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## Hunting with Drones: Aerial Search and Seizure and Weaponization of Small Unmanned Aircraft Systems

Alan Frazier

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# HUNTING WITH DRONES: AERIAL SEARCH AND SEIZURE AND WEAPONIZATION OF SMALL UNMANNED AIRCRAFT SYSTEMS

ALAN FRAZIER\*

## ABSTRACT

Adoption of small unmanned aircraft system (sUAS) technology by U.S. law enforcement agencies has entered a period of exponential growth. In 2016 alone, more law enforcement agencies acquired sUAS than in the previous five years combined. As of May 2018, at least 910 U.S. public safety agencies had acquired sUAS. Despite this rapid growth, no aerial search and seizure case in which an sUAS was used has been considered by any appellate or state supreme court, or the U.S. Supreme Court. Consequently, discussion of sUAS search and seizure must be approached from the context of existing U.S. Supreme Court decisions related to searches by traditional manned aircraft. This Article will discuss existing U.S. Supreme Court aerial search and seizure decisions as well as delve into the controversial topic of delivery of force from unmanned aircraft systems.

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\*†Alan Frazier serves as an Associate Professor within the University of North Dakota's John D. Odegard School of Aerospace Sciences. He teaches pilot training and aviation management courses. Alan also serves as a sergeant with the Grand Forks County Sheriff's Department, where he supervises the Northeast Region Unmanned Aircraft Systems Unit. Alan is the UAS Liason for the Airborne Public Safety Association and is a commissioner for the Public Safety Accreditation Commission. Alan is an FAA certified airline transport pilot rated to fly airplanes, helicopters, gliders, and small unmanned aircraft systems.

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## I. SCOPE OF THE ISSUE

Unless you have been on a deserted island the last few years, you are undoubtedly aware of the controversy surrounding privacy and small unmanned aircraft systems (sUAS). Many involved in airborne law enforcement feel that the controversy has been generated by the media and does not accurately reflect the opinion of the general public.<sup>1</sup> The media maintains that the public is genuinely concerned about UAS and privacy.<sup>2</sup> A study conducted in 2014 by social scientists at the University of North Dakota attempted to gauge the public's acceptance of sUAS tasked to a variety of missions.<sup>3</sup> Over 600 respondents living in Northeastern North Dakota indicated moderate to strong support for law enforcement use of sUAS to search for missing persons and crime suspects, photograph crime and traffic accident scenes, and conduct disaster assessments.<sup>4</sup> Interestingly, commercial package delivery by sUAS received the lowest level of public support!<sup>5</sup>

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1. Alan Frazier, *UAS and Privacy: A Primer*, AIR BEAT, July/Aug. 2015, at 46.

2. *Id.*

3. CINDY JUNTUNEN ET AL., COMMUNITY ATTITUDES TOWARD THE USE OF UAS IN NORTHEASTERN NORTH DAKOTA (2014).

4. *Id.*

5. *Id.*

Over 200 large U.S. law enforcement agencies (employing over 100 sworn officers) currently utilize manned aircraft.<sup>6</sup> In addition, more than fifty smaller law enforcement agencies utilize manned aviation assets.<sup>7</sup> In almost all cases, those manned aircraft are equipped with much more capable sensor systems than those installed on sUAS. It is noteworthy that there has not been a public outcry regarding invasion of privacy by manned law enforcement aircraft. This is likely due to the media, the public, or both misunderstanding the capabilities of manned law enforcement aircraft versus sUAS capabilities. The public is not well informed regarding the capabilities and limitations of sUAS and how and when law enforcement sUAS are utilized. Gregory McNeal, a law professor at Pepperdine University, opined:

Privacy advocates contend that with drones, the government will be able to engage in widespread pervasive surveillance because drones are cheaper to operate than their manned counterparts. While drones are cheaper to operate, the drones most law enforcement agencies can afford are currently far less capable than their manned counterparts. . . . The surveillance equipment that can be placed on these drones is also far less intrusive than that which can be mounted to manned aircraft.<sup>8</sup>

Hollywood has added to the public's misunderstanding of sUAS technology by inaccurately portraying the capabilities of sUAS sensors. Rather than a realistic depiction of moderate-resolution (10-20 megapixel) electro-optical cameras and low-resolution infrared cameras routinely carried by sUAS, screenwriters have opted to fictionalize sUAS by depicting them as capable of reading an automobile license plate from miles away and being able to downlink high-resolution photos capable of processing by facial recognition programs. Pursuant to Federal Aviation Administration (FAA) regulations, sUAS can only be operated within the "line-of-sight" of the operator.<sup>9</sup> This effectively limits the operating radius of sUAS to approximately one-half mile. Obtaining a photo with enough resolution to enable facial recognition from an sUAS hovering half a mile away from the subject is simply not possible with the small electro-optical cameras utilizing digital

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6. BUREAU OF JUST. STAT., U.S. DEP'T OF JUST., NCJ 226672, AVIATION UNITS IN LARGE LAW ENFORCEMENT AGENCIES, 2007 1 (2009).

