

HOUSE OF REPRESENTATIVES STAFF ANALYSIS

BILL #: CS/HB 659 Drones

SPONSOR(S): Agriculture & Natural Resources Appropriations Subcommittee, Fischer

TIED BILLS: **IDEN./SIM. BILLS:** SB 822

REFERENCE	ACTION	ANALYST	STAFF DIRECTOR or BUDGET/POLICY CHIEF
1) Agriculture & Natural Resources Subcommittee	12 Y, 0 N	Melkun	Moore
2) Agriculture & Natural Resources Appropriations Subcommittee	11 Y, 0 N, As CS	White	Pigott
3) State Affairs Committee			

SUMMARY ANALYSIS

Nonnative species are animals or plants living outside captivity or human cultivation that were not historically present in the state. Not all nonnative species pose a threat to Florida's ecology, but some nonnative species become invasive species by causing harm to native species, posing a threat to human health and safety, or causing economic damage.

Each year, thousands of acres of wildland and many homes are destroyed by fires that can erupt at any time of the year from a variety of causes, including arson, lightning, and debris burning. In addition to placing human lives and property at risk, wildfires can also alter hydrology and destroy or degrade wildlife habitat, including that of endangered species.

Florida law defines a drone 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. Florida law restricts the use of drones by individuals and government entities to conduct surveillance. Law enforcement may not use a drone to gather evidence or other information, with certain exceptions.

Remote sensing using drones for the surveillance, detection, and reporting of an invasive species can improve early detection of invading plants and animals, making their management more efficient and less expensive. Studies have shown that drones can efficiently and inexpensively cover a large geographic range, reach places that are physically difficult for humans to access, cover substantially more territory and topography, carry a variety of cameras and sensors, and collect biological specimens or target and eliminate individual organisms through ballistic application of herbicides.

The bill allows the use of a drone by a non-law enforcement employee of the Fish and Wildlife Conservation Commission or the Florida Forest Service for the purpose of managing and eradicating invasive exotic plants or animals on public lands and suppressing and mitigating wildfire threats.

The bill may have an indeterminate positive fiscal impact on the state and local governments.

FULL ANALYSIS

I. SUBSTANTIVE ANALYSIS

A. EFFECT OF PROPOSED CHANGES:

Background

Nonnative Plant and Animal Species

Nonnative¹ species are animals or plants living in Florida outside captivity or human cultivation that were not historically present in the state.² More than 500 fish and wildlife nonnative species have been documented in Florida and over 1,180 nonnative plant species have become established outside of human cultivation.³ Not all nonnative species pose a threat to Florida's ecology, but some nonnative species become invasive species by causing harm to native species, posing a threat to human health and safety, or causing economic damage.⁴

Florida Fish and Wildlife Conservation Commission

Pursuant to s. 9, art. IV of the Florida Constitution, the Fish and Wildlife Conservation Commission (FWC) exercises the regulatory and executive powers of the state with respect to wild animal life, fresh water aquatic life, and marine life.⁵ These powers include authority with respect to the control and management of nonnative plant and animal species.

To manage and minimize the impacts of nonnative animal species, individuals may not import, introduce, or possess any nonnative animal species without a permit from FWC.⁶ Permittees who possess these species must meet certain requirements set by FWC related to identifying, inspecting, and transporting such species as well as record-keeping requirements and certain captivity requirements to prevent escape. Permittees are also required to maintain disaster incident plans and detailed research plans.⁷ To further manage invasive and nonnative species, FWC provides public education, exotic pet amnesty days to surrender nonnative pets to pre-qualified adopters,⁸ and nonnative species eradication programs for fish and wildlife as well as plants.

FWC's Nonnative Fish and Wildlife Program aims to minimize the adverse impacts of nonnative animal species through prevention, early detection, rapid response, control and management, and education and outreach. The program staff work to monitor and remove nonnative species, respond to new invasions, and assess the risk of species not yet present in the state.⁹

FWC's Upland Invasive Exotic Plant Management Program conducts invasive plant removal on public conservation lands throughout the state.¹⁰ Invasive plant removal projects are recommended by a network of regional invasive plant working groups, which are comprised of local land managers who are interested in or responsible for maintaining and restoring federal, state, and local government conservation land. The program identifies areas that are in need of restoration and hires private

¹ The terms "nonnative" and "exotic" have the same meaning and are used interchangeably.

