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AERIAL SURVEILLANCE WITHSTANDS FOURTH AMENDMENT SCRUTINY

I. INTRODUCTION

Advancing technology provides the impetus for a battle between two of society's competing interests: (1) the effective enforcement of its laws, and (2) the privacy of its individual members. Many new technological developments present, on one hand, an opportunity for government officials to upgrade the available means to preserve a peaceful, law-abiding society. On the other hand, modern technology presents the frightening possibility that the government will strip its citizens of their personal privacy.

Air travel, although no longer new technology, has become the arena for a relatively new fourth amendment battle over use of the skies for warrantless aerial surveillance. Does a person's constitutional "right to privacy" protect his property from aerial observation by police who act without a judicially issued search warrant? While a few state and federal courts have ruled on the issue of admissibility of evidence obtained by warrantless aerial surveillance, the issue is relatively unexplored.¹ The United States Supreme Court was silent with regard to warrantless aerial surveillance until 1986 when the Court decided *California v. Ciraolo*² and *Dow Chemical Co. v. United States*.³

1. State court decisions appeared in appreciable numbers in the early 1970's, while important federal district court and court of appeals cases appeared in greater numbers in the early 1980's. See Note, *The EPA's Use of Aerial Photography Violates the Fourth Amendment: Dow Chemical Co. v. United States*, 15 CONN. L. REV. 327 (1983); Comment, *Aerial Surveillance: Overlooking the Fourth Amendment*, 50 FORDHAM L. REV. 271 (1981); Comment, *Aerial Surveillance and the Fourth Amendment*, 17 J. MARSHALL L. REV. 455 (1984); Note, *Warrantless Aerial Surveillance After Ciraolo and Dow Chemical: The Omniscient Eye in the Sky*, 18 LOY. U. CHI. L.J. 285 (1986); Comment, *The Fourth Amendment in the Age of Aerial Surveillance: Curtains for the Curtilage?*, 60 N.Y.U. L. REV. 725 (1985); Note, *California v. Ciraolo: Has Backyard Privacy Gone to Pot?*, 18 PAC. L.J. 1003 (1987); Comment, *Open Air Searches and Enhanced Surveillance in California*, 21 SANTA CLARA L. REV. 779 (1981); Note, *Warrantless Aerial Surveillance of Private Residence's Curtilage From Altitude of 1000 Feet Does Not Implicate Fourth Amendment*, 18 ST. MARY'S L.J. 561 (1986); Note, *In Plane View: Is Aerial Surveillance a Violation of the Fourth Amendment?* California v. Ciraolo, 40 SW. L.J. 1133 (1986); Comment, *Fourth Amendment Implications of Warrantless Aerial Surveillance*, 17 VAL. U.L. REV. 309 (1983); Comment, *Warrantless Aerial Surveillance: A Constitutional Analysis*, 35 VAND. L. REV. 409 (1982).

2. 106 S. Ct. 1809 (1986).

3. 106 S. Ct. 1819 (1986).

Faced with the issue of admissibility of evidence found in a warrantless aerial search, courts apply established fourth amendment tests as well as several relatively new factors which have emerged from state and federal court decisions. Using this analysis, aerial surveillance which is controlled by proper guidelines can withstand judicial scrutiny and can be used to greatly enhance the capabilities of law enforcement officials without invading the privacy of United States citizens.

II. HISTORICAL DEVELOPMENT OF PRIVACY INTERESTS

A. *The Boundaries of Fourth Amendment Protection*

The fourth amendment to the United States Constitution guarantees persons the right to be secure from unreasonable searches and seizures.⁴ The meaning of "unreasonable," however, has long been a subject of debate and change. Early American case law first determined the boundaries of this constitutional protection according to property law and tort law guidelines.⁵ Under this approach, certain "areas" were beyond the limits of a legitimate government search.⁶ Therefore, a physical invasion or trespass into one of the protected areas constituted a violation of the fourth amendment.⁷

As fourth amendment protection developed, the courts determined that there were three basic areas of property which should be afforded varying degrees of protection: the dwelling, the curtilage, and the open field. The dwelling and the curtilage received the greatest amount of protection, while the open field received virtually no protection from government intrusion. Justice Holmes in *Hester v. United States*⁸ stated that the open field is not afforded protection from unreasonable searches under the fourth amendment.⁹ In *Hester*, the petitioner was convicted of violating prohibition laws; officers viewed the petitioner's illegal activity from an open field owned by the petitioner.¹⁰ In reaching his conclusion,

4. U.S. CONST. amend. IV. The fourth amendment states:

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.

Id.

5. See Note, California v. Ciraolo: *Has Backyard Privacy Gone to Pot?*, 18 PAC. L.J. 1003, 1011 (1987) (analysis of development of the fourth amendment's searches and seizures clause).

6. See *Boyd v. United States*, 116 U.S. 616, 630 (1886).

7. See *Katz v. United States*, 389 U.S. 347, 352 (1967).

8. 265 U.S. 57 (1924).

9. *Id.* at 59.

10. *Id.* at 58.

Holmes stated that open fields are not contained in the fourth amendment phrase "persons, houses, papers and effects" and that the distinction between houses and open fields is "as old as the common law."¹¹

Unlike the open field, the fourth amendment¹² expressly protects the dwelling, and the Supreme Court has extended this protection to the curtilage, as articulated in *Oliver v. United States*.¹³ In *Oliver*, the Court defined curtilage as "the area to which extends the intimate activity associated with the 'sanctity of a man's home and the privacies of life', and therefore has been considered part of the home itself for Fourth Amendment purposes."¹⁴ The Supreme Court in *United States v. Dunn*¹⁵ set out four factors which determine whether an area is curtilage:¹⁶ "[1] proximity of the area claimed to be curtilage to the home, [2] whether the area is included within an enclosure surrounding the home, [3] the nature of the uses to which the area is put, and [4] the steps taken by the resident to protect the area from observation by people passing by."¹⁷ If an area meets these four requirements, it is likely that the area will fall "under the home's 'umbrella' of Fourth Amendment protection."¹⁸

B. *Fourth Amendment Analysis Based on Property and Tort Principles*

English common law influenced both the writing of the United States Constitution and the theory behind property-based fourth amendment boundaries.¹⁹ A violation of individual privacy at common law required an actual, physical trespass.²⁰ In the late 18th Century, an English court in *Entick v. Carrington*²¹ held that surveillance using only the eye or ear, unaccompanied by physical trespass, could not violate the privacy of another.²² An American case, *Olmstead v. United States*,²³ used the common-law doctrines to find a telephone line wiretapping constitutional. The court determined that the wiretapping was permissible

11. *Id.*

12. See *supra* note 4 for the text of U.S. CONST. amend. IV.

13. 466 U.S. 170 (1984).

14. *Id.* at 180 (quoting *Boyd v. United States*, 116 U.S. 616, 630 (1886)) (citation omitted).

15. 107 S. Ct. 1134 (1987).

16. *Id.* at 1139.

17. *Id.*

18. *Id.*

19. See Comment, *Warrantless Aerial Surveillance: A Constitutional Analysis*, 35 VAND. L. REV. 409, 412 (1982).

20. *Id.* at 411-14. Comment, *The Fourth Amendment in the Age of Aerial Surveillance: Curtains for the Curtilage?*, 60 N.Y.U. L. REV. 725, 730-34 (1985).

21. 19 Howell's State Trials 1029 (1765), cited in Comment, *supra* note 19, at 412.