7. Alan Frazier, *Revisiting Basics: How to Establish a UAS Unit*, AIR BEAT, May/June 2017, at 54.

8. GREGORY MCNEAL, BROOKINGS, DRONES AND AERIAL SURVEILLANCE: CONSIDERATIONS FOR LEGISLATORS 2 (2014).

9. 14 C.F.R. § 107.31(a) (2018).

zoom routinely carried by sUAS.<sup>10</sup> In order to get that level of resolution, the sUAS could be no more than sixty feet away from the subject.<sup>11</sup> At that distance, the sUAS would not be covert.

Small unmanned aircraft systems have been acquired by at least 910 public safety agencies.<sup>12</sup> The majority of these acquisitions have been made by state and local law enforcement agencies.<sup>13</sup> These sUAS have been used to document crime and traffic collision scenes; search for lost persons and criminal suspects; maintain perimeters on warrant services; and assess disaster scenes.<sup>14</sup> The misconception of sUAS patrolling randomly or hovering to peer into a home window is just that—a misconception.<sup>15</sup> Most sUAS are capable of maximum flight times of no more than thirty minutes.<sup>16</sup> This short mission duration, combined with the FAA’s regulatory requirement for sUAS to remain within the pilot’s unassisted visual line of sight,<sup>17</sup> makes random patrol flights impractical. The simplistic cameras aboard sUAS, combined with the relatively high reflectivity of glass, make peering through closed windows with sUAS difficult at best and in many cases impossible (although an open window does not pose this barrier). An infrared camera is simply unable to “look through glass” as it “sees” the temperature of the glass pane and nothing beyond it.<sup>18</sup> Surveillance of persons outside of a structure or vehicle is quite a different matter because this type of mission is both technologically feasible and practical using sUAS. These missions bring into play Fourth Amendment concepts such as curtilage, open fields, and reasonable expectation of privacy.

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10. Ben Virdee-Chapman, *What’s the Effectiveness Range of a Face Recognition Surveillance System?*, QUORA, <https://www.quora.com/Whats-the-effectiveness-range-of-a-face-recognition-surveillance-system> (last visited Sept. 7, 2018).

11. Moshe Greenshpan, *What’s the Effectiveness Range of a Face Recognition Surveillance System?*, QUORA, <https://www.quora.com/Whats-the-effectiveness-range-of-a-face-recognition-surveillance-system> (last visited Sept. 7, 2018).

12. DAN GETTINGER, CTR. FOR THE STUDY OF THE DRONE AT BARD COLL., PUBLIC SAFETY DRONES: AN UPDATE 1 (2018).

13. *Id.*

14. Alan Frazier, *Drone Cops: Establishing an Unmanned Aircraft Systems Unit*, 67 SHERIFF MAG. 12, 12 (2015).

15. Frazier, *supra* note 1.

16. Brent Terwilliger et al., *Consumer Multirotor sUAS Evaluation and Rating*, 4 INT’L J. UNMANNED SYSTEMS ENGINEERING 1, 11 (2016).

17. 14 C.F.R. § 107.31(a) (2018).

18. *6 Amazing Things You Didn’t Know About Thermal Cameras*, PASS (May 1, 2015), <https://www.testers.co.uk/blog/thermography/6-amazing-things-you-didnt-know-about-thermal-cameras/>.

## II. CURTILAGE, OPEN FIELDS, AND REASONABLE EXPECTATION OF PRIVACY

In *United States v. Dunn*,<sup>19</sup> the Supreme Court addressed the issue of curtilage. In 1980, Drug Enforcement Administration (DEA) agents learned that a subject had bought large quantities of chemicals and equipment commonly used to manufacture controlled substances.<sup>20</sup> The DEA placed tracking devices in some of the equipment and chemical containers.<sup>21</sup> The tracking devices led DEA agents to Dunn's ranch.<sup>22</sup> Aerial photographs of the ranch showed the truck backed up to a barn behind the ranch house.<sup>23</sup> The ranch was completely encircled by a perimeter fence and contained several interior barbed-wire fences, including one around the house approximately fifty yards from the barn, and a wooden fence enclosing the front of the barn, which had an open overhang and locked, waist-high gates.<sup>24</sup> Without a warrant, DEA agents crossed the perimeter fence, several of the barbed-wire fences, and the wooden fence in front of the barn.<sup>25</sup> They did not enter the barn but stopped at the locked gate and shined a flashlight inside, observing what they believed to be a drug laboratory.<sup>26</sup> They then left the ranch but entered it twice the next day to confirm the laboratory's presence.<sup>27</sup> They obtained a search warrant and executed it, arresting Dunn and seizing chemicals and equipment as well as amphetamines they discovered in Dunn's house.<sup>28</sup> After the district court denied Dunn's motion to suppress all evidence seized pursuant to the warrant, Dunn and the truck driver were convicted of conspiracy to manufacture controlled substances and related offenses.<sup>29</sup> But the court of appeals reversed, holding that the barn was within the residence's curtilage and therefore within the Fourth Amendment's protection.<sup>30</sup>

The U.S. Supreme Court granted the government's petition for certiorari to decide whether the area near a barn, located approximately fifty yards from

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19. 480 U.S. 294 (1987).