² FWC, *Nonnative Species Information*, available at <https://myfwc.com/wildlifehabitats/nonnatives/exotic-information/> (last visited Jan. 7, 2020).

³ Nicole Dodds, Mary Miller, and Alexa Lamm, University of Florida Institute of Food and Agricultural Sciences, *Floridians' Perceptions of Invasive Species*, Feb. 2014, p. 1, available at <http://edis.ifas.ufl.edu/pdffiles/WC/WC18600.pdf> (last visited Jan. 7, 2020).

⁴ FWC, *Nonnative Species Information*, available at <https://myfwc.com/wildlifehabitats/nonnatives/exotic-information/> (last visited Jan. 7, 2020).

⁵ Art. IV, s. 9, FLA. CONST.

⁶ Section 379.231(1), F.S.

⁷ Rule 68-5.005, F.A.C.

⁸ FWC, *Exotic Pet Amnesty Programs*, available at <https://myfwc.com/wildlifehabitats/nonnatives/amnesty-program/> (last visited Jan. 7, 2020); r. 68-5.008, F.A.C.

⁹ FWC, *Florida's Nonnative Fish and Wildlife*, available at <https://myfwc.com/wildlifehabitats/nonnatives/> (last visited Jan. 7, 2020).

¹⁰ FWC, *Upland Plant Management*, available at <https://myfwc.com/wildlifehabitats/habitat/invasive-plants/upland-plant/> (last visited Jan. 7, 2020); s. 369.252, F.S.

vegetation management contractors to do the removal.¹¹ The Upland Invasive Plant Management Program has conducted 2,000 invasive plant control operations targeting 2.7 million acres and has assisted land managers on 700 federal, state, and county-managed natural areas that comprise over 10 million acres, or 90 percent of public conservation land in the state.¹²

Florida Forest Service

As a subset of the Department of Agriculture and Consumer Services (DACS), the Florida Forest Service works to protect and manage the forest resources of Florida. The Forest Service manages 37 state forests, totaling over 1.1 million acres, for multiple public uses, including timber, recreation, and wildlife habitat.¹³

Many invasive plants can have significant effects on forest health, productivity, access, and use. These plants displace native plants and associated wildlife and can alter natural processes such as fire regimes and hydrology.¹⁴ Many forestry techniques involve soil disturbance (e.g., harvesting, site prep, and planting) and alteration of the canopy (e.g., harvesting), which affect sunlight and water penetration to the soil level. These activities may aid in the introduction or spread of nonnative plant species on forest land.¹⁵

DACS's Bureau of Methods Development and Biological Control develops, investigates, and implements new ideas, techniques, and methods for the detection, control, and eradication of plant and honey bee pests. Bureau personnel are involved in chemical control methods, biological control activities, sterile insect techniques, quality control, environmental concerns, and irradiation.¹⁶ The bureau also regulates non-native species planting permits, which regulate the introduction into, or movement within, Florida of plant species intended for plantings greater than two contiguous acres and establish procedures under which the field release of such species are permitted.¹⁷

Wildfires

Each year, thousands of acres of wildland and many homes are destroyed by fires that can erupt at any time of the year from a variety of causes, including arson, lightning, and debris burning.¹⁸ In addition to placing human lives and property at risk, wildfires can also alter hydrology and destroy or degrade wildlife habitat, including that of endangered species.¹⁹ Wildfire mitigation is the proactive implementation of various measures designed to minimize the destructive effects of wildfires.²⁰

In Florida, the Forest Service conducts wildfire mitigation activities throughout the year and is the primary authority on wildfires. The Forest Service, equipped with a team of highly trained firefighters and foresters, works to provide a level of fire management that reduces threats to life and property, forests, and other related at-risk wildland resources, while promoting natural resource management through the use of prescribed fire.²¹

¹¹ FWC, *Upland Plant Management*, available at <https://myfwc.com/wildlifehabitats/habitat/invasive-plants/upland-plant/> (last visited Jan. 7, 2020).