22. See Comment, *supra* note 19, at 412.

23. 277 U.S. 438 (1928).

because the telephone lines were tapped without any trespass on the defendant's property.²⁴ Fourteen years later, in *Goldman v. United States*,²⁵ the Supreme Court upheld a search where a listening device was placed against the wall in one room in order to overhear the conversations in the adjacent office. In *Goldman*, as in *Olmstead*, the Court based its decision solely on whether the government had physically trespassed onto the defendant's property.²⁶

C. *Modern Fourth Amendment Analysis*

In 1961, the Supreme Court began to alter what it viewed as a constitutionally protected area. In *Silverman v. United States*,²⁷ the Court bypassed the strict trespass requirement by ruling that the use of a "spike mike" was unconstitutional because it was an "unauthorized physical penetration" onto the defendant's premises.²⁸ Although no government official physically trespassed into Silverman's home, police officers listened to conversations throughout the house with a spike mike, which was driven through the wall of the building until it contacted a heating duct.²⁹ The Supreme Court found that the use of the spike mike was constitutionally distinct from the listening device used in *Goldman*, because the mike actually penetrated a constitutionally protected area, and because "Fourth Amendment rights are not inevitably measurable in terms of ancient niceties of tort or real property law."³⁰ *Silverman* marks the initial departure from a period of property-based fourth amendment analysis into an era of objectively testing a person's privacy interests.

The Supreme Court first articulated an objective standard of privacy expectations in *Katz v. United States*.³¹ In *Katz*, FBI agents attached a listening device to a telephone booth to record a telephone conversation.³² The information obtained from the telephone conversation was admitted at trial over the objections of the petitioner, who was convicted

24. *Id.* at 464. The Court in *Olmstead* stated that there was no search or seizure in that only the sense of hearing was involved, and no entry was made on defendant's property. *Id.*

25. 316 U.S. 129 (1942).

26. *Id.* at 134.

27. 365 U.S. 505 (1961).

28. *Id.* at 509. A spike mike includes a microphone with a spike about a foot long attached to it, together with an amplifier, a power pack, and earphones. The "mike" was used to hear conversations inside a dwelling by driving it through a wall until it made contact with a good sounding board. By making contact with a heating duct which ran throughout the house, officers were able to hear conversations anywhere in the house. *Id.* at 506-07.

29. *Id.*

30. *Id.* at 511.

31. 389 U.S. 347 (1967).

32. *Id.* at 348.

of illegally transferring wagering information by telephone.³³ The government argued that there had been no violation of the fourth amendment because there was no physical penetration or trespass of the phone booth.³⁴

Disregarding the government's trespass argument, the Supreme Court applied a new standard of review and concluded that the petitioner had a reasonable expectation of privacy that his telephone conversation would not be overheard, even when using a public telephone.³⁵ In a concurring opinion, Justice Harlan further defined the new standard of review to include a determination of whether an individual's expectation of privacy is legitimate.³⁶ The person must have exhibited an *actual* (subjective) expectation of privacy, and the individual's expectation must be one that society is prepared to recognize as reasonable.³⁷ This new rule, however, recognized that what a person knowingly exposes to the public is not subject to fourth amendment protection.³⁸ In abrogating the "protected areas" rationale, the Court in *Katz* stated that the fourth amendment protects people, not places.³⁹ Thus, the Supreme Court set up a new standard of review based upon an individual's reasonable expectation of privacy.⁴⁰

D. *Remnants of Protected Areas Theory Still in Effect*

Because the Supreme Court still draws a distinction between open fields and curtilage, some remnants of the property-based system remain.⁴¹ While open fields receive no fourth amendment protection from government searches, curtilage retains its status as an area afforded great protection by the fourth amendment.⁴² Seventeen years after the decision in *Katz*, the Supreme Court upheld this distinction in *Oliver v. United States*.⁴³

33. *Id.*

34. *Id.* at 352.

35. *Id.* at 353. The surveillance was limited to the defendant's conversation and did not occur in an area previously regarded as "protected." *Id.* at 352-54.

36. *Id.* at 361.

37. *Id.*

38. *Id.* at 351.

39. *Id.*

40. *Id.* at 361.

41. See Note, *Oliver v. United States: Open Fields and Reasonable Expectations of Privacy*, 1985 UTAH L. REV. 463. By saying that the open fields afford no reasonable expectation of privacy, the Court in *Oliver* placed the old property-based system back into effect. *Id.* at 476.

42. See *United States v. Dunn*, 107 S. Ct. 1134, 1139 (1987) (Supreme Court upheld search of barn because barn was not within curtilage of home).

43. 466 U.S. 170 (1984).

In essence, the Court in *Oliver* held that the fourth amendment affords no protection to open fields, even under the *Katz* reasonable expectation of privacy test. In *Oliver*, narcotics agents, acting on reports that marijuana was growing on petitioner's farm, walked past "no trespassing" signs and onto petitioner's land to find marijuana growing a mile from petitioner's home.⁴⁴ The Court held that there is no reasonable expectation of privacy in the outdoors except in property that falls within the definition of curtilage.⁴⁵ The Court viewed steps taken by the petitioner to ensure privacy⁴⁶ as irrelevant in determining petitioner's expectation of privacy.⁴⁷ A reasonable expectation of privacy is unrelated to measures taken by the petitioner to hide an illegal activity; the relevant question was whether the government inspection intruded on the "personal and societal values protected by the Fourth Amendment."⁴⁸

Although the Court used the bifurcated *Katz* test, the decision has been criticized for allegedly using the former property-based fourth amendment analysis. Critics view the holding in *Oliver*, which states that a person never has a reasonable expectation of privacy in the open field, as upholding the old property law distinctions. Thus, these critics believe that *Oliver* directly conflicts with *Katz* because *Katz* represents the end of property-based fourth amendment analysis.⁴⁹

44. *Id.* at 173.

45. *Id.* at 185.

46. In *Oliver*, petitioner erected locking gates, posted "no trespassing" signs, and planted his crop in an area shielded by trees.

47. *Id.* at 182. The court reasoned that steps taken to protect privacy do not always establish a legitimate expectation of privacy. The court instead stated that legitimacy depends not upon whether a defendant chooses to conceal his activities, but upon whether the intrusion violates subjective and societal privacy values inherent in the fourth amendment. *Id.* at 182-83.

48. *Id.*

49. *But see* United States v. *Oliver*, 686 F.2d 356 (6th Cir. 1982), *aff'd*, 466 U.S. 170 (1984). Here the court upheld the compatibility of *Katz* and *Oliver*:

"[T]he Fourth Amendment protects people, not places." The question, however, is what protection it affords to those people. Generally, as here, the answer to that question requires reference to a "place." My understanding of the rule that has emerged from prior decisions is that there is a twofold requirement, first that a person have exhibited an actual (subjective) expectation of privacy and, second, that the expectation be one that society is prepared to recognize as "reasonable." Thus a man's home is, for most purposes, a place where he expects privacy, but objects, activities, or statements that he exposes to the "plain view" of outsiders are not "protected" because no intention to keep them to himself has been exhibited.

Id. at 359-60 (quoting *Katz v. United States*, 389 U.S. 347, 361 (1967)). The court concluded that as a matter of law any expectation of privacy that landowners have for their open field is not an expectation that society is willing to accept as reasonable. *Id.* at 360. *See also* *Maine v. Thornton*, 104 S. Ct. 1735, 1741 (1984) (upholding the ruling in *Oliver* and enumerating three critical factors to determine the degree of intrusion of an open field search: (1) the intent of the framers of the Constitution; (2) the use to which the land is put; and (3) societal recognition of differing degrees of scrutiny for different areas).

