The Florida Senate

BILL ANALYSIS AND FISCAL IMPACT STATEMENT

(This document is based on the provisions contained in the legislation as of the latest date listed below.)

Prepared By: The Professional Staff of the Committee on Environment and Natural Resources

BILL:	SB 822
INTRODUCER:	Senator Albritton
SUBJECT:	Drones
DATE:	January 10, 2019
REVISED:	

	ANALYST	STAFF DIRECTOR	REFERENCE	ACTION
1.	Rogers	Rogers	EN	**Favorable**
2.			GO	
3.			RC	

I. Summary:

SB 822 creates an exception from the prohibition against law enforcement agencies using drones to gather information. The bill authorizes the use of drones by a non-law enforcement employee of the Fish and Wildlife Conservation Commission or of the Florida Forest Service for the purpose of managing and eradicating invasive exotic plants or animals on public lands.

II. Present Situation:

A drone, also called an Unmanned Aerial Vehicle (UAV) or Unmanned Aerial System (UAS), is defined in s. 934.50, F.S., as a powered, aerial vehicle that:

- Does not carry a human operator;
- Uses aerodynamic forces to provide vehicle lift;
- Can fly autonomously or be piloted remotely;
- Can be expendable or recoverable; and
- Can carry a lethal or nonlethal payload.[1]

Drones range in size from wingspans of 6 inches to 246 feet, and can weigh from approximately 4 ounces to over 25,600 pounds.[2] They may be controlled manually or through an autopilot that uses a data link to connect the drone's pilot to the drone.[3] Drones can be equipped with infrared

[1] Section 934.50(2), F.S.
[2] 14 C.F.R. Part 91, Docket No. FAA-2006-25714, Department of Transportation, Federal Aviation Administration, *Unmanned Aircraft Operations in the National Airspace System*, February 6, 2007.
[3] *Id*.

cameras,[4] and "LADAR" (laser radar).[5] In 2011, it was reported that the U.S. Army contracted with two corporations to develop facial recognition and behavioral recognition technologies for drone use.[6]

Federal Aviation Authority

In February 2012, Congress passed the Federal Aviation Authority (FAA) Modernization and Reform Act of 2012 (Act), which required the FAA to safely open the nation's airspace to drones by September 2015.[7] The FAA regulates the use of drones as it does all aircraft in the national airspace, with an emphasis on safety, efficiency, and national security, but views considerations such as privacy beyond the scope of FAA authority.[8]

Under the authority granted in the 2012 Act, the FAA issued its regulations on the operation and certification of small (less than 55 pounds at take-off) unmanned aircraft systems in June 2016.[9] The 2016 small drone regulations are still in effect and include airspace restrictions and a waiver mechanism allowing for deviations from drone operational restrictions upon application and authorization by the FAA.[10]

FAA Drone Airspace Restrictions

The FAA has designated generally restricted airspace including drone flight around and over sports stadiums and wildfires at specified times or under specified conditions. Drone operators must educate themselves on these restrictions prior to flying.[11]

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[4] Infrared cameras can see objects through walls based on the relative levels of heat produced by the objects. *Drones in Domestic Surveillance Operations: Fourth Amendment Implications and Congressional Response*, Congressional Research Service, April 3, 2013, *available at* www.fas.org/sgp/crs/natsec/R42701.pdf; Search and rescue drones equipped with thermal imaging help first responders identify the location of people lost in chaotic scenes, and police departments have started using drones with thermal capabilities to identify the location of suspects while keeping an infrared eye on their officers. *Best Infrared Drones (Buying Guide)*, Spire Drones, https://buythebestdrone.com/best-infrared-drones/ (last visited Dec. 23, 2019).

[5] The research and development laboratory at the Massachusetts Institute of Technology has developed airborne ladar systems that generate detailed 3D imagery of terrain and structures, including those beneath dense foliage. The lab reports that the micro-ladar could be used under both clear and heavy foliage conditions for surveillance and reconnaissance missions as well as for humanitarian assistance and disaster relief operations. Lincoln Laboratory, Massachusetts Institute of Technology, R & D Projects, *Micro-ladar*, https://www.ll.mit.edu/r-d/projects/micro-ladar (last visited Dec. 23, 2019).

