

Science, Technology and Telecommunications Committee  
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Remotely Piloted Vehicles (Drones) Issues  
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Thank you for the opportunity to speak with you today. My name is Janet Jarratt, and I'm pleased to have with me today Dori Richard, an attorney formerly with DOI for 17 years, and a Special Assistant US Attorney for 12 years. She is here to answer any legal questions that may arise. Among other positions, I am president of the Valencia County Farm and Livestock Bureau as well as on the Executive Board of the NM Farm and Livestock Bureau. While I do not speak for those organizations today, I believe that I can contribute some concerns of members of those organizations. NM Farm Bureau has policy in regard to drones, and that policy originated in Valencia County because of members complaints about being harassed by drones.

There is little doubt that drones, or UAS's have the potential for great utility. But as with many things, with great power comes great responsibility, and the NM legislature is in a perfect position to take on that responsibility to the citizens of our state.

Drones are advancing rapidly, far outstripping the regulation of their use. Drones are extremely capable devices with the ability to:

- provide real-time video streams at high resolution
- track up to 65 different targets across a distance of 65 square miles
- carry infrared cameras, heat sensors, radar, GPS, sensors that detect movement, and automated license plate readers
- have facial recognition technology that makes it possible to remotely identify individuals in parks, schools, and at political gatherings, and to track specific individuals.
- be outfitted with their own wi-fi network
- fake cell phone towers
- carry payloads, including tasers
- make deliveries of products

and researchers at the Carnegie Mellon University Robotics Institute have created one of the world's first self-burying robots. The [Bimodal Self-Burying Robot](#) can, as the creators put it, be "air-dropped to a location close to a target, bury itself to be hidden, perform video surveillance, and send that video back to an operator."

What does all this mean to the public? It means a vast new opportunity for invasion of privacy, new tools for stalkers, pedophiles, and criminals of all walks. Drones provide a new tool for hackers as well. When a wi-fi equipped drone flies over a neighborhood it can act like honey and home Wi-Fi networks are the bees. The drone tricks them into connecting with its open network and then any information transferred on the home's Wi-Fi could be available to the drone's operator.

In a recent [NBC Chicago story](#), penetration tester [Parker Schmitt](#) and robot expert [David Jordan](#) showed how easily drones can be used to hack. It's a case of attaching a small computer then simply flying it over a residential area full of home WiFi networks.

What is the danger? Many people shop and pay bills online on a daily basis. Credit card, phone, and bank account numbers could theoretically be hacked by the drone. Stealing this data ends up costing thousands of dollars. Mr. Schmitt explained, "it adds a whole level of anonymity that these bad guys have thrived on."

In 2014, the news covered the [Wireless Aerial Surveillance Platform](#), a small DIY drone that has the capability to crack Wi-Fi passwords, eavesdrop on [cellphone](#) calls and read text messages.

This spring marketing specialist AdNear, a Singapore-based location marketing firm, launched a test to collect wireless data using drones. The company used a fleet of quadcopters equipped with cellphone tracking systems to deliver targeted advertisements to the users. They said the company's technology can precisely locate devices without the need of GPS or operator assistance, and that they did not collect personally identifiable information or videos or photos. But, people didn't have the option of participating either.

Amazon, UPS, and pizza chains are all developing delivery drones. The question is, what additional data will these devices collect? In February of 2015, the White House's Council of Economic Advisers published a [report](#) titled *Big Data and Differential Pricing* that explores how e-commerce sites may be able to charge people different prices based on their personal information, a practice called differential pricing. The report says "The combination of differential pricing and big data raises concerns that some consumers can be made worse off, and have very little knowledge why." How much personal information can be added, sold, to augment companies profile of you? How will that information affect prices you pay?

Personal privacy from stalking, photographing, and eavesdropping in your own home is a significant concern as well. Paparazzi drones are officially here, and their first on-record use was photographing Nelson Mandela's hospital room. And there's the case of the grandmother sunbathing in her own back yard, topless in her fenced property. Unfortunately, a real estate company using a drone to photograph neighboring property also photographed her, and used the image in its ads. In 2013, PETA stated that it was actively shopping for drones to use to harass hunters. In Valencia County, I hear complaints from neighbors about drones following them on their property, moving back when the person looks at them, then moving closer again as they look away.

The consequences of increased government surveillance through the use of drones are equally troubling. The ability to link facial recognition capabilities on drone cameras to the FBI's Next Generation Identification database or DHS' IDENT database, two of the largest collections of biometric data in the world, increases the First Amendment risks for would-be political dissidents. In addition, the use of drones implicates significant Fourth Amendment interests and well established common law privacy rights. With special capabilities and enhanced equipment, drones are able to conduct far-more detailed surveillance, obtaining high-resolution picture and video, peering inside high-level windows,

and through solid barriers, such as fences, trees, and even walls.

The desire to maintain privacy has fueled entrepreneurship: an Oregon company says that it has developed and will soon start selling technology that disables unmanned aircraft. “We understand the nature of the equipment drone manufacturers are using and understand how to counter their sensors,” the owner says. “We’re not going to be countering Predator drones that are shooting cruise missiles, but we’re talking about local law enforcement drones and commercial ones that people might be using for spying.” For now, the company admits the technology is “expensive,” but the company is already ready to design custom anti-drone boxes for customers. So does that mean only the wealthy will have privacy?

What to do? Well, the National Park Service has banned drones in National Parks. Florida passed their Freedom from Unwarranted Surveillance Act in 2013, and updated it in 2015 to strengthen it further. Notably, the new law seems to recognize that the recent increase in drone use sets law enforcement up for increased surveillance opportunities under Florida case law. FUSA seeks to directly limit these precedents by stating that “a person is presumed to have a reasonable expectation of privacy on his or her privately owned real property if he or she is not observable by persons located at ground level in a place where they have a legal right to be, regardless of whether he or she is observable from the air with the use of a drone.” The law includes exceptions for law enforcement that are limited to terrorism, warrants, and imminent danger.

The NM Farm and Livestock Bureau has policy seeking protections from unwarranted surveillance, with bio-security a very large concern. While the legislature passed a memorial regarding use of drones in relation to wildlife, what is there to protect livestock from being chased by drones? The biosecurity risks are real for all of us; a small drone can carry a payload of sufficient size to drop toxic materials into water supplies for livestock and humans. In my personal case, a single drone with a small payload of poison can wipe out an entire closed herd of registered animals, irrecoverably destroying unique genetics. The risk to human water supplies is great as well, especially for those municipalities that use a reservoir for water supply. Last year, SB303 was passed through the Senate unanimously, and through House Judiciary unanimously before the end of the session. While SB303 was not comprehensive, it was a good start at providing guidelines for use of drones to law enforcement, and it provided penalties for abusive use of drones, while allowing provisions for people to legally remove offending drones from their property. The bill deliberately did not address the use of commercial drones. The legislature has it in its power to assure the protection of its constituents while allowing legal uses with property owners permission.