¹² *Id.*

¹³ DACS, *Florida Forest Service*, available at <https://www.fdacs.gov/Divisions-Offices/Florida-Forest-Service> (last visited Jan. 7, 2020); DACS, *State Forests*, available at <https://www.fdacs.gov/Divisions-Offices/Florida-Forest-Service/Our-Forests/State-Forests> (last visited Jan. 7, 2020).

¹⁴ DACS, *Invasive Non-native Plants*, available at <https://www.fdacs.gov/Divisions-Offices/Florida-Forest-Service/Our-Forests/Forest-Health/Invasive-Non-Native-Plants#> (last visited Jan 7, 2020).

¹⁵ *Id.*

¹⁶ DACS, *Bureau of Methods Development and Biological Control*, available at <https://www.fdacs.gov/Divisions-Offices/Plant-Industry/Bureaus-and-Services/Bureau-Of-Methods-Development-Biological-Control> (last visited Jan. 7, 2020).

¹⁷ DACS, *Non-native Species Planting Permits*, available at <https://www.fdacs.gov/Divisions-Offices/Plant-Industry/Business-Services/Plant-Pest-Permits/Non-native-Species-Planting-Permits> (last visited Jan 7, 2020).

¹⁸ Florida Division of Emergency Management, *Wildfires*, available at <https://www.floridadisaster.org/hazards/wildfire/> (last visited Jan. 28, 2020).

¹⁹ DACS, *Wildfire Mitigation*, available at https://www.fdacs.gov/content/download/4798/file/wildfire_mitigation_South_Florida.pdf (last visited Jan. 28, 2020).

²⁰ *Id.*

²¹ DACS, *Wildland Fire*, available at <https://www.fdacs.gov/Divisions-Offices/Florida-Forest-Service/Wildland-Fire> (last visited Jan. 28, 2020).

Drones

Under Florida law, a drone is 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.²²

The full system comprised of a drone and its associated elements, including communication links and components used to control the drone, is called an unmanned aircraft system.²³

Drones can range vastly in size and weight and may be controlled manually or through an autopilot that uses a data link to connect the drone's pilot to the drone. Drones can also be equipped with infrared cameras²⁴ and "LADAR" (laser radar).²⁵

Federal Drone Regulation

The Federal Aviation Administration (FAA) regulates the use of navigable airspace under federal law.²⁶ The FAA has allowed drone use for essential public operations such as firefighting, disaster relief, search and rescue, law enforcement, border patrol, and scientific research since 1990.²⁷ In February 2012, Congress passed the Federal Aviation Authority Modernization and Reform Act (Act), which required the FAA to safely open the nation's airspace to drones by September 2015.²⁸

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 2016.²⁹ The 2016 small drone regulations facilitated civilian drone use in the navigable airspace and included airspace restrictions and a waiver mechanism allowing for deviations from drone operational restrictions upon application and authorization by the FAA.³⁰ These regulations, which are currently in effect, also include a maximum altitude of 400 feet above the ground or a structure,³¹ a requirement that the operator maintain visual line of sight of the aircraft,³² and a prohibition on operating a drone at night.³³

²² Section 934.50(2)(a), F.S.

²³ Section 330.41(2)(c), F.S.

²⁴ Infrared cameras can see objects through walls based on the relative levels of heat produced by the objects. Congressional Research Service, *Drones in Domestic Surveillance Operations: Fourth Amendment Implications and Congressional Response*, Apr. 3, 2013, available at www.fas.org/sgp/crs/natsec/R42701.pdf (last visited Jan. 7, 2020).