[6] Popular Science, Clay Dillow, *Army Developing Drones That Can Recognize Your Face From a Distance*, September 28, 2011, https://www.popsci.com/technology/article/2011-09/army-wants-drones-can-recognize-your-face-and-read-your-mind/ (last visited Dec. 23, 2019); *see also* PoliceOne.com, 2017 Guide to Emerging Technologies, Val Van Brocklin, *Facial recognition technology and a 'reasonable expectation of privacy',* May 16, 2017, https://www.policeone.com/emerging-tech-guide/articles/facial-recognition-technology-and-a-reasonable-expectation-of-privacy-cxdcrWsBRCu8Dieb/ (last visited Dec. 23, 2019).

[7] Public Law 112-95, February 14, 2012, The FAA Modernization and Reform Act of 2012, *Drones in Domestic Surveillance Operations: Fourth Amendment Implications and Congressional Response*, Congressional Research Service, April 3, 2013, *available at* www.fas.org/sgp/crs/natsec/R42701.pdf.

[8] 14 C.F.R. Parts 21, 43, 61, 91, 101, 107, 119, 133, and 183; *Operation and Certification of Small Unmanned Aircraft Systems*, 81 Fed. Reg. 42064-42214.

[9] *Id.*

[10] *Id*.

[11] It is a federal crime, punishable by up to 12 months in prison, to interfere with firefighting efforts on public lands. Congress has authorized the FAA to impose a civil penalty of up to $20,000 against any drone pilot who interferes with

Use of Drones in Florida – Section 934.50, F.S.

A law enforcement agency is defined in s. 934.50, F.S., as a lawfully established state or local public agency that is responsible for the prevention and detection of crime, local government code enforcement, and the enforcement of penal, traffic, regulatory, game, or controlled substance laws.[12]

Section 934.50(3)(b), F.S., provides that a real property owner, tenant, occupant, invitee, or licensee of the property is presumed to have a reasonable expectation of privacy from drone surveillance[13] of the property or the owner, tenant, occupant, invitee, or licensee by another person, state agency,[14] or political subdivision,[15] if he or she cannot be seen by persons at ground level who are in a place they have a legal right to be.[16]

Section 934.50, F.S., prohibits law enforcement agencies from using a drone to gather evidence or other information, with certain exceptions.[17] Evidence obtained or collected by a law enforcement agency using a drone is not admissible in a criminal prosecution in any court of law in this state unless it is permitted under one of the statute's exceptions.[18] An aggrieved party may initiate a civil action against a law enforcement agency to obtain all appropriate relief in order to prevent or remedy a violation of s. 934.50, F.S.[19]

The exceptions in s. 934.50(4), F.S., for law enforcement agencies using drones to gather evidence and other information are as follows:

- The U.S. Secretary of Homeland Security determines that credible intelligence exists indicating a high risk of a terrorist attack by an individual or organization and the drone is used to counter the risk;
- The law enforcement agency first obtains a search warrant authorizing the use of a drone; or

wildfire suppression, law enforcement or emergency response operations. FAA, Unmanned Aircraft Systems, *Airspace Restrictions*, https://www.faa.gov/uas/where_to_fly/airspace_restrictions/#wildfires (last visited Nov. 6, 2019).

[12] Section 934.50(2)(d), F.S.

[13] Surveillance is defined in. s. 934.50(2)(e), F.S.: With respect to an owner, tenant, occupant, invitee, or licensee of privately owned real property, the observation of such persons with sufficient visual clarity to be able to obtain information about their identity, habits, conduct, movements, or whereabouts; or with respect to privately owned real property, the observation of such property's physical improvements with sufficient visual clarity to be able to determine unique identifying features or its occupancy by one or more persons.

[14] A state agency, as defined in s. 11.45, F.S., is a separate agency or unit of state government created or established by law and includes, but is not limited to, the following and the officers thereof: authority, board, branch, bureau, commission, department, division, institution, office, officer, or public corporation, as the case may be, except any such agency or unit within the legislative branch of state government other than the Florida Public Service Commission.