This criticism is misplaced, however, because the *Oliver* decision is clearly compatible with *Katz*. Open fields do not "provide the setting for those intimate activities that the [fourth] Amendment is intended to shelter from government interference or surveillance."⁵⁰ Society has no interest in protecting activities which occur in the open fields and, therefore, would not view an expectation of privacy in an open field as reasonable.⁵¹ The Court in *Oliver* also stated that because open fields "are accessible to the public and the police in ways that a home, an office, or commercial structure would not be," and because "[i]t is not generally true that fences or 'No Trespassing' signs effectively bar the public from viewing open fields," the asserted expectation of privacy in open fields is not one that society will recognize as reasonable.⁵² The Court did recognize a property-based distinction by concluding that open fields are not protected by the fourth amendment.⁵³ The Court came to its conclusion, however, by recognizing that an open field will never meet the second requirement of the *Katz* test.⁵⁴

Opponents of aerial surveillance argue that allowing aerial searches will disrupt the privacy of individuals because people will be inhibited from engaging in private outdoor activities.⁵⁵ The Supreme Court in *Katz* stated that "[w]hat a person knowingly exposes to the public, even in his own house or office, is not a subject of Fourth Amendment protection."⁵⁶ The proliferation of air travel requires a reasonable person to realize that at any time a plane or helicopter may fly over his property. With this in mind, a reasonable person will not engage in activities out of doors which he desires to keep private if he realizes that the activity could be detected by observation from the sky.

50. *Oliver v. United States*, 466 U.S. 170, 179 (1984).

51. *Id.*

52. *Id.*

53. *Id.*

54. *See id.*

55. *But see* Note, *Oliver v. United States: Open Fields and Reasonable Expectation of Privacy*, 1985 UTAH L. REV. 463. The author states that *Oliver* is inconsistent with the reasonable expectation of privacy principle because it is possible to have a reasonable expectation of privacy in an open field. The author cites solitary walks, agriculture businesses, lovers' meetings, religious worship services, and "creative endeavors" as instances where a person has a legitimate expectation of privacy from aerial surveillance outdoors. *Id.* at 471-72. *See also* Note, *Oliver v. United States: Will Expectations of Privacy Shield Criminal Acts No More?*, 36 MERCER L. REV. 1401 (1985).

56. *Katz v. United States*, 389 U.S. 347, 351 (1967).

III. THE SUPREME COURT BREAKS ITS SILENCE ON WARRANTLESS AERIAL SURVEILLANCE

Fourth amendment analysis has progressed so that it now protects reasonable expectations of privacy, rather than particular areas of property. Due to this change in analysis, the Supreme Court has shifted its focus from determining what property areas are protected to determining what expectations of privacy are reasonable. The Supreme Court addressed the issue of whether expectations of privacy from aerial surveillance are reasonable in two cases decided on May 19, 1986: *California v. Ciraolo*⁵⁷ and *Dow Chemical Co. v. United States*.⁵⁸

A. *California v. Ciraolo*

Acting on an anonymous telephone tip that Ciraolo was growing marijuana on his residential property, police attempted to investigate the area from ground level.⁵⁹ Two fences completely enclosed the yard and blocked the officers' view.⁶⁰ Acting without a search warrant, the police officers employed a private plane in which they flew over Ciraolo's property at an altitude of 1000 feet.⁶¹ From the aerial vantage point the officers viewed marijuana plants growing in Ciraolo's backyard and photographed the plants with a 35mm camera.⁶² The officers obtained a search warrant and seized seventy-three marijuana plants.⁶³

After the trial court denied a motion to suppress evidence of the search,⁶⁴ the California Court of Appeal reversed the trial court's ruling because the property searched was within the curtilage of Ciraolo's home, where he had a reasonable expectation of privacy from such intrusions.⁶⁵ The United States Supreme Court reversed the appellate court's decision,⁶⁶ holding that aerial observation of Ciraolo's property was not

57. 106 S. Ct. 1809 (1986).

58. 106 S. Ct. 1819 (1986).

59. *Ciraolo*, 106 S. Ct. at 1810.

60. *Id.*

61. *Id.*

62. *Id.* at 1810-11.

63. *Id.* at 1811.

64. *Id.*

65. *People v. Ciraolo*, 161 Cal. App. 3d 1081, 1090, 208 Cal. Rptr. 93, 98 (1984), *rev'd*, 106 S. Ct. 1809 (1986).

66. *California v. Ciraolo*, 106 S. Ct. 1809, 1813 (1986).

unreasonable even though the property observed was within the curtilage⁶⁷ of a dwelling.⁶⁸

Conceding that Ciraolo's marijuana garden was within the curtilage of his home, the Supreme Court analyzed the facts of the case in light of the test set out in *Katz v. United States*.⁶⁹ The majority found that although Ciraolo may have shown a legitimate subjective expectation of privacy, his expectation was not one that society would view as reasonable.⁷⁰ Ciraolo had protected his property from ground-level observation by erecting a ten-foot fence.⁷¹ The Court pointed out, however, that a ten-foot fence might not shield the plants from the eyes of a person perched on the back of a truck or riding in a two-level bus.⁷²

Ciraolo challenged the government's right to observe his backyard from any vantage point, whether ground-level, elevated, or aerial.⁷³ However, it was unreasonable for Ciraolo to think that the police would not use all possible vantage points in their investigation.⁷⁴ The fourth amendment does not require police to shield their eyes when passing a home; likewise, observations from any place where police have a right to be is not forbidden.⁷⁵ Moreover, in today's society, where air travel is very common, any person flying over the respondent's home could have

67. See *Dow Chemical Co. v. United States*, 749 F.2d 307 (6th Cir. 1984), *aff'd*, 106 S. Ct. 1819 (1986). The court stated:

The doctrine of curtilage is grounded in the peculiarly strong concepts of intimacy, personal autonomy and privacy associated with the home. The home is fundamentally a sanctuary, where personal concepts of self and family are forged, where relationships are nurtured and where people normally feel free to express themselves in intimate ways. The potent individual privacy interests that inhere in living within a home expand into . . . [t]he backyard and area immediately surrounding the home [which] are really extensions of the dwelling itself.

Id. at 314.

68. The Supreme Court has consistently held that the doctrine of curtilage applies not only to the home but also to private businesses and commercial buildings. See *Dow Chemical*, 106 S. Ct. at 1825; *Marshall v. Barlow's Inc.*, 436 U.S. 307 (1978).

69. 389 U.S. 347 (1967). In this landmark case, the Supreme Court adopted a new standard for reasonableness under the fourth amendment. This new standard uses a two-part test to determine whether a defendant's expectation of privacy is reasonable under the circumstances: (1) the defendant must have shown a subjective expectation of privacy, and (2) that expectation must be one which society is willing to accept as reasonable. *Id.*

70. *Ciraolo*, 106 S. Ct. at 1811-13.

71. *Id.* at 1812.

72. *Id.* See *United States v. Knotts*, 460 U.S. 276, 282 (1983). Police officers used an electronic beeper to track the defendant to his home. The Court found that the defendant's expectation of privacy did not extend to his activities within his automobile or to activities outside the dwelling. *Id.*

73. *Ciraolo*, 106 S. Ct. at 1812.

