjunction with the FAA regulations, which require [unmanned aircrafts] to fly below 400 feet, the No-Fly Provisions function as a near absolute ban on the use of [unmanned aircrafts] in these locations.”⁵² More research on developing cases and other efforts to create model state laws for unmanned aircraft could help clarify standards for where private and public airspace meet.⁵³

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¹ See, e.g., *Bery v. City of New York*, 97 F.3d 689, 696 (2d Cir. 1996) (holding that visual arts, such as photographs, “always communicate some idea or concept to those who view it, and as such are entitled to full First Amendment protection”); *Porat v. Lincoln Towers Cmty. Ass’n*, No. 04 CIV. 3199 (LAP), 2005 WL 646093, at *4 (S.D.N.Y. Mar. 21, 2005), *aff’d*, 464 F.3d 274 (2d Cir. 2006) (“[C]ommunicative photography is well-protected by the First Amendment.”); see also Bert P. Krages II, *The Photographer’s Right* (Jan. 2016), <http://www.krages.com/ThePhotographersRight.pdf>; cf. *Larsen v. Fort Wayne Police Dep’t*, 825 F. Supp. 2d 965, 980 (N.D. Ind. 2010) (“The First Amendment...does not protect purely private recreational, non-communicative photography.”).

² See, e.g., *Pomykacz v. Borough of W. Wildwood*, 438 F. Supp. 2d 504, 513 (D.N.J. 2006) (holding that photographs taken in furtherance of political activism protected by First Amendment); *Cuviello v. City of Oakland*, No. C 06-05517 MHP EMC, 2007 WL 2349325, at *3 (N.D. Cal. Aug. 15, 2007) (finding that plaintiffs were likely to win on the merits that they had a First Amendment right to take photographs regarding the treatment of circus animals from the ramp into the circus in order to educate the public).

³ 18 U.S.C. § 793(a).

⁴ *Id.* § 793(b).

⁵ *Id.* § 793(h).

⁶ *Id.* § 793.

⁷ *Id.* § 1831(a).

⁸ *Id.* § 1831(b).

⁹ *Id.* §§ 1832 (Criminal Theft); 1836 (Private Civil Actions).

¹⁰ *Id.* § 1839(3).

¹¹ *Id.* § 1832(a).

¹² *Id.* § 1832(b).

¹³ *Id.* § 1836(b)(1).

¹⁴ *E. I. duPont deNemours & Co. v. Christopher*, 431 F.2d 1012, 1015 (5th Cir. 1970).

¹⁵ *Dow Chem. Co. v. U.S.*, 476 U.S. 227, 227 (1986).

¹⁶ Morgan Leigh Manning, *Less Than Picture Perfect: The Legal Relationship Between Photographers' Rights and Law Enforcement*, 78 TENN. L. REV. 105, 114 (2010).

¹⁷ Ind. Code Ann. §§ 35-46-10-2; 35-50-2-1(c)(11).

¹⁸ Ark. Code §§ 5-60-103(b) & (d); 16-118-111.

¹⁹ See *U.S. v. Causby*, 328 U.S. 256 (1946).

²⁰ 14 C.F.R. § 91.119.

²¹ *Causby*, 328 U.S. at 264.

²² Office of the Chief Counsel, Federal Aviation Administration, *State and Local Regulation of Unmanned Aircraft Systems (UAS) Fact Sheet* (Dec. 17, 2015), https://www.faa.gov/uas/resources/policy_library/media/UAS_Fact_Sheet_Final.pdf.

²³ 44 N.R.S. § 493.020.1. (“‘Aircraft’ includes a balloon, airplane, hydroplane, unmanned aerial vehicle and any other vehicle used for navigation through the air.”).

²⁴ *Id.* § 493.103.

²⁵ *Id.* § 493.103.1; see also 15 N.R.S. § 207.200.2.

²⁶ 49 U.S.C. § 44801(11); 14 C.F.R. § 107.3.

²⁷ Federal Aviation Administration, AC No: 107-2, *Advisory Circular on Small Unmanned Aircraft Systems (sUAS)*, at 4-1 (2016), https://www.faa.gov/documentLibrary/media/Advisory_Circular/AC_107-2.pdf.

²⁸ *Operation and Certification of Small Unmanned Aircraft Systems*, 81 Fed. Reg. 42,064, 42,083 (June 28, 2016) (quoting 14 C.F.R. § 1.1).