[15] A political subdivision is defined in s. 11.45, F.S., as a separate agency or unit of local government created or established by law and includes, but is not limited to, the following and the officers thereof: authority, board, branch, bureau, city, commission, consolidated government, county, department, district, institution, metropolitan government, municipality, office, officer, public corporation, town, or village.

[16] Section 934.50(3)(b), F.S.; *see also* s. 934.50(5)(b)-(d) F.S., providing for compensatory damages, injunctive relief, attorney fees, and punitive damages for a violation of s. 934.50(3)(b), F.S.

[17] Section 934.50(3)(a), F.S.

[18] Section 934.50(6), F.S.

[19] Section 934.50(5)(a), F.S.

- The law enforcement agency has reasonable suspicion that swift action is necessary to prevent imminent danger to life or serious damage to property, to forestall the imminent escape of a suspect or the destruction of evidence, or to achieve purposes including, but not limited to, facilitating the search for a missing person.[20]

Non-law enforcement exceptions authorize use of a drone:

- By a person or an entity engaged in a business or profession licensed by the state if the drone is used only to perform reasonable tasks within the scope permitted under such person's or entity's license.
- By a property appraiser who uses a drone solely for the purpose of assessing property for ad valorem taxation.
- To capture images by or for an electric, water, or natural gas utility.
- For aerial mapping, if the person or entity using a drone for this purpose is operating in compliance with Federal Aviation Administration regulations.
- To deliver cargo, if the person or entity using a drone for this purpose is operating in compliance with Federal Aviation Administration regulations.
- To capture images necessary for the safe operation or navigation of a drone that is being used for a purpose allowed under federal or Florida law.
- By a communications service provider for routing, siting, installation, maintenance, or inspection of facilities used to provide communications services.

The Fish and Wildlife Conservation Commission,[21] the Florida Department of Agriculture and Consumer Services (housing the Florida Forest Service[22] and Office of Agricultural Law Enforcement[23]), and the Department of Environmental Protection[24] all have law enforcement personnel and could be considered law enforcement agencies.

Weaponized Drones Prohibited in Florida

In Florida, s. 330.411, F.S., prohibits a person from possessing or operating an unmanned aircraft or unmanned aircraft system as defined in s. 330.41, F.S., with an attached weapon, firearm, explosive, destructive device, or ammunition as defined in s. 790.001, F.S.[25] North Dakota is the only state that allows law enforcement agencies to utilize weaponized drones. The weapons are limited to the non-lethal variety such as tear gas, rubber bullets, beanbags, pepper spray, and tasers.[26]

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[20] Section 934.50(4)(a)-(c), F.S. There are additional exceptions to the prohibition on the use of drones that are not law enforcement agency related. These exceptions can be found in s. 934.50(4)(d)-(j), F.S.
[21] FWC, *Law Enforcement*, https://myfwc.com/about/inside-fwc/le/ (last visited Dec. 27, 2019).
[22] DACS, Florida Forest Service, https://www.fdacs.gov/Divisions-Offices/Florida-Forest-Service (last visited Dec. 27, 2019).
[23] DACS, *Office of Agricultural Law Enforcement*, https://www.fdacs.gov/Divisions-Offices/Agricultural-Law-Enforcement (last visited Dec. 27, 2019).
[24] DEP, *Division of Law Enforcement and Emergency Response*, https://floridadep.gov/dleer (last visited Dec. 27, 2019).
[25] Section 330.41(2)(c), F.S., defines an unmanned aircraft system as a drone and its associated elements, including communication links and the components used to control the drone which are required for the pilot in command to operate the drone safely and efficiently; s. 330.41(2)(b), F.S., specifies that "drone" has the same meaning as s. 934.50(2), F.S.
[26] North Dakota House Bill 1328 (2015), *available at* https://www.legis.nd.gov/assembly/64-2015/documents/15-0259-05000.pdf?20150501154934.