20. *Dunn*, 480 U.S. at 296.

21. *Id.*

22. *Id.* at 297.

23. *Id.*

24. *Id.*

25. *Id.* at 297.

26. *Dunn*, 480 U.S. at 298.

27. *Id.*

28. *Id.* at 298-99.

29. *Id.* at 299.

30. *United States v. Dunn*, 674 F.2d 1093, 1100 (5th Cir. 1982).

a fence surrounding a ranch house, was within the curtilage of the house.<sup>31</sup> In writing for the majority, Justice White concluded that the barn and the area around it lay outside the curtilage of the house, and accordingly reversed the judgment of the court of appeals.<sup>32</sup> In his opinion, Justice White wrote:

Drawing upon the Court's own cases and the cumulative experience of the lower courts that have grappled with the task of defining the extent of a home's curtilage, we believe that curtilage questions should be resolved with particular reference to four factors: the proximity of the area claimed to be curtilage to the home, whether the area is included within an enclosure surrounding the home, the nature of the uses to which the area is put, and the steps taken by the resident to protect the area from observation by people passing by.<sup>33</sup>

The U.S. Supreme Court dealt with the legal concept of "open fields" in the 1924 case of *Hester v. United States*.<sup>34</sup> Hester was charged and convicted of possessing illegal liquor.<sup>35</sup> The case was accepted by the U.S. Supreme Court after a district court's ruling that the testimony of two revenue officers related to observations they made while on Hester's father's land was admissible. In writing for the majority, Justice Holmes stated:

The case is brought here directly from the District Court on the single ground that by refusing to exclude the testimony of two witnesses and to direct a verdict for the defendant, the plaintiff in error, the Court violated his rights under the Fourth and Fifth Amendments of the Constitution of the United States.

The witnesses whose testimony is objected to were revenue officers. In consequence of information they went toward the house of Hester's father, where the plaintiff in error lived, and as they approached saw one Henderson drive near to the house. They concealed themselves from fifty to one hundred yards away and saw Hester come out and hand Henderson a quart bottle. An alarm was given. Hester went to a car standing near, took a gallon jug from it and he and Henderson ran. One of the officers pursued, and fired a pistol. Hester dropped his jug, which broke but kept about a quart of its contents. Henderson threw away his bottle also. The jug and bottle both contained what the officers, being experts, recognized as moonshine

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31. *Dunn*, 480 U.S. at 294.

32. *Id.*

33. *Id.* at 301.

34. 265 U.S. 57 (1924).

35. *Hester*, 265 U.S. at 57.

whisky, that is, whisky illicitly distilled; said to be easily recognizable. The other officer entered the house, but being told there was no whisky there left it, but found outside a jar that had been thrown out and broken and that also contained whisky. While the officers were there other cars stopped at the house but were spoken to by Hester's father and drove off. The officers had no warrant for search or arrest, and it is contended that this made their evidence inadmissible, it being assumed, on the strength of the pursuing officer's saying that he supposed they were on Hester's land, that such was the fact. It is obvious that even if there had been a trespass, the above testimony was not obtained by an illegal search or seizure. The defendant's own acts, and those of his associates, disclosed the jug, the jar and the bottle—and there was no seizure in the sense of the law when the officers examined the contents of each after it had been abandoned. This evidence was not obtained by the entry into the house and it is immaterial to discuss that. The suggestion that the defendant was compelled to give evidence against himself does not require an answer. The only shadow of a ground for bringing up the case is drawn from the hypothesis that the examination of the vessels took place upon Hester's father's land. As to that, it is enough to say that, apart from the justification, the special protection accorded by the Fourth Amendment to the people in their 'persons, houses, papers and effects,' is not extended to the open fields. The distinction between the latter and the house is as old as the common law.<sup>36</sup>

The U.S. Supreme Court addressed "reasonable expectation of privacy" in *Katz v. United States*.<sup>37</sup> Charles Katz utilized a telephone located within an outdoor public phone booth in Los Angeles to facilitate bookmaking in Miami and Boston.<sup>38</sup> Federal Bureau of Investigation Agents used an electronic eavesdropping device attached to the phone booth to record Katz's conversations.<sup>39</sup> The recordings were entered as evidence in Katz's trial, during which he was convicted of transmitting wagering information by telephone across state lines in violation of 18 U.S.C. § 1084.<sup>40</sup> Katz appealed,

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36. *Id.* at 57-59.

37. 389 U.S. 347 (1967).

38. *Katz*, 389 U.S. at 349.