²⁵ The research and development laboratory at the Massachusetts Institute of Technology has developed airborne lidar systems that generate detailed 3D imagery of terrain and structures, including those beneath dense foliage. The lab reports that the micro-lidar 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. Massachusetts Institute of Technology, *Micro-lidar*, available at <https://www.ll.mit.edu/r-d/projects/micro-lidar> (last visited Jan. 7, 2020).

²⁶ 49 U.S.C. § 40103 (2019).

²⁷ FAA, *Fact Sheet – Unmanned Aircraft Systems*, Feb. 15, 2015, available at https://www.faa.gov/news/fact_sheets/news_story.cfm?newsId=18297 (last visited Jan. 7, 2020).

²⁸ The FAA Modernization and Reform Act of 2012, Pub. L. No. 112-95, 126 Stat. 11 (2012). Congressional Research Service, *Drones in Domestic Surveillance Operations: Fourth Amendment Implications and Congressional Response*, Apr. 3, 2013, available at www.fas.org/sgp/crs/natsec/R42701.pdf (last visited Jan. 7, 2020).

²⁹ *Id.*

³⁰ FAA, *Press Release – Fact Sheet-Small Unmanned Aircraft Regulations (Part 107)*, July 23, 2018, available at https://www.faa.gov/news/fact_sheets/news_story.cfm?newsId=22615 (last visited Jan. 7, 2020).

³¹ 14 C.F.R. § 107.51 (2019).

³² 14 C.F.R. § 107.31 (2019).

³³ 14 C.F.R. § 107.29 (2019). Both the Lakeland Police Department and the Polk County Sheriff's Office have obtained waivers of the daylight-only operational restriction from the FAA, as has St. Johns County Fire Rescue. Certificates of Waiver 107W-2018-16741 (dated November 28, 2018), 107W-2018-16274 (dated November 6, 2018); and 107W-2019-03646 (dated August 8, 2019), FAA, *Part 107 Waivers Issued*, available at https://www.faa.gov/uas/commercial_operators/part_107_waivers/waivers_issued/ (last visited Jan. 7, 2020).

On January 18, 2019, the FAA announced a new proposed regulation for the use of drones that would allow drone operators to routinely fly over people and fly at night.³⁴ The proposed regulation creates a risk-assessment model based upon the weight and design of the drone, and considers mitigation of the drone design to prohibit serious injury or property damage should the drone make contact with a person or property on the ground.³⁵ The FAA began accepting public comment on the proposed regulation on February 13, 2019, and has yet to complete a final draft.³⁶

Florida Drone Regulation

Section 934.50, F.S., restricts the use of drones by individuals and government entities to conduct surveillance. The law recognizes that a real property owner is presumed to have a reasonable expectation of privacy on his or her privately owned real property if he or she cannot be seen by persons at ground level who are in a place they have a legal right to be.³⁷ Thus, law enforcement may not use a drone to gather evidence or other information, with certain exceptions. When law enforcement has reasonable suspicion that swift action is needed, drone use is permitted:

- 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 certain purposes such as facilitating the search for a missing person.³⁸

Other exceptions authorizing drone use include:

- Countering terrorist attacks;
- Effecting search warrants, authorized by a judge;
- Lawful business activities licensed by the state, with certain exceptions;
- Assessing property for ad valorem taxation purposes;
- Capturing images of utilities for specified purposes;
- Aerial mapping;
- Cargo delivery;
- Capturing images necessary for drone navigation; and
- Routing, siting, installing, maintaining, or inspecting communications service facilities.³⁹

Section 934.50, F.S., further provides that 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 the state, unless it is permitted under one of the statute's exceptions.⁴⁰

The Use of Drones for Managing Invasive Species

Remote sensing using drones for the surveillance, detection, and reporting of an invasive species on a landscape scale as it spreads and expands its range, especially in areas where it might not be feasible to monitor with traditional sampling, can improve early detection of invading plants and animals, making their management more efficient and less expensive.⁴¹ Studies have shown that drones can efficiently and inexpensively cover a large geographic range, reach places that are physically difficult for humans to access, cover substantially more territory and topography, carry a variety of cameras and sensors, collect biological specimens, and target and eliminate individual organisms through ballistic application of herbicides.⁴²

³⁴ Safe and Secure Operations of Small Unmanned Aircraft Systems, 84 Fed. Reg. 3732 (February 13, 2019) (to be codified at 14 CFR Part 107), available at <https://www.govinfo.gov/content/pkg/FR-2019-02-13/pdf/2019-00758.pdf> (last visited Jan. 7, 2020).