Use of Drones for Land Management

The U.S. Department of Interior (DOI)[27] and the U.S. Forest Service[28] use drones extensively to enhance science, safety, and savings in relation to their core missions. Drones can be less disruptive to sensitive animal species than manned aircraft.[29] They can carry sophisticated sensors and possess the ability to transmit real-time data that can be recorded for future analysis.[30] Drones can gather repeatable, scientifically valid observations leading to better science and therefore better policy decisions.[31] DOI missions often expose personnel to significant safety hazards. From 1937 to 2000, 66 percent of all field biologist fatalities in DOI were aviation-related.[32] Additionally, drones have also been used to replace ground personnel in certain missions, reducing their risk of injury. The cost of using drones can be significantly less expensive than using manned flights.[33] DOI identifies the following types of endeavors as being particularly well suited to drone technology:

- Wildfires
- Wildlife Monitoring
- Hydrology
- Geological surveys
- Geophysical surveys
- Volcanic activity.[34]

The U.S. Fish and Wildlife Service uses drones for wildfire detection and observation, invasive plant and animal monitoring and mapping, wildlife population counts, mapping coastal erosion, discovering illegal activity on public lands, and search and rescue operations.[35]

Invasive Species Management

The Florida Fish and Wildlife Conservation Commission (FWC) regulates nonnative animal species and invasive aquatic plants.[36] Nonnative species are animals living outside captivity and which are not historically present in the state.[37] More than 500 fish and wildlife nonnative species have been documented in Florida.[38] Nonnative species do not all pose a threat to

[27] Department of Interior, *Unmanned Aircraft Systems (UAS) Integration Strategy* (2015-2020), *available at* https://www.doi.gov/sites/doi.gov/files/uploads/DOI_UAS_Integration_Strategy_2015-2020.pdf.
[28] U.S. Forest Service, *Unmanned Aircraft Systems*, https://www.fs.fed.us/managing-land/fire/aviation/uas (last visited Dec. 23, 2019).
[29] Department of Interior, *Unmanned Aircraft Systems (UAS) Integration Strategy* (2015-2020), *available at* https://www.doi.gov/sites/doi.gov/files/uploads/DOI_UAS_Integration_Strategy_2015-2020.pdf.
[30] *Id*.
[31] *Id*.
[32] *Id*.
[33] *Id*.
[34] Department of Interior Office of Aviation Services, *DOI Unmanned Aircraft Systems (UAS)*, https://www.doi.gov/aviation/uas (last visited Dec. 23, 2019).
[35] U.S. Fish and Wildlife Service, *Unmanned Aircraft Systems take flight in Southeast Region*, https://www.fws.gov/southeast/articles/unmanned-aircraft-systems-take-flight-in-southeast-region/ (last visited Dec. 23, 2019).
[36] Sections 369.252, 379.231, and 379.2311, F.S.
[37] FWC, *Nonnative Species Information*, https://myfwc.com/wildlifehabitats/nonnatives/exotic-information/ (last visited Dec. 23, 2019).
[38] FWC, *Florida's Nonnative Fish and Wildlife*, http://myfwc.com/wildlifehabitats/nonnatives/ (last visited Dec. 23, 2019).

Florida's ecology, but some can become invasive species by causing harm to native species and domestic pets, posing a threat to human health and safety, or causing economic damage.[39] A few of Florida's nonnative species arrived by natural range expansions, but many were introduced by humans. The most common pathway by which exotic fish and wildlife species find their way into Florida's habitats is through escape or release by pet owners.[40]

Examples of invasive species in Florida that were originally pets are Burmese pythons, Nile monitor lizards, Gambian pouched rats, monk parakeets, and Cuban tree frogs. Other invasive species in Florida include lionfish, several other species of python and anaconda, wild boar, Rhesus macaque, green iguana, Nile crocodile, and Argentine tegu.[41]

To manage and minimize the impacts of nonnative species, it is unlawful to import for sale or use, or to release within the state, any species not native to Florida, unless authorized by FWC.[42] FWC has identified priority invasive species, including tegu lizards, several snake species, and lionfish.[43] FWC implemented a pilot program in 2018 to use private contractors to slow the advance and eradicate the priority invasive species from the state.[44]

Department of Agriculture and Consumer Services' (DACS's) Division of Plant Industry has the primary responsibility for addressing invasive plant species with a focus on plant pests and noxious weeds.[45] DACS's Forest Service also plays an important role in invasive species management. Invasive plants can displace native plants and associated wildlife, and can alter natural processes such as fire regimes and hydrology.[46]