39. *Id.*

40. *Id.* at 348 n.1.



maintaining that his Fourth Amendment rights were violated by the eavesdropping search.<sup>41</sup> The U.S. Supreme Court agreed with Katz.<sup>42</sup> Justice Stewart wrote the majority opinion.<sup>43</sup> It is Justice Harlan's concurring opinion, however, that is most often cited. Justice Harlan built upon the foundations of the majority opinion and formulated the "reasonable expectation test" for determining whether government activity constitutes a search.<sup>44</sup> Later, this test was arranged into a two-prong test for determining the existence of privacy: If (1) the individual has demonstrated a subjective expectation of privacy and (2) society is prepared to recognize that expectation as objectively reasonable, then there is a right of privacy protected by the Fourth Amendment.<sup>45</sup>

### III. AERIAL SEARCH AND SEIZURE

Beyond the oft-debated concepts of curtilage, open fields, and reasonable expectation of privacy, it is vital that the Fourth Amendment as applied to aerial search and seizure be addressed.

The Fourth Amendment to the United States Constitution is likely memorized (or at least remembered in paraphrase) by every law enforcement officer, prosecutor, and criminal defense attorney:

The right of the people to be secure in their persons, houses, papers, and effects, against unreasonable searches and seizures, shall not be violated, and no Warrants shall issue, but upon probable cause, supported by Oath or affirmation, and particularly describing the place to be searched, and the persons or things to be seized.<sup>46</sup>

As John Villasenor eloquently stated:

[A] careful examination of Supreme Court privacy jurisprudence suggests that the Constitution will provide a much stronger measure of protection against government UAS privacy abuses than is widely appreciated. The Fourth Amendment has served us well since its ratification in 1791, and there is no reason to suspect it will

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41. *Id.* at 348-49.

42. *Id.* at 359.

43. *Id.* at 348.

44. *Katz*, 389 U.S. at 361 (Harlan, J., concurring).

45. Susan Freiwald, *First Principles of Communications Privacy*, 2007 STAN. TECH. L. REV. 3, 20 (2007).

46. U.S. CONST. amend. IV.

be unable to do so in a world where unmanned aircraft are widely used.<sup>47</sup>

While the Fourth Amendment is unarguably the touchstone of all search and seizure cases, the “devil is in the details.” Although the Supreme Court has never explicitly considered the question of sUAS privacy, there is a long list of relevant precedent.<sup>48</sup> United States Supreme Court cases related to aerial search and seizure, as well as pertinent associated technology, include *United States v. Causby*;<sup>49</sup> *Kyllo v. United States*;<sup>50</sup> *California v. Ciraolo*;<sup>51</sup> *Dow Chemical Co. v. United States*;<sup>52</sup> *Florida v. Riley*;<sup>53</sup> and *United States v. Jones*.<sup>54</sup> A brief synopsis of these cases follows.

In *United States v. Causby*, the Court considered whether a government plane flying over Causby’s property at eighty-three feet above ground level, allegedly causing the death Causby’s chickens, gave him the right to seek compensation for the value of the dead chickens from the government.<sup>55</sup> The Court ruled in Causby’s favor, remanding the case back to the trial court.<sup>56</sup> This case has been characterized (incorrectly in the author’s opinion) in some quarters as stating that property owners “own” the airspace above their property to at least eighty-three feet.<sup>57</sup> Consequently, entry into this airspace could infringe upon property rights, create a trespass, and potentially trigger reasonable expectation of privacy issues related to Fourth Amendment protection against unreasonable search and seizure. The author rejects this interpretation and suggests that *Causby* represents a Fifth Amendment “taking” case, which supports the concept that a property owner has a right to due process prior to the government conducting an activity near his property that could reasonably be determined to cause that property owner a monetary loss.<sup>58</sup>

Although not an aerial search case, *Kyllo v. United States* dealt with infrared sensor searches.<sup>59</sup> Since infrared sensors are commonly carried by law

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47. John Villasenor, *Observations From Above: Unmanned Aircraft Systems and Privacy*, 36 HARV. J.L. & PUB. POL’Y 457, 461 (2013).

48. *Id.* at 475.

49. 328 U.S. 256 (1946).

50. 533 U.S. 27 (2001).

51. 476 U.S. 207 (1986).

52. 476 U.S. 227 (1986).

53. 488 U.S. 445 (1989).

54. 565 U.S. 400 (2012).

55. *United States v. Causby*, 328 U.S. 256, 258-59 (1946).

56. *Id.* at 268.

57. *Id.* at 263-64.

58. *Id.* at 266.