²⁹ Federal Aviation Administration, *Re: Applicability of Part 101 to Ultralight Vehicles During Tethered Takeoff*, at 2 (Jan. 2, 2015), [https://www.faa.gov/about/office_org/headquarters_offices/agc/practice_areas/regulations/interpretations/data/interps/2015/palmaz-us%20hang%20gliding%20&%20paragliding%20assoc%20-%20\(2015\)%20legal%20interpretation.pdf](https://www.faa.gov/about/office_org/headquarters_offices/agc/practice_areas/regulations/interpretations/data/interps/2015/palmaz-us%20hang%20gliding%20&%20paragliding%20assoc%20-%20(2015)%20legal%20interpretation.pdf); see also Memorandum from Rebecca B. MacPherson, Assistant Chief Counsel, Federal Aviation Administration, to General Aviation and Commercial Division of Flight Standards

Service, *Applicability of 14 C.F.R. part 101 (Moored Balloons, Kites, Unmanned Rockets and Unmanned Free Balloons) to parasails and parasail operations*, at 2 (Nov. 9, 2009), [https://www.faa.gov/about/office_org/headquarters_offices/agc/practice_areas/regulations/interpretations/data/interps/2009/applicability%20of%2014%20cfr%20part%20101%20-%20\(2009\)%20legal%20interpretation.pdf](https://www.faa.gov/about/office_org/headquarters_offices/agc/practice_areas/regulations/interpretations/data/interps/2009/applicability%20of%2014%20cfr%20part%20101%20-%20(2009)%20legal%20interpretation.pdf) (concluding that free flight rather than conveyance of a person is the established line between a kite and an aircraft) [hereinafter, “2009 FAA Memo”]; Federal Aviation Administration, Legal Interpretation 1975-12, 1975 WL 342714 (Mar. 25, 1975) (“While there has been no specific determination by the FAA that a kite is or is not an aircraft, there are specific rules governing the operation of kites contained within the Federal Aviation Regulations.”).

³⁰ 2009 FAA Memo, *supra* endnote 29, at 2.

³¹ Ark. Code Ann. § 5-60-103(a)(2)(A).

³² Tenn. Code Ann. § 39-13-901(2).

³³ *Id.* § 39-13-903(a)(1).

³⁴ *Id.* § 39-13-903(a)(6)(A).

³⁵ *Id.* § 39-13-902(a)(1).

³⁶ *Id.* § 68-101-108(a).

³⁷ *Id.* § 68-101-108(d).

³⁸ Cal. Civ. Code § 1708.8(a).

³⁹ Appellant’s Opening Brief, *American River Ag, Inc. et al. v. Ambrose*, No. C089352, 2019 WL 4417862, at *10 (Sept. 6, 2019).

⁴⁰ Cal. Civ. Code § 1708.8(b).

⁴¹ Cal. Senate Committee on Judiciary, *Drones: Is California Law Ready? The Potential, the Perils, and the Impact to Our Privacy Rights*, at 4 (Feb. 17, 2015), https://sjud.senate.ca.gov/sites/sjud.senate.ca.gov/files/drones_final_background_paper.pdf (Oversight Hearing Background Paper).

⁴² See *Raef v. Appellate Division of Superior Court*, 240 Cal. App. 4th 1112, 1121-1122 (2015) (noting that §1708.8(a) forms part of California’s “anti-paparazzi legislation”).

⁴³ See California Office of Emergency Service, *Critical Infrastructure Protection* (2019), <https://www.caloes.ca.gov/businesses-organizations/plan-prepare/critical-infrastructure-protection>.

⁴⁴ Cal. Pen. Code § 555.2.

⁴⁵ *Id.* § 554.

⁴⁶ *Id.* § 554.1.

⁴⁷ See *Agricultural Labor Relations Board v. Superior Court*, 16 Cal. 3d 392, 429 (1976) (citing the provision in passing, but not offering extended analysis).

⁴⁸ See *People v. Davis*, 68 Cal. 2d 481, 483 (1976) (discussing the provision briefly in the context of labor unrest).

⁴⁹ 14 C.F.R. Part 101.

⁵⁰ 14 C.F.R. § 101.13(a)(2).

⁵¹ Tex. Gov’t Code § 423.0045(b).

⁵² Plaintiff’s Complaint, *National Press Photographers Association et al. v. McCraw et al.*, No. 1:19-cv-00946, ¶ 3 (Sept. 26, 2019), ECF No. 1, <https://www.documentcloud.org/documents/6431985-TX-Drones-Lawsuit.html>.

⁵³ See National Conference of Commissioners on Uniform State Laws, *Draft Uniform Tort Law Relating to Drones Act* (May 30, 2019), <https://www.uniformlaws.org/HigherLogic/System/DownloadDocumentFile.ashx?DocumentFileKey=5bbdd6ae-9c3f-7a80-6a0f-6cdf54dbfe9e&forceDialog=0>.