The Division of State Lands within the Department of Environmental Protection is tasked with addressing the management of state lands, including the management of invasive species on conservation lands.[47] The water management districts are responsible for managing district-owned lands, and the South Florida Water Management District (SFWMD), in particular, has extensive programs for invasive plant and animal species. Specifically, SFWMD "is the largest single landowner in the region with nearly 1.5 million acres of public land within our boundaries…. Non-native plants and animals often aggressively invade natural habitats and drastically alter the ecology of natural systems"[48] SFWMD has numerous programs to combat invasive species including utilizing aerial drone technology to survey district lands from above to spot invasive pythons and alert hunters where they have been seen to help find and eliminate

[39] *Id*.
[40] FWC, *Nonnative Species Information*, https://myfwc.com/wildlifehabitats/nonnatives/exotic-information/ (last visited Jan 7, 2020).
[41] Section 379.2311, F.S.
[42] Section 379.231, F.S.
[43] Section 379.2311, F.S.
[44] *Id*.
[45] *See generally*, chapter 581, F.S.; Fla. Admin. Code R. Chap. 5B-57.
[46] DACS, Forest Service, *Invasive Non-Native Plants*, https://www.fdacs.gov/Divisions-Offices/Florida-Forest-Service/Our-Forests/Forest-Health/Invasive-Non-Native-Plants (last visited Dec. 23, 2019).
[47] Sections 253.034(5)(b) and 259.032(9)(e), F.S.
[48] SFWMD, *Vegetation and Exotic Control*, https://www.sfwmd.gov/our-work/vegetation (last visited Dec. 23, 2019).

them faster.[49] Note, however, that the water management districts do not employ law enforcement personnel.

III. Effect of Proposed Changes:

SB 822 amends s. 934.50, F.S., to authorize a non-law enforcement employee of the Fish and Wildlife Conservation Commission or of the Florida Forest Service to use drones for the purpose of managing and eradicating invasive exotic plants or animals on public lands.

The bill provides an effective date of July 1, 2020.

IV. Constitutional Issues:

A. Municipality/County Mandates Restrictions:

None.

B. Public Records/Open Meetings Issues:

None.

C. Trust Funds Restrictions:

None.

D. State Tax or Fee Increases:

None.

E. Other Constitutional Issues:

None.

V. Fiscal Impact Statement:

A. Tax/Fee Issues:

None.

B. Private Sector Impact:

None.

[49] SFWMD, *SFWMD Python Hunters Nearing 2,000 Snakes Eliminated*, https://myemail.constantcontact.com/SFWMD-Python-Hunters-Nearing-2-000-Snakes-Eliminated.html?soid=1117910826311&aid=9hpww0vXYtw (last visited Dec. 23, 2019).

C. Government Sector Impact:

There may be a positive indeterminate impact to the government sector associated with being able to use drone technology for invasive species management. One example of the cost savings associated with drones is that the U.S. Fish and Wildlife Service and U.S. Geological Survey estimated the cost to survey a specific project was about $2,500 using drone technology. Estimates to fly a similarly equipped manned aircraft for that mission ranged from $40,000-$50,000.[50]

VI. Technical Deficiencies:

None.

VII. Related Issues:

During the 2019 Legislative session, certain law enforcement positions were transferred from FWC to DEP, making DEP a law enforcement agency. Additionally, the Forest Service may not be the only entity within DACS that could potentially utilize drones for invasive exotic species management. Under the bill as written, the Division of Plant Industry may not be able to use drones to manage invasive species.

VIII. Statutes Affected:

This bill substantially amends section 934.50 of the Florida Statutes.

IX. Additional Information:

A. Committee Substitute – Statement of Changes:
(Summarizing differences between the Committee Substitute and the prior version of the bill.)

None.

B. Amendments:

None.

[50] Department of Interior, *Unmanned Aircraft Systems (UAS) Integration Strategy* (2015-2020), *available at* https://www.doi.gov/sites/doi.gov/files/uploads/DOI_UAS_Integration_Strategy_2015-2020.pdf.