59. *Kyllo v. United States*, 533 U.S. 27, 29 (2001).

enforcement sUAS, *Kyllo* is pertinent to this discussion. In 1991, suspecting that *Kyllo* was operating an indoor marijuana growing operation in one unit of a Florence, Oregon, residential triplex, agents with the U.S. Department of Interior used a handheld infrared sensor to scan the exterior of *Kyllo*'s residence.<sup>60</sup> The agents detected a heat pattern that was inconsistent with the other two units in the triplex and consistent with an indoor marijuana growing operation.<sup>61</sup> Using this information, as well as informant statements and information on power usage obtained from the local electric utility company, the agents requested and received a search warrant.<sup>62</sup> Service of the warrant resulted in the seizure of over 100 marijuana plants and *Kyllo*'s arrest. During trial, *Kyllo* attempted to suppress the infrared search on Fourth Amendment grounds.<sup>63</sup> The trial court rejected the suppression motion and was subsequently affirmed by the U.S. Court of Appeals for the Ninth Circuit.<sup>64</sup> The U.S. Supreme Court disagreed with the lower courts and found that the use of an infrared sensor to view a residential dwelling was a "search" and in that particular instance, unreasonable.<sup>65</sup>

*California v. Ciraolo* concerned a marijuana cultivation case occurring in Santa Clara, California.<sup>66</sup> Santa Clara Police received an anonymous tip that *Ciraolo* was growing marijuana in his residential backyard.<sup>67</sup> The officers went to the location and attempted to make observations from a public sidewalk but were thwarted by two, tall fences surrounding the property.<sup>68</sup> The officers subsequently flew over the property at 1000 feet above ground level in a private airplane.<sup>69</sup> They observed marijuana plants growing in *Ciraolo*'s backyard.<sup>70</sup> They leveraged that observation to obtain a search warrant.<sup>71</sup> The warrant was subsequently executed, marijuana plants were seized, and *Ciraolo* was arrested.<sup>72</sup> *Ciraolo* attempted to suppress the aerial search, alleging a Fourth Amendment violation.<sup>73</sup> The case traveled a circuitous path

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60. *Id.* at 29-30.

61. *Id.* at 29.

62. *Id.* at 30.

63. *Id.*

64. *Id.* at 30-31.

65. *Kyllo*, 533 U.S. at 40.

66. *California v. Ciraolo*, 476 U.S. 207, 209-10 (1986).

67. *Id.* at 209.

68. *Id.*

69. *Id.*

70. *Id.*

71. *Id.*

72. *Ciraolo*, 476 U.S. at 209-10.

73. *Id.* at 210.

to the U.S. Supreme Court, which found the search to be reasonable.<sup>74</sup> In the majority opinion, Chief Justice Burger stated:

The observations by Officers Shutz and Rodriguez in this case took place within public navigable airspace, in a physically nonintrusive manner; from this point they were able to observe plants readily discernible to the naked eye as marijuana. That the observation from aircraft was directed at identifying the plants and the officers were trained to recognize marijuana is irrelevant. Such observation is precisely what a judicial officer needs to provide a basis for a warrant. Any member of the public flying in this airspace who glanced down could have seen everything that these officers observed.<sup>75</sup>

Although it is not a criminal case, *Dow Chemical Co. v. United States* speaks to the constitutionality of aerial observation.<sup>76</sup> In 1978, the U.S. Environmental Protection Agency (EPA) was investigating allegations of excessive emissions from generators located at a Dow Chemical plant in Midland, Michigan.<sup>77</sup> Dow Chemical denied EPA entry to the facility.<sup>78</sup> In response, EPA contracted with a private company to conduct an unannounced aerial inspection.<sup>79</sup> Aerial photos were taken from 1200, 3000, and 12,000 feet.<sup>80</sup> When Dow learned that EPA had taken aerial photographs of its facilities, it filed suit in district court alleging that EPA had conducted a warrantless search in violation of the Fourth Amendment.<sup>81</sup> The district court ruled that the aerial inspection violated Dow's "expectation of privacy" from searches.<sup>82</sup> The United States Court of Appeals for the Sixth Circuit reversed the ruling on the grounds that Dow only enjoyed a reasonable expectation of privacy in the interior of the facility.<sup>83</sup> The U.S. Supreme Court affirmed the Sixth Circuit's decision, finding the aerial search to be constitutional.<sup>84</sup>

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74. *Id.* at 215.

75. *Id.* at 213-14.

76. *Dow Chem. Co. v. United States*, 476 U.S. 227, 229 (1986).

77. *Id.*

78. *Id.*

79. *Id.*

80. *Id.*

81. *Id.* at 230.

82. *Dow Chem.*, 476 U.S. at 230.

83. *Id.* at 230-31.

84. *Id.* at 239.