74. *Id.*

75. *Id.*

seen the same thing that the officers observed.⁷⁶ In light of these findings, the Supreme Court ruled that Ciralo's expectation of privacy from aerial observation was not an expectation that society would accept as reasonable.⁷⁷

B. Dow Chemical Co. v. United States

With Dow Chemical Company's consent, Environmental Protection Agency (EPA) officials conducted an inspection of Dow's 2000-acre chemical manufacturing facility; Dow denied the EPA's requests for further inspection.⁷⁸ Because extensive security at the facility blocked ground-level inspection, EPA officials without consent or a search warrant employed an aerial photographer who took pictures of the plant at altitudes of 12,000, 3,000, and 1,200 feet.⁷⁹ Company policy provided for the investigation of low-level flights over the plant. When Dow Chemical officials learned of the aerial observations, the company brought suit in federal district court on the ground that the EPA search constituted an illegal search in violation of the fourth amendment.⁸⁰ The district court granted summary judgment in favor of Dow Chemical and enjoined the EPA from disseminating the photographs.⁸¹ The Court of Appeals for the Sixth Circuit reversed,⁸² and the United States Supreme Court affirmed the appellate court's decision.⁸³

The Supreme Court found that the 2000-acre plant was more like an

76. *Id.* at 1813.

77. *Id.* See also *United States v. Santana*, 427 U.S. 38 (1976) (arrest as defendant retreated into her home justified because defendant had been openly identified on her front porch with evidence of crime just before pursuit); *United States v. Lace*, 669 F.2d 46 (2d Cir.) (plain view doctrine invoked to justify surveillance of barn which was openly visible from the road), *cert. denied*, 459 U.S. 854 (1982); *United States v. Varkonyi*, 645 F.2d 453 (5th Cir. Unit A May 1981) (view of defendant's scrap metal yard from public road); *United States v. Magana*, 512 F.2d 1169 (9th Cir.) (view of defendant in front of garage from police car driven into private residential driveway), *cert. denied*, 423 U.S. 826 (1975); *United States v. Bassford*, 601 F. Supp. 1324 (D. Me. 1985) (observations of areas within the curtilage are generally permissible, absent measures taken by defendant to conceal his activities), *aff'd*, 812 F.2d 16 (1st Cir.), *cert. denied*, 107 S. Ct. 1909 (1987); *United States v. Hensel*, 509 F. Supp. 1376 (D. Me. 1981) (surveillance of outdoor premises from public vantage point).

78. *Dow Chemical Co. v. United States*, 106 S. Ct. 1819, 1822 (1986).

79. *Id.*

80. *Dow Chemical Co. v. United States*, 536 F. Supp. 1355 (E.D. Mich. 1982), *rev'd*, 749 F.2d 307 (6th Cir. 1984), *aff'd*, 106 S. Ct. 1819 (1986). The trial court held that Dow had manifested a reasonable expectation of privacy due to its elaborate security measures and due to the "elaborate" vision-enhancing equipment used by EPA officials. *Id.* at 1363-69.

81. *Dow Chemical Co. v. United States*, 749 F.2d 307 (6th Cir. 1984), *aff'd*, 106 S. Ct. 1819 (1986). The appellate court held that Dow had a legitimate expectation of privacy only from ground-level searches. *Id.* at 312.

82. *Id.* at 315.

83. *Dow Chemical*, 106 S. Ct. at 1827.

open field⁸⁴ than like the curtilage of a dwelling because “[t]he intimate activities associated with family privacy and the home and its curtilage simply do not reach the outdoor areas or spaces between structures and buildings of a manufacturing plant.”⁸⁵ The Court also determined that Dow could not have had a great expectation of privacy because the government has greater latitude in inspecting commercial property than it does in inspecting private dwellings.⁸⁶ The Court did not view as significant the fact that photographs were taken with a precision mapping camera. Chief Justice Burger, writing for the majority, stated that “the photographs here are not so revealing of intimate details as to raise constitutional concerns.”⁸⁷ In light of these factors, the Court held that the EPA officials’ actions did not constitute an unreasonable search in violation of the fourth amendment.⁸⁸

C. *Opposition to Warrantless Aerial Surveillance*

The dissenting opinions in *Ciraolo* and *Dow Chemical* represent the general opposition to warrantless aerial surveillance. Justice Powell, dissenting in both cases, discussed the majority’s misplaced reliance on the notion that air travel has eliminated expectations of privacy from aerial surveillance.⁸⁹ Powell asserted that while there is a great deal of air travel today, the likelihood that a passenger on an aircraft will observe private activities is small and too trivial to recognize.⁹⁰ Powell stated that “[t]ravelers on commercial flights, as well as private planes used for business or personal reasons, normally obtain at most a fleeting, anonymous, and nondiscriminating glimpse of the landscape and buildings over

84. “Open field” is defined as that area outside the curtilage of a home. *Oliver v. United States*, 466 U.S. 170, 176-77 (1984). See also *Hurwitz v. State*, 673 S.W.2d 347, 349 (Tex. Ct. App. 1984) (“open field” does not need to be open or a field as those terms are used today; fenced, thickly wooded areas may be open fields), *aff’d*, 700 S.W.2d 919 (Tex. Crim. App. 1985), *cert. denied*, 106 S. Ct. 884 (1986); *Blalock v. State*, 483 N.E.2d 439, 443 (Ind. 1985) (“open fields” applies to buildings and greenhouses apart from and without relation to curtilage). But see *United States v. Bassford*, 601 F. Supp. 1324 (D. Me. 1985), *aff’d*, 812 F.2d 16 (1st Cir.), *cert. denied*, 107 S. Ct. 1909 (1987). The court in *Bassford* disregarded the distinction between curtilage and noncurtilage because in the context of an aerial search that distinction is impractical; it is nearly impossible to view one without viewing the other. *Id.* at 1331. For a detailed analysis of the open fields doctrine especially in light of the *Katz* decision, see Note, *Oliver v. United States: Open Fields and Reasonable Expectations of Privacy*, 1985 UTAH L. REV. 463; Note, *Oliver v. United States: Will Expectations of Privacy Shield Criminal Acts No More?*, 36 MERCER L. REV. 1401 (1985).

85. *Dow Chemical*, 106 S. Ct. at 1825.

86. *Id.* at 1826.

87. *Id.* at 1826-27. See *infra* notes 136-46 and accompanying text.

88. *Id.* at 1827.

89. *California v. Ciraolo*, 106 S. Ct. 1809, 1817 (1986) (Powell, J., dissenting).

90. *Id.* at 1818.

which they pass."⁹¹ Justice Powell viewed as unreasonable the fact that police focus their attention on one area and connect the activities which occur therein with one particular person.⁹²

Other objections to aerial surveillance are based on a legitimate fear of overly intrusive searches by aircraft. For example, in *National Organization for Reform of Marijuana Laws v. Mullen*,⁹³ police overstepped their authority by invading the personal activities of the owners of the land instead of inspecting the land for the purposes of finding illegal agricultural pursuits.⁹⁴ Despite the rareness of abuses like those seen in *Mullen*, those who object to aerial surveillance see the airplane as a "technological advancement" which must be kept totally out of reach of law enforcement officials.⁹⁵ These objections, however, focus only on the possible abuses and not on the advantages gained when aerial surveillance is utilized within strict limitations.

Fears of abusive police power are not new. Police have always had the potential for abusing their power; however, legislatures and courts have kept this potential in check. The same checks, when applied to aerial surveillance, can keep the potential for abuse at a minimum while allowing police to use aerial surveillance as an investigative tool.

A recent California case demonstrates that when police overstep their power in using aerial observation, some courts will respond by limiting the use of the illegally obtained evidence. In *People v. Sabo*,⁹⁶ police officers in a helicopter hovering at 400 feet observed marijuana through a missing roof panel in a greenhouse.⁹⁷ Because the police operated the helicopter at a low altitude, and because the defendant displayed a legitimate attempt to block even aerial views of his marijuana plot, the California Court of Appeal ruled that the surveillance was unconstitutionally intrusive.⁹⁸ The *Sabo* case indicates that some courts, while allowing police to use aerial surveillance under proper restrictions, will not allow police to abuse this power. Because individuals have a decreased expectation of privacy from aerial surveillance of outdoor activities, and

91. *Id.*

92. *Id.* at 1819.