³⁵ *Id.*

³⁶ *Id.*

³⁷ Sections 934.50(3)(a) and 934.50(4), F.S.

³⁸ Section 943.50(4)(c), F.S.

³⁹ Sections 943.50(4)(a)-(b) and 943.50(4)(d)-(j), F.S.

⁴⁰ Section 934.50(6), F.S.

⁴¹ Barbara Martinez, Alex Dehgan, Brad Zamft, David Baisch, Colin McCormick, Anthony J. Giordano, Rebecca Aicher, Shah Selbe, Cassie Hoffman, *Advancing federal capacities for the early detection of and rapid response to invasive species through technology innovation*, National Invasive Species Council: Contractor's Report, Mar. 2017, available at https://www.doi.gov/sites/doi.gov/files/uploads/federal_capacities_for_edrr_through_technology_innovation_contractorsreport_10.22.18.pdf (last visited Jan. 7, 2020).

⁴² *Id.*

Effect of the Bill

The bill allows the use of a drone by a non-law enforcement employee of FWC or the Forest Service for the purpose of managing and eradicating invasive exotic plants or animals on public lands and suppressing and mitigating wildfire threats.

B. SECTION DIRECTORY:

Section 1. Amends s. 934.50, F.S., to provide an exception for drone use under certain conditions for FWC and the Forest Service.

Section 2. Provides an effective date of July 1, 2020.

II. FISCAL ANALYSIS & ECONOMIC IMPACT STATEMENT

A. FISCAL IMPACT ON STATE GOVERNMENT:

1. Revenues:

None.

2. Expenditures:

The bill may have a positive indeterminate fiscal impact on state government expenditures because the use of drones may prove to be a more cost- and time-efficient method for invasive species management and removal and wildfire suppression and mitigation.

B. FISCAL IMPACT ON LOCAL GOVERNMENTS:

1. Revenues:

None.

2. Expenditures:

None.

C. DIRECT ECONOMIC IMPACT ON PRIVATE SECTOR:

None.

D. FISCAL COMMENTS:

None.

III. COMMENTS

A. CONSTITUTIONAL ISSUES:

1. Applicability of Municipality/County Mandates Provision:

Not applicable. This bill does not appear to require counties or municipalities to spend funds or take action requiring the expenditure of funds; reduce the authority that counties or municipalities have to raise revenues in the aggregate; or reduce the percentage of state tax shared with counties or municipalities.

2. Other:

Privacy

Currently, a person does not have a reasonable expectation of privacy on public lands. However, with the evolution of technology as it relates to intrusion into a person's privacy interests, the law applying the Fourth Amendment to the United States Constitution may evolve.⁴³

B. RULE-MAKING AUTHORITY:

None.

C. DRAFTING ISSUES OR OTHER COMMENTS:

None.

IV. AMENDMENTS/ COMMITTEE SUBSTITUTE CHANGES

On January 28, 2020, the Agriculture & Natural Resources Appropriations Subcommittee adopted an amendment and reported the bill favorably as a committee substitute. The amendment provided an exception for drone use for the purposes of suppressing and mitigating wildfires.

This analysis is drafted to the committee substitute as approved by the Agriculture & Natural Resources Appropriations Subcommittee.

⁴³ The Fourth Amendment to the U.S. Constitution protects persons from unreasonable searches and seizures by the government. U.S. CONST. AMEND. IV. See *Katz v. United States*, 389 U.S. 347 (1967), finding there is no reasonable expectation of privacy in the public view. See also *Carpenter v. United States*, 138 S.Ct. 2206 (2018), a recent Fourth Amendment case finding a reasonable expectation of privacy in historical cell phone location records.