In *Florida v. Riley*, Pasco County, Florida, Sheriff's Deputies received a tip that Riley was cultivating marijuana on his property.<sup>85</sup> Orbiting the property in a helicopter at 400 feet above ground level, the deputies were able to see through missing panels in the roof of a greenhouse and observed marijuana growing.<sup>86</sup> A search warrant was obtained and executed.<sup>87</sup> Marijuana was seized, and Riley was arrested.<sup>88</sup> Riley filed a motion to suppress the evidence obtained in the search.<sup>89</sup> The trial court granted his motion and held that viewing his property from the air violated Riley's reasonable expectation of privacy.<sup>90</sup> The Florida appellate court reversed the trial court's decision and denied Riley's motion to dismiss the evidence.<sup>91</sup> The appellate court also certified the case to the Supreme Court of Florida, which reinstated the trial court's order to suppress the evidence.<sup>92</sup> The State of Florida filed for and was granted certiorari.<sup>93</sup> The U.S. Supreme Court disagreed with the trial court and the Supreme Court of Florida, finding the aerial search to be constitutional.<sup>94</sup> Writing for the plurality, Justice White stated that "what was growing in the greenhouse was subject to viewing from the air. . . . Any member of the public could legally have been flying over Riley's property in a helicopter at the altitude of 400 feet and could have observed Riley's greenhouse. The police officer did no more."<sup>95</sup>

And finally, *United States v. Jones*, decided in 2012, involved task force (Federal Bureau of Investigation and Washington, DC Metropolitan Police) officers placing a global positioning system (GPS) tracking device on Antoine Jones's vehicle in 2005.<sup>96</sup> Jones was a suspect in a narcotics investigation.<sup>97</sup> The tracking device remained on Jones's vehicle for approximately one month and provided evidence of Jones being at a location where illicit narcotics sales occurred.<sup>98</sup> After two trials, one ending in a mistrial, Jones

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85. *Florida v. Riley*, 488 U.S. 445, 448 (1989).

86. *Id.*

87. *Id.* at 448-49.

88. *Id.* at 449.

89. *Id.*

90. *Id.*

91. *Riley*, 488 U.S. at 449.

92. *Id.* at 447-49.

93. *Id.* at 447.

94. *Id.* at 452.

95. *Id.* at 451.

96. *United States v. Jones*, 565 U.S. 400, 402-03 (2012).

97. *Id.* at 402.

98. *Id.* at 403.

and a co-conspirator were convicted of conspiring to sell drugs.<sup>99</sup> Jones appealed, and his conviction was overturned.<sup>100</sup> The Supreme Court granted the U.S. Government's petition for certiorari.<sup>101</sup> The Court was unanimous in its finding that the task force's actions were unconstitutional.<sup>102</sup> Justice Scalia, writing for the majority, cited a Fourth Amendment violation in the form of a trespass when the GPS device was installed.<sup>103</sup> Justice Alito, in a concurring opinion, differed from the majority, reasoning that the method of evidence collection was unconstitutional.<sup>104</sup> Justice Alito stated that Jones's "reasonable expectation of privacy" was violated by the "long-term" (four weeks) monitoring.<sup>105</sup> *Jones* demonstrates that the duration of surveillance is a relevant factor for Fourth Amendment inquiries. The longer the technology is used to support a surveillance, the more intrusive the search becomes.

Collectively, an analysis of the cited cases provides insight into factors that the Supreme Court deems important in the areas of aerial searches and the use of technology when conducting aerial searches:

- (1) Was the law enforcement aircraft in "navigable airspace," and could a civilian aircraft have made an observation from that same position?
- (2) Did the law enforcement aircraft create any disruptive noise or rotor downwash?
- (3) What was the duration of the search?
- (4) Did the defendant take any effort to conceal the subject area from aerial search?
- (5) Was the technology used to intrude on the interior of a dwelling?
- (6) Was the technology used readily available to the public?

Terms such as "navigable airspace" have been complicated<sup>106</sup> by the FAA's insistence that sUAS remain below 400 feet.<sup>107</sup> Prior to the beginning of widespread use of sUAS, navigable airspace was generally described in

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99. *Id.* at 403-04.

100. *Id.* at 404.

101. *Id.*

102. *Jones*, 565 U.S. at 413.

103. *Id.* at 405.

104. *Id.* at 418 (Alito, J., concurring).

105. *Id.* at 429-31.

106. Villasenor, *supra* note 47, at 490.

107. 14 C.F.R. § 107.51(b) (2018).

terms of minimum safe altitudes for manned aircraft pursuant to 14 C.F.R. Part 91. Fixed-wing aircraft are generally not able to fly lower than 500 feet above ground level unless landing or taking off.<sup>108</sup> Helicopters cannot fly lower than an altitude that, when presented with an engine failure, would allow a landing without undue risk to persons or property on the surface.<sup>109</sup> The paradigm of “minimum safe altitudes” is inverted with sUAS, as the FAA imposes a “maximum safe altitude” of 400 feet.<sup>110</sup> This mandate, combined with the U.S. Supreme Court’s decision in *Riley* that observations made by law enforcement officers from a helicopter at 400 feet were constitutional, gives rise to an interesting predicament: absent a warrant, observations from an sUAS quadcopter below 400 feet potentially run afoul of *Riley*. And observations from an sUAS above 400 feet are not legally possible due to the altitude restriction imposed by FAA regulations.<sup>111</sup> Considering the increasing use of sUAS by law enforcement, further clarification from the Supreme Court is desirable. As criminal cases in which law enforcement use sUAS make their way through the courts, we will likely see a case make it to a federal appellate court, or even the U.S. Supreme Court, in the relatively near future.

In addition to the Fourth Amendment and relevant U.S. Supreme Court cases, law enforcement operators of sUAS must be aware of, and comply with, applicable state laws. In 2016, Jonathon Hauenschild stated, “there are over 750 introduced or enacted laws [in the U.S.] where ‘autonomous aerial system,’ ‘autonomous aerial vehicle,’ or ‘drone’ are mentioned in the text. A number of these proposed laws impact law enforcement’s use of UAS/UAV technology. . . .”<sup>112</sup> The North Dakota Century Code contains one such law.<sup>113</sup> The North Dakota statute is focused on law enforcement use of sUAS for “surveillance purposes.”<sup>114</sup> Perplexingly, though, the statute’s rather skimpy definitions section fails to define “surveillance.”<sup>115</sup> Consequently, what constitutes surveillance is unknown. The statute provides that “Infor-

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108. 14 C.F.R. § 91.119(c) (2018).

109. 14 C.F.R. § 91.119(d) (2018).

110. 14 C.F.R. § 107.51(b) (2018).

111. *Id.*

112. JONATHON HAUENSCHILD, AM. LEGISLATIVE EXCH. COUNCIL, A GUIDE TO STATE LAWS IMPACTING UAS/UAV OPERATIONS: A RESOURCE FOR RECREATIONAL, NON-RECREATIONAL AND COMMERCIAL DRONE OPERATORS 1 (2016).

113. N.D. CENT. CODE § 29-29.4 (2017).

114. *Id.*

115. N.D. CENT. CODE § 29-29.4-01 (2017).

mation obtained from an unmanned aerial vehicle is not admissible in a prosecution or proceeding within the state unless the information was obtained: (a) [p]ursuant to the authority of a search warrant; or (b) [i]n accordance with exceptions to the warrant requirement.”<sup>116</sup> Subsection (b) is quite important in that it codifies exceptions to the search warrant requirement. Presumably the legislature was referring to consent;<sup>117</sup> search incident to lawful arrest;<sup>118</sup> plain view;<sup>119</sup> stop and frisk;<sup>120</sup> automobiles;<sup>121</sup> hot pursuit;<sup>122</sup> and exigent circumstances.<sup>123</sup> The Grand Forks County Sheriff’s Department—one of the few law enforcement agencies in North Dakota utilizing sUAS—has complied with this law by requiring officers to obtain a warrant for all sUAS evidence-gathering flights that are not conducted subject to recognized Fourth Amendment warrant exceptions.<sup>124</sup> In reality, the Northeast Region sUAS Unit has conducted over 100 missions since the statute’s enactment. None of those missions required a search warrant because they all met one or more of the seven recognized warrant exceptions, most commonly “plain view.”<sup>125</sup>

#### IV. WEAPONIZATION OF SUAS

Despite the media’s occasional preoccupation with the possibility of law enforcement agencies arming sUAS,<sup>126</sup> there are no U.S. law enforcement agencies currently doing so. Many law enforcement agencies, including the Grand Forks County Sheriff’s Office (GFSO), have a policy prohibiting the arming of sUAS.<sup>127</sup> The GFSO Northeast Region Unit’s UAS Policies and Procedures Manual states: “Deployment of any type of projectile, chemical agent, or electrical current weapon from a Unit UAS is PROHIBITED.”<sup>128</sup> National law enforcement organizations have taken the position that arming sUAS is inappropriate. For example, the International Association of Chiefs

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116. N.D. CENT. CODE § 29-29.4-02 (2017).

117. *See Illinois v. Rodriguez*, 497 U.S. 177, 181 (1990).

118. *See United States v. Robinson*, 414 U.S. 218, 224 (1973).

119. *See Texas v. Brown*, 460 U.S. 730, 735-37 (1983).

120. *See Terry v. Ohio*, 392 U.S. 1, 30-31 (1968).

121. *See Carroll v. United States*, 267 U.S. 132, 159 (1925).

122. *See Welsh v. Wisconsin*, 466 U.S. 740, 749-50 (1984).

123. *See Kentucky v. King*, 563 U.S. 452, 455 (2011).

124. GRAND FORKS CTY. SHERIFF’S DEP’T, NORTHEAST REGION UNMANNED AIRCRAFT SYSTEMS UNIT POLICIES AND PROCEDURES MANUAL § 04.10.03 (2017).

125. *Id.*

126. Alan Frazier, *Armed Unmanned Aircraft Systems?*, AIR BEAT, Mar./Apr. 2016, at 24, 25.

127. GRAND FORKS CTY. SHERIFF’S DEP’T, *supra* note 124, § 05.15.00.

128. *Id.* § 04.15.01.



of Police “discourages” the arming of sUAS.<sup>129</sup> The Public Safety Aviation Accreditation Commission also includes an arms prohibition in their recently published guidelines on sUAS programs.<sup>130</sup>

Use of force is one of the most important decisions made by law enforcement officers. It has potential criminal, civil, and societal repercussions. Making the decision to use force based on viewing an sUAS video, which may be poor quality and subject to a few seconds latency, is not wise. While the delivery of both lethal and less-than-lethal force from sUAS is technologically possible, the potential repercussions of using force through sUAS make it undesirable. In addition, sufficient means of deploying reasonable force already exist absent the use of sUAS as a delivery platform.<sup>131</sup>

## V. RECOMMENDATIONS FOR LAW ENFORCEMENT AGENCIES

While discussing the Fourth Amendment and case law applicable to law enforcement’s use of sUAS is quite interesting, no comment on the subject would be complete without providing suggestions on how law enforcement can responsibly and legally implement the technology.

### A. ENGAGE AND EDUCATE THE PUBLIC

Attempting to keep consideration or creation of an sUAS unit from the public is simply a bad decision. On the contrary, law enforcement agencies should engage the public as much as possible. One way to do so is to utilize existing police advisory panels and community groups to weigh in on the use of sUAS. Consider input received from these groups to help formulate sUAS unit policies and procedures. Schedule and widely advertise forums to solicit input from the public. Reach out to organizations such as service clubs, chambers of commerce, and neighborhood watch groups. Provide these groups’ members with factual information on when and how sUAS will be utilized. Be welcoming and transparent to the media. Invite local media representatives to observe sUAS unit training sessions. Answer questions directly and honestly. Only through this type of earnest dialog can law enforcement agencies gauge the public’s opinion of sUAS and dispel the incorrect perceptions of sUAS which, to a great extent, have been fostered by the media.<sup>132</sup>

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129. INT’L ASS’N OF CHIEFS OF POLICE, RECOMMENDED GUIDELINES FOR THE USE OF UNMANNED AIRCRAFT 3 (2012).

130. PUB. SAFETY AVIATION ACCREDITATION COMM’N, STANDARDS FOR PUBLIC SAFETY SMALL UNMANNED AIRCRAFT SYSTEM (sUAS) PROGRAMS § 05.01.07 (2017).

131. *Id.*

132. Frazier, *supra* note 1, at 46-47.

## B. POLICIES AND PROCEDURES

Agencies should include unequivocal language in their sUAS policies and procedures emphasizing the importance of respecting the Constitution and the privacy of the public. For example, the GFSO Northeast UAS Unit's Mission Statement ends with "Missions will be accomplished efficiently and safely while respecting the law and the privacy of the citizens we serve."<sup>133</sup> Specific guidance on when a search warrant is required should be included in the policy. Guidelines and procedures for minimization of camera usage and storage of images are essential. Digital images obtained from sUAS should be safeguarded as evidence in compliance with the agency's evidence policy.<sup>134</sup>

## C. INITIAL AND RECURRENT TRAINING

All sUAS unit personnel should receive initial training on aerial search and seizure statutes and case law as well as unit and department policies and procedures related to searches and seizures of evidence. Emphasis should be placed on minimizing the gathering of images and safeguarding those images. Document all training thoroughly and accurately. If it is not documented, it did not occur. Supervisors and managers should provide adequate oversight to ensure that sUAS unit policies and procedures are being properly implemented.<sup>135</sup>

## D. INTERNAL INVESTIGATIONS

As in the case of any alleged serious violation of an agency policy, agencies should accept and vigorously investigate any allegations of inappropriate use of sUAS. If the allegation is sustained, appropriate action should be initiated up to and including transfer from the unit or termination of employment.<sup>136</sup>

## E. COORDINATION WITH PROSECUTORS AND JUDGES

An outreach effort to engage and coordinate with prosecutors and judges should be initiated. Open dialog between law enforcement and these officers of the court will foster a mutual understanding of sUAS technology and the underlying legal principles that must be adhered to in its use.

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133. GRAND FORKS CTY. SHERIFF'S DEP'T, *supra* note 124, at 6.

134. Frazier, *supra* note 1, at 47.

135. *Id.*

136. *Id.*

## VI. CONCLUSION

Law enforcement has become a complex undertaking. Each time a new technology is added, complexity increases. In order to ensure that law enforcement agencies are not only “doing things right,” but more importantly, are “doing the right thing,” they must carefully consider each new technology that is implemented. Small unmanned aircraft systems are just one of the recent technologies that law enforcement must carefully consider and responsibly implement.<sup>137</sup> Law enforcement agencies utilizing sUAS should establish policies specifically related to appropriate use of the technology, including when a search warrant is required and how digital evidence will be safeguarded and stored. Law enforcement agencies should strongly consider prohibiting delivery of force from sUAS.

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137. *Id.*