93. 608 F. Supp. 945 (N.D. Cal. 1985).

94. *Id.* at 957. See *infra* notes 122-30 and accompanying text.

95. *California v. Ciraolo*, 106 S. Ct. 1809, 1817 (1986).

96. 185 Cal. App. 3d 845, 230 Cal. Rptr. 170 (1986), *cert. denied*, 107 S. Ct. 2200 (1987).

97. *Id.* at 847, 230 Cal. Rptr. at 170-71.

98. *Id.* at 854, 230 Cal. Rptr. at 176.

because courts will keep aerial surveillance in check, the fourth amendment balancing test must result in favoring the important governmental and societal interest of crime prevention.

IV. FACTORS USED TO DETERMINE THE CONSTITUTIONALITY OF AERIAL SURVEILLANCE

Instead of applying a consistent and concise rule, courts generally use several factors to evaluate the constitutionality of an aerial search. While none of these factors are completely determinative, they all have an effect on the outcome of the decision.⁹⁹ One group of factors which the courts address is concerned with the conduct of the surveillance itself. These factors include the altitude of the aircraft,¹⁰⁰ the intensity of the surveillance,¹⁰¹ the speed of the aircraft,¹⁰² and the equipment used during the surveillance.¹⁰³ Other factors which the courts consider are the location and nature of the property under surveillance,¹⁰⁴ the frequency of other flights over the area,¹⁰⁵ measures that the defendant has used to display his subjective expectation of privacy,¹⁰⁶ evidence of entry onto the defendant's property by people other than the defendant,¹⁰⁷ and the randomness of the search.

A. *Altitude of the Aircraft*

The altitude of an airplane from which the property is observed is one of many factors to consider in determining the constitutional reasonableness of aerial surveillance.¹⁰⁸ In *Dean v. Superior Court for County of*

99. For a detailed summary of factors discussed in this comment, as well as other factors such as concealment by other crops and stolen goods, see Annotation, *Aerial Observation or Surveillance as Violative of Fourth Amendment Guaranty Against Unreasonable Search and Seizure*, 56 A.L.R. FED. 772, 775-93 (1982).

100. *Id.* at 780-82.

101. *Id.* at 783-84.

102. *Id.* at 783.

103. *Id.* at 784-85.

104. *Id.* at 785-90.

105. *Id.* at 790-91.

106. *Id.* at 792-93.

107. *Id.* at 791-92.

108. See *Dean v. Superior Court for County of Nevada*, 35 Cal. App. 3d 112, 115, 110 Cal. Rptr. 585, 587 (1973). The court articulated that sophisticated technology allows detailed surveillance even at 50,000 feet; therefore, the height of the aircraft involved is only a minor factor. *Id.* at 116, 110 Cal. Rptr. at 588. See also *People v. Lashmett*, 71 Ill. App. 3d 429, 389 N.E.2d 888 (1979) (sheriff flew over defendant's land at a height of 2400 feet to make observations of stolen farm equipment; no reasonable expectation of privacy from aerial surveillance at reasonable heights), *cert. denied*, 444 U.S. 1081 (1980); *State v. Stachler*, 58 Haw. 412, 570 P.2d 1323 (1977) (no reasonable expectation of privacy from aerial surveillance at reasonable height where officials observed illegal marijuana plot from helicopter); *United States v. Broadhurst*, 805 F.2d 849 (9th Cir. 1986) (three

Nevada,¹⁰⁹ a county sheriff spotted a large green patch on the property while passing over the land at an altitude of 700 feet.¹¹⁰ The second and third passes, made at altitudes of 400 and 300 feet, convinced the officer that the green patch was marijuana.¹¹¹ The defendant filed a petition to quash his indictment for possession of marijuana on the ground that the aerial observations violated his fourth amendment rights.¹¹² The court, in denying the defendant's petition, recognized the fourth amendment's ever-changing role with regard to increased technology and thus viewed the low altitude as only a minor factor in determining whether the search was constitutional.¹¹³

Other courts, however, including the Supreme Court in *Dow Chemical* and *Ciraolo*, have held altitude to be a very important factor in their determination of constitutionality. These cases seem to suggest that only searches in navigable airspace are reasonable.¹¹⁴ The California Court of Appeal in *People v. Sabo*¹¹⁵ created a two-tiered approach to altitude. If aerial surveillance takes place within navigable airspace, it will be governed by the holdings in *Dow Chemical* and *Ciraolo*.¹¹⁶ However, if the surveillance takes place at an altitude below navigable airspace, the court must evaluate the facts on the basis of a reasonable privacy expectation.¹¹⁷

separate instances of aerial surveillance from height of 1000 feet which resulted in observation of marijuana growing in a greenhouse not seen as a search which required a search warrant under the fourth amendment); *United States v. Bassford*, 601 F. Supp. 1324 (D. Me. 1985) (height seen as one of many factors in determining reasonableness of aerial surveillance; aerial surveillance from a height of 1000 feet was constitutionally valid when three or four small airports existed nearby), *aff'd*, 812 F.2d 16 (1st Cir.), *cert. denied*, 107 S. Ct. 1909 (1987); *United States v. DeBacker*, 493 F. Supp. 1078 (W.D. Mich. 1980) (two aerial passes made at heights of 200 and 50 feet upheld as constitutional). *But see* *National Org. for Reform of Marijuana Laws v. Mullen*, 608 F. Supp. 945 (N.D. Cal. 1985) (frequent low flyovers including "buzzings" and "dive bombings" as low as 50 feet in violation of defendant's reasonable expectation of privacy from such activity guaranteed by the fourth amendment); *People v. Sneed*, 32 Cal. App. 3d 535, 108 Cal. Rptr. 146 (1973) (helicopter which "hovered" at 20 to 25 feet above defendant's corral unconstitutionally violated defendant's reasonable expectation of privacy).

109. 35 Cal. App. 3d 112, 110 Cal. Rptr. 585 (1973).

110. *Id.* at 114, 110 Cal. Rptr. at 587.

111. *Id.*

112. *Id.* at 115, 110 Cal. Rptr. at 588.

113. *Id.* at 119, 110 Cal. Rptr. at 588-90.

114. The narrow holdings in both *Ciraolo* and *Dow Chemical* upheld aerial surveillance as reasonable only when performed in navigable airspace. The public has a right of transit within navigable airspace as set by Department of Transportation regulations. 49 U.S.C. § 1304 (Supp. III 1985). Fixed wing aircraft may not fly below 1000 feet above the highest obstacle in a city, town, or settlement, or below 500 feet above "uncongested" areas. 14 C.F.R. § 91.79 (1987).

115. 185 Cal. App. 3d 845, 230 Cal. Rptr. 170 (1986), *cert. denied*, 107 S. Ct. 2200 (1987).

116. *Id.* at 853, 230 Cal. Rptr. at 175.

