

Utilization of unmanned aerial vehicles (UAVs) for inspection and documentation.

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Rules and regulations



Point-source pollution documentation



Erosion documentation



Inspections and mapping



!DISCLAIMER!

- I do not work for the FAA, nor am I a lawyer or police officer.
- Everything I will be talking about today is my understanding of the rules, regulations and laws.
- Flying drones is serious work, and in no way fun.



Are you allowed to fly?

- If you have a small drone that is less than 55 pounds, you can fly for work or business by following the Part 107 guidelines. If you are flying your drone commercially, you must be operating under Part 107.



14 CFR Part 107

Are inspections allowed?

Town of Burlington, CT > 2021-09-20 > Part II: General Legislation > Chapter 164 Drones > § 164-2 Privacy not to be infringed.

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- § 164-2 **Privacy not to be infringed.**
No drone shall be flown over privately owned residential real property without the express consent of the owner of such residential real property.
- § 164-3 **Weaponized drones.**
No person shall possess or operate a weaponized drone.
- § 164-4 **Using drones to hunt, herd or disturb animals, birds or other wildlife.**
No drone shall be used to hunt, herd, or disturb animals, birds, or other wildlife.
- § 164-5 **Using drones for voyeurism.**
No person shall use a drone to view, photograph, film or make video or other recordings of another person without the knowledge and consent of such other person under circumstances where such other person has a reasonable expectation of privacy.
- § 164-6 **Using drones to access or collect digital information.**
No person shall use a drone to access or collect information stored or transmitted in digital form without authorization.
- § 164-7 **Reckless operation.**
No person shall operate a drone recklessly or in such a manner as to reasonably instill fear or apprehension for the safety of other persons.
- § 164-8 **Interference with fire, law enforcement, conservation, and public safety personnel.**
No person shall operate a drone so as to interfere with the duties of fire, law enforcement, conservation, and public safety personnel.

Ch /1 Officers and Employees
Ch 77 Parks and Recreation Commission
Ch 82 Planning and Zoning Commission
Ch 95 Senior Citizens, Commission on
Part II: General Legislation
Ch 122 Adult-Oriented Establishments
Ch 123 Advertising Matter and Newspapers
Ch 125 Alarm Systems
Ch 126 Alcoholic Beverages
Ch 131 Animals
Ch 137 Bazaars and Raffles
Ch 142 Bingo
Ch 149 Building Construction
Ch 156 Cemeteries
Ch 164 Drones
§ 164-1 Definitions.
§ 164-2 Privacy not to be infringed.
§ 164-3 Weaponized drones.
§ 164-4 Using drones to hunt, herd or disturb animals, birds or other wildlife.
§ 164-5 Using drones for voyeurism.
§ 164-6 Using drones to access or collect digital information.
§ 164-7 Reckless operation.
§ 164-8 Interference with fire, law enforcement, conservation, and public safety personnel.



Are inspections allowed?

In *California v. Ciralolo*, 476 U.S. 207 (1986), police suspected marijuana was being grown in the backyard of a suburban home. The yard was not visible from the public streets, so police used a fixed-wing aircraft to fly over the home. Although the officers flew at a low altitude, they were within the altitude limits set by FAA regulations and could identify marijuana plants with the naked eye. The Court ruled this was not a search that required a warrant under the Fourth Amendment because the defendant had no reasonable expectation of privacy in his backyard being viewed from the regulated altitude, much the same way there is no reasonable expectation of privacy in a backyard viewable from a public street. Essentially, the backyard was within the public view for anyone flying over the subject property.



Are inspections allowed?

In the third case, *Dow Chemical v. United States*, 476 U.S. 227 (1986), the corporate owner of an industrial chemical plant denied the U.S. Environmental Protection Agency (EPA) permission to inspect the plant. EPA hired a commercial aerial photographer to fly over the plant taking photographs of the open areas around the plant and between its buildings with a standard precision aerial mapping camera.

The court held that the open areas of an industrial facility are not subject to the same Fourth Amendment protections as the curtilage around a home and, on the basis of *Ciralolo*, the government does not necessarily violate the Fourth Amendment by viewing private property from navigable public airspace. Unlike in *Ciralolo* and *Riley*, the government made its observations with technological aids rather than naked-eye observations. The use of a sensory device that was publicly and commonly available to augment human observations did not render the aerial search impermissible.

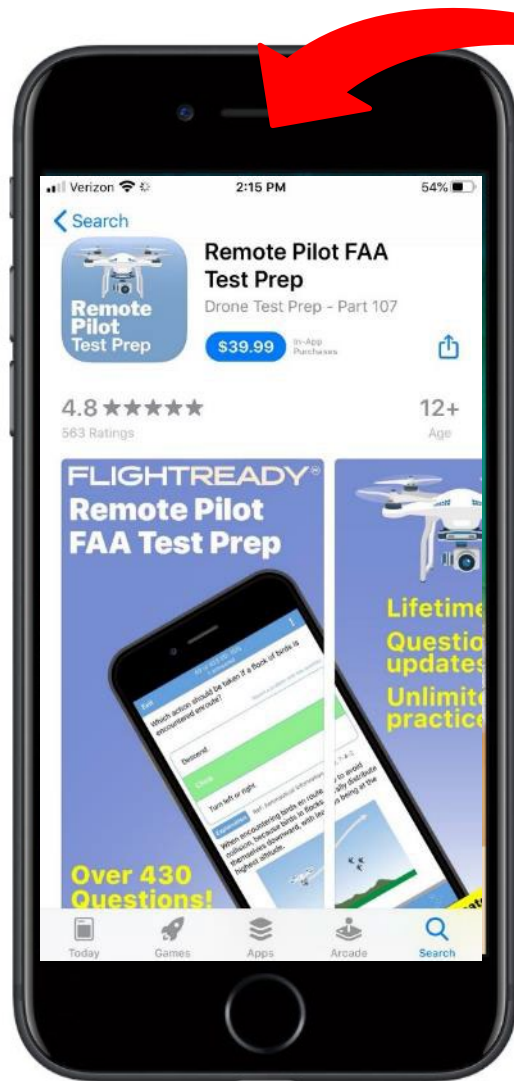


How do you start flying?



Get your UAS Remote Pilot Certificate.





Use this app to study



The screenshot shows the FAA website page titled "Become a Certified Remote Pilot". The page includes a navigation menu with links for "About", "Jobs", "News", and a search bar. Below the navigation, there are links for "Aircraft", "Air Traffic", "Airports", "Pilots & Airmen", "Data & Research", "Regulations", "Space", and "Drones". The main content area features a sidebar with a table of contents and a main text area. The table of contents includes "Overview", "Getting Started", "Recreational Flyers & Community-Based