117. *Id.*

B. *Intensity of the Surveillance*

In rare cases, courts have found that an aerial search is unreasonable because of the intensity of the search. In *People v. Sneed*,¹¹⁸ the court held that observations made by a deputy sheriff in a helicopter were unreasonable and thus reversed the defendant's conviction for unlawful cultivation of marijuana.¹¹⁹ The *Sneed* court determined that the search was manifestly "exploratory" in nature because the officers who were involved in the search had flown the helicopter back and forth over the defendant's property.¹²⁰ Moreover, the officers had flown over the property for the sole purpose of finding marijuana and had no other legitimate purpose in intensifying the search.¹²¹

The court in *National Organization for Reform of Marijuana Laws v. Mullen*¹²² also found an overly intensive search. The intensive activities included low-level "buzzings" and "divebombings" of homes.¹²³ In *Mullen*, helicopter pilots "buzzed" one defendant continuously as she took an outdoor shower.¹²⁴ Another pilot hovered 100 feet above a defendant's bedroom with an unhindered view of the room.¹²⁵ Other instances included buzzing school children on their way home from school¹²⁶ and following cars at a low altitude.¹²⁷ The court in *Mullen* held that the helicopters were "no longer just surveying open fields, but [were] deliberately looking into and invading peoples' homes and curtilage."¹²⁸ On the other hand, in *State v. Stachler*¹²⁹ the court ruled that a search is not overly intense when (1) the area observed by aerial surveillance is not heavily populated, and (2) there is no danger posed by the aircraft to the people below.¹³⁰

Aerial surveillance clearly has the ability to create constitutional tension. As most cases involving aerial surveillance indicate, however,

118. 32 Cal. App. 3d 535, 108 Cal. Rptr. 146 (1973).

119. *Id.* at 545, 108 Cal. Rptr. at 153.

120. *Id.* at 543, 108 Cal. Rptr. at 151.

121. *Id.* at 542, 108 Cal. Rptr. at 150.

122. 608 F. Supp. 945 (N.D. Cal. 1985).

123. *Id.* at 955.

124. *Id.*

125. *Id.*

126. *Id.* at 958.

127. *Id.*

128. *Id.* at 957.

129. 58 Haw. 412, 570 P.2d 1323 (1977).

130. *Stachler*, 570 P.2d at 1328 n.4. See also *United States v. DeBacker*, 493 F. Supp. 1078 (W.D. Mich. 1980) (fact that police had to fly over defendant's property twice did not constitute an overly intense search which violated any reasonable expectation of privacy).

police generally have not abused the observation technique as they did in *Mullen*. Therefore, "intensity" is rarely a factor in a court's decision.

C. *Speed of the Aircraft*

The aircraft's speed during aerial surveillance may be an element in a court's decision. This factor is usually relevant when the surveillance involves the use of a helicopter, due to its low speed and ability to hover. For example, the court noted low speed as a factor in overturning the defendant's conviction in *People v. Sneed*¹³¹ when the court recognized that the surveillance helicopter had hovered over the defendant's property in order to observe the suspected existence of marijuana plants.¹³² Another case involving low speed aerial passes was *People v. Superior Court for County of Los Angeles*.¹³³ Although a helicopter had flown over the defendant's property at a speed of thirty miles per hour, the court upheld the search as reasonable.¹³⁴ The court concluded that the defendant had no reasonable expectation of privacy from aerial surveillance.¹³⁵ The small number of cases which cite low speed as a factor in overturning convictions based on aerial surveillance indicates that this type of maneuver is uncommon and is rarely considered as an important factor in the determination of these cases.

D. *Equipment Used During the Surveillance*

An important factor in determining the reasonableness of a search involves the use of various types of vision-enhancing and photographic equipment.¹³⁶ In *Ciraolo*,¹³⁷ the Court upheld the use of photographs taken from an airplane with a non-telephoto lens in order to obtain a

131. 32 Cal. App. 3d 535, 108 Cal. Rptr. 146 (1973).

132. *Id.* at 541, 108 Cal. Rptr. at 149. See also National Org. for Reform of Marijuana Laws v. Mullen, 608 F. Supp. 945 (N.D. Cal. 1985) (helicopters hovering at very low altitudes while observing private activities of people's lives unconstitutionally intrusive); United States v. Broadhurst, 805 F.2d 849 (9th Cir. 1986) (aerial surveillance valid even where aircraft circled the area being observed).

133. 37 Cal. App. 3d 836, 112 Cal. Rptr. 764 (1974).

134. *Id.* at 838-39, 112 Cal. Rptr. at 765. The court held that the defendants had no reasonable expectation of privacy for the storage of stolen auto parts in their backyard. Since Los Angeles police have long provided helicopter patrol for crime prevention and for protection of citizens of the city, the defendant had no reasonable expectation that stolen property would not be seen from an aerial view when the property was openly visible from the air. In distinguishing *Sneed*, the court held that the corral in *Sneed* was not subjected to regular air patrol. *Id.*

135. *Id.*

136. See *United States v. Knotts*, 460 U.S. 276, 282 (1983). Police placed a "beeper" inside a chloroform container sold to defendant. The Court stated:

[T]he use of the beeper to signal the presence of . . . [defendant's] automobile to the police receiver, does not alter the situation. Nothing in the Fourth Amendment prohibited the

search warrant.¹³⁸ The Supreme Court also upheld in *Dow Chemical* the use of aerial mapping equipment by EPA officials flying over the manufacturing facility.¹³⁹ The Court stated that "surveillance of private property by using highly sophisticated surveillance equipment not generally available to the public, such as satellite technology, might be constitutionally proscribed absent a warrant."¹⁴⁰ However, the Court distinguished the equipment which the photographer used, stating that "the photographs here are not so revealing of intimate details as to raise constitutional concerns."¹⁴¹ The Court also noted that the EPA officials were afforded better, more detailed information than could have been seen by the naked eye, but the degree to which vision was enhanced in this case was not constitutionally prohibited.¹⁴²

The use of binoculars may also be permissible. In *State v. Stachler*,¹⁴³ the defendant was convicted based on evidence obtained through the use of binoculars in aerial observations.¹⁴⁴ The equipment which the police used was not overly sophisticated and was incapable of revealing overly detailed information.¹⁴⁵ These cases indicate that aerial observations aided by binoculars or the use of standard photographic equipment are valid, but the use of highly sophisticated surveillance equipment that are not generally available to the public might be prohibited.¹⁴⁶

police from augmenting the sensory faculties bestowed upon them at birth with such enhancement as science and technology afforded them in this case.

Id. See also *Dean v. Superior Court for County of Nevada*, 35 Cal. App. 3d 112, 110 Cal. Rptr. 585 (1973) (use of binoculars by police did not violate fourth amendment restrictions); *People v. Superior Court for County of Los Angeles*, 37 Cal. App. 3d 836, 112 Cal. Rptr. 764 (1974) (use of binoculars by police did not violate the fourth amendment); *United States v. Lee*, 274 U.S. 559 (1927) (police use of search light to see cases of illegal liquor on the deck of a ship not prohibited by the Constitution; use of search light equated with use of field glass); *United States v. Allen*, 633 F.2d 1282, 1289 (9th Cir. 1980) (defendant's land on seacoast border was continually observed by Coast Guard helicopters aided by sophisticated electronic equipment; therefore, the defendant had no reasonable expectation of privacy from surveillance with such equipment, especially when the suspicious site involved large-scale modifications to the land easily visible from the air: "[p]ermissible techniques of surveillance include more than just the five senses of officers and their unaided physical abilities' ") (quoting *United States v. Dubrofsky*, 581 F.2d 208, 211 (9th Cir. 1978)); *United States v. Lace*, 669 F.2d 46 (2d Cir.) (although some observations were made by police with the aid of binoculars, the search was not unconstitutional), *cert. denied*, 459 U.S. 854 (1982).

137. 106 S. Ct. 1809 (1986).

138. *Id.* at 1813.

139. 106 S. Ct. 1819 (1986).

140. *Id.* at 1826.

141. *Id.* at 1826-27.

142. *Id.* at 1827.

143. 58 Haw. 412, 570 P.2d 1323 (1977).

144. *Id.* at ___, 570 P.2d at 1325-26.

145. *Id.* at ___, 570 P.2d at 1329.

146. *Dow Chemical Co. v. United States*, 106 S. Ct. 1819, 1826 (1986).

E. *Location and Nature of Property Under Surveillance*

Courts consider the location and nature of the property observed when determining whether a defendant has a reasonable expectation of privacy. The court in *United States v. DeBacker*¹⁴⁷ held that aerial surveillance was justified because the police were barred from any ground-level view of the defendant's property.¹⁴⁸ In *DeBacker*, a wall of trees blocked ground-level observations of the section of property on which marijuana was suspected to be growing. Therefore, the court sanctioned the officers' use of an aerial vantage point to effectively investigate.¹⁴⁹ When ground-level investigations are blocked, courts like those in *DeBacker* and *Ciraolo* have upheld the constitutionality of aerial observations. Apparently courts recognize that police officers must be allowed to use more than just ground-level observations in investigating suspected illegal activity.

Although courts have made distinctions between urban and rural areas under surveillance,¹⁵⁰ they have upheld both types, especially when ground-level views are impossible.¹⁵¹ Similarly, the court in *United States v. Bassford*¹⁵² reasoned that there was "no sound basis for distinguishing between 'curtilage' and 'noncurtilage' areas equally visible from the air."¹⁵³ The court further stated that trying to prohibit aerial observation of curtilage is impractical because it would be impossible to observe noncurtilage areas without also observing curtilage areas from an

147. 493 F. Supp. 1078 (W.D. Mich. 1980).

148. *Id.* at 1081. See also *People v. Lashmett*, 71 Ill. App. 3d 429, 389 N.E.2d 888 (1979), cert. denied, 444 U.S. 1081 (1980). In *Lashmett*, a police officer 2400 feet in the air spotted stolen farm machinery which was concealed from any ground-level observation. The court held that this observation was not a violation of defendant's privacy. *Id.* at ___, 389 N.E.2d at 893-94. See also *Dean v. Superior Court for County of Nevada*, 35 Cal. App. 3d 112, 110 Cal. Rptr. 585 (1973) (because the illegal marijuana plot growing on defendant's property was isolated from any ground-level observations, defendant had no reasonable expectation of privacy when police had no other way to confirm suspicions which arose from an anonymous tip); *United States v. Bassford*, 812 F.2d 16 (1st Cir.) (home was a half-mile from any public road and could only be crossed by a four-wheel drive vehicle), cert. denied, 107 S. Ct. 1909 (1987). But see *United States v. Broadhurst*, 805 F.2d 849, 854 (9th Cir. 1986) (defendant had displayed a subjective expectation of privacy where defendant had enclosed the marijuana in a greenhouse, fenced the property, and posted "no trespassing" signs; defendant had gone to "great lengths . . . to block all views of the interior of the greenhouse from every accessible vantage point.").

149. *DeBacker*, 493 F. Supp. at 1079.

150. See *People v. Sneed*, 32 Cal. App. 3d 535, 541, 108 Cal. Rptr. 146, 150 (1973) (listed as one factor in the determination of a reasonable expectation of privacy is the "location of the premises, that is, whether in an urban or isolated area . . .").

151. See *California v. Ciraolo*, 106 S. Ct. 1809 (1986); *Dow Chemical Co. v. United States*, 106 S. Ct. 1819 (1986) (ground-level observations blocked).

152. 601 F. Supp. 1324 (D. Me. 1985), *aff'd*, 812 F.2d 16 (1st Cir.), cert. denied, 107 S. Ct. 1909 (1987).

153. *Id.* at 1331.

aerial vantage point.¹⁵⁴

The size of the area covered by the crop is also a factor.¹⁵⁵ Courts have consistently held that people engaged in large agricultural pursuits have no reasonable expectation of privacy from aerial surveillance of their crops.¹⁵⁶ For example, in *Dean v. Superior Court for County of Nevada*,¹⁵⁷ the court decided that no one who cultivates a large area of illegal crops has any reasonable expectation of privacy from aerial observation of those crops.¹⁵⁸ In further support of aerial surveillance, the court in *State v. Stachler*¹⁵⁹ held that the size of a crop area is not an indication of a reasonable expectation of privacy.¹⁶⁰ Apparently, no matter how small the crop area, there is no reasonable expectation of privacy when a person plants an illegal crop which can be seen from the air.¹⁶¹

The distinctive bright green color of marijuana also reduces any expectation of privacy because it can be easily spotted from overhead.¹⁶² In *United States v. Bassford*,¹⁶³ the court noted "the striking contrast between the color of the marijuana plots and the color of the surrounding

154. *Id.*

155. *See* *People v. Sneed*, 32 Cal. App. 3d 535, 108 Cal. Rptr. 146 (1973). In striking down the aerial surveillance as unconstitutional, the court noted that there were only two marijuana plants on defendant's property. *Id.* at 539-40, 108 Cal. Rptr. at 148-49.

156. *See* *State v. Stachler*, 58 Haw. 412, 570 P.2d 1323 (1977). The expectation of privacy was an internal one, arising only from the fact that the marijuana crop was illegal. There was no reasonable expectation of privacy arising out of the fact that defendant was engaged in agricultural pursuits. The court stated that persons engaged in agricultural pursuits do not expect privacy from aerial observation. The court further stated that a person engaged in growing sweet potatoes or bananas would not have an expectation of privacy from aerial observation that society would accept as reasonable. *Id.* at ___, 570 P.2d at 1328.

157. 35 Cal. App. 3d 112, 110 Cal. Rptr. 585 (1973).

158. *Id.* at 118, 110 Cal. Rptr. at 589 (a person who grows a marijuana field half the size of a football field with plants growing fifteen feet in height, arranged in neat rows along irrigation ditches, has exhibited no reasonable expectation of privacy from aerial surveillance).

159. 58 Haw. 412, 570 P.2d 1323 (1977).

160. *Id.* at ___, 570 P.2d at 1328.

161. *See id.* (no person engaging in agricultural pursuits has any reasonable expectation of privacy when the crop can be seen from a reasonable height).

162. *See* *United States v. Broadhurst*, 805 F.2d 849, 850 (9th Cir. 1986) (police acting on tip that defendant was growing marijuana in a greenhouse conducted aerial observations at an altitude of 1000 feet which revealed the existence of plants "of a color and height consistent with marijuana."). *See also* *People v. Superior Court for County of Los Angeles*, 37 Cal. App. 3d 836, 112 Cal. Rptr. 764 (1974) (police officers conducting aerial observations clearly spotted a bright red automobile hood in defendant's backyard); *United States v. Santana*, 427 U.S. 38 (1976) (police officers clearly saw defendant standing in the vestibule of her home with evidence of illegal activity); *United States v. Allen*, 633 F.2d 1282 (9th Cir. 1980) (police could easily see large-scale modifications of ranch landscape, leading them to further suspicion of illegal smuggling activity).

163. 601 F. Supp. 1324 (D. Me. 1985), *aff'd*, 812 F.2d 16 (1st Cir.), *cert. denied*, 107 S. Ct. 1909 (1987).

flora”¹⁶⁴ The court stated that “[i]t would be unreasonable to expect that the attention of persons flying over the area would not be drawn to the distinctively different coloration of the marijuana vegetation”¹⁶⁵ The court recognized that certain characteristics of a marijuana crop negate any reasonable expectation of privacy.

F. *Frequency of Other Flights Over the Area*

When the property in question is located in an area where flights are frequent, the owner of such property has a reduced expectation of privacy. In *United States v. Allen*,¹⁶⁶ the defendant’s property was located on the United States seacoast border over which Coast Guard helicopters frequently flew for law enforcement purposes.¹⁶⁷ The court in *Allen* held that due to the frequent Coast Guard flights over the area, “any reasonable person, cognizant of the ranch’s proximity to the coastline and the Coast Guard’s well-known function of sea-coast patrol and surveillance,” could have no reasonable expectation of privacy from such surveillance.¹⁶⁸ In *State v. Stachler*,¹⁶⁹ the State offered evidence that National Guard helicopters, as well as crop dusters and other small aircraft, occasionally flew over the region.¹⁷⁰ The court held that if the defendant could have shown that helicopter flights over the area were very rare, his expectation of privacy would have been given more weight.¹⁷¹ In *People v. Sneed*,¹⁷² however, the fact that the defendant’s land was frequently seen from the air by crop dusters and mosquito abatement helicopters did not reduce the defendant’s expectation of privacy from aerial observation.¹⁷³ Most courts do not follow the *Sneed* reasoning, however, and logically conclude that the frequency of air travel over a defendant’s property is a factor which reduces the expectation of privacy.

G. *Measures Used to Display Expectation of Privacy*

The two-part test for fourth amendment analysis set forth in *Katz*

164. *Id.* at 1331.

165. *Id.*

166. 633 F.2d 1282 (9th Cir. 1980).

167. *Id.* at 1286.

168. *Id.* at 1290.

169. 58 Haw. 412, 570 P.2d 1323 (1977).

170. *Id.* at ___, 570 P.2d at 1328.

171. *Id.*

172. 32 Cal. App. 3d 535, 108 Cal. Rptr. 146 (1973).

173. *Id.* at 541, 108 Cal. Rptr. at 150.

requires courts to consider the defendant's subjective expectation of privacy. The Supreme Court in both *Dow Chemical* and *Ciraolo* considered the defendant's efforts to maintain privacy. In both cases, the defendants took measures to totally block ground-level views of the property.¹⁷⁴ Furthermore, in *Dow Chemical*, the defendant displayed an effort to minimize even aerial observation of the manufacturing facility.¹⁷⁵ In both cases, however, the Court held that although the defendants met the requirement of having a subjective expectation of privacy, they failed to show that the privacy expectation was recognized by society.¹⁷⁶ The Court held that society is not willing to recognize as reasonable an expectation of privacy from aerial surveillance under these circumstances.¹⁷⁷

H. Evidence of Entry Onto Defendant's Property

In determining the defendant's expectation of privacy, several courts consider important evidence of open entry onto a defendant's property by people other than the defendant. The court in *Dean v. Superior Court for County of Nevada*¹⁷⁸ recognized that evidence of a well-worn footpath which led to the field in question reduced the defendant's expectation of privacy.¹⁷⁹ In *Dean*, officers "made two trips afoot, traversing unfenced, unposted woodland and following dirt paths."¹⁸⁰ Similarly, the court in *People v. Sneed*¹⁸¹ recognized that the existence of public or private walkways adjacent to a defendant's property could reduce his expectation with respect to those persons who use the walkway.¹⁸² Clearly, the rationale behind considering evidence of entry onto defendant's property

174. The defendant in *Dow Chemical* had an elaborate security system barring ground-level intrusions. *Dow Chemical Co. v. United States*, 106 S. Ct. 1819, 1820 (1986). The defendant in *Ciraolo* built two fences which barred ground-level observation. *California v. Ciraolo*, 106 S. Ct. 1809, 1810 (1986).

175. In addition to ground-level security, Dow had a company policy that required anyone who spotted low-flying aircraft to identify the craft and report it to security officials who would further investigate the purpose of the flight. 106 S. Ct. at 1828 (Powell, J., concurring in Part III and dissenting).

176. See *Ciraolo*, 106 S. Ct. at 1813; *Dow Chemical*, 106 S. Ct. at 1822.

177. *Ciraolo*, 106 S. Ct. at 1813. In several cases, property owners posted their land. Because they are directed to ground-level intrusions, however, signs which forbid trespassing do not render aerial observations unconstitutional. *United States v. DeBacker*, 493 F. Supp. 1078 (W.D. Mich. 1980). See also *United States v. Broadhurst*, 805 F.2d 849, 850 (9th Cir. 1986); *United States v. Allen*, 633 F.2d 1282, 1286 (9th Cir. 1980).

178. 35 Cal. App. 3d 112, 110 Cal. Rptr. 585 (1973).

179. *Id.* at 115, 110 Cal. Rptr. at 587.

180. *Id.* at 118, 110 Cal. Rptr. at 590.

181. 32 Cal. App. 3d 535, 108 Cal. Rptr. 146 (1973).

182. *Id.* at 541, 108 Cal. Rptr. at 150.

by people other than the defendant is to show that such a defendant has no legitimate expectation of privacy.

I. *Randomness of the Search*

A final factor in determining the reasonableness of a warrantless aerial observation is whether the surveillance was random and unfocused or made pursuant to a reasonable suspicion and focused on a particular area. The Supreme Court in *California v. Ciraolo*¹⁸³ indicated that one important factor in upholding the aerial surveillance under the circumstances was that the search was focused on one lot and made pursuant to a tip which was followed by a ground-level search.¹⁸⁴ The search in *Ciraolo* was not a random search of a large urban area for any indications of illegal activity; rather, it focused only on the respondent's property.¹⁸⁵ Similarly, in *United States v. Allen*,¹⁸⁶ the court stated that "[i]f there is some justification for concentrating a surveillance on a particular place, as opposed to random investigation to discover criminal activity, that factor is weighed in the balance and contributes to justification for the surveillance."¹⁸⁷

Like *Ciraolo* and *Allen*, most cases which validate aerial surveillance involve investigating officers who were not acting randomly, but who were acting on a tip¹⁸⁸ or on evidence of illegal activity.¹⁸⁹ By limiting aerial surveillance to situations where the search is not a random scan of all property in an area, but focuses on reasonable suspicions of illegal activity, the intrusiveness of aerial observations is minimized.

V. CONCLUSION

Crime prevention clearly satisfies important governmental and societal interests. At the core of crime prevention is the ability of police to search out and detect criminal activity. By using certain aerial surveillance techniques, police can detect some criminal activity which would otherwise be protected from ground-level observation. In spite of the importance of crime prevention, the government cannot use its police

183. 106 S. Ct. 1809 (1986).

184. *Id.* at 1811.

185. *Id.*

186. 633 F.2d 1282 (9th Cir. 1980).

187. *Id.* at 1290.

188. 106 S. Ct. at 1810 (1986).

189. *Allen*, 633 F.2d at 1286 (9th Cir. 1980). Immediately after purchasing suspect coastal property, Allen terminated the previous owner's policy of allowing fishermen and hunters to cross through his land into adjacent federal lands. *Id.*

power to intrude upon an individual's legitimate expectation of privacy. The question, therefore, is whether a person has a legitimate expectation of privacy from aerial surveillance and what factors reduce this expectation.

Although the broad constitutional principles behind the prohibition of warrantless search and seizure are firmly established, the specific topic of aerial surveillance is relatively new. *California v. Ciraolo* and *Dow Chemical Co. v. United States* mark the first time that the Supreme Court has addressed the issue of warrantless aerial surveillance. Because of the relative infancy of the issue, no clear patterns have evolved as to how courts will decide whether a warrantless aerial search is constitutional.

In viewing the circumstances of cases involving aerial observations, courts must use the basic fourth amendment balancing test. Warrantless aerial surveillance must be weighed on a scale of fourth amendment reasonableness, with the government's law enforcement objective balanced against the loss of privacy caused by the government action. Because a person's expectation of privacy is reduced outdoors, and because police power is constantly checked by legislatures and courts, the balancing test has resulted in favor of the important societal interest of crime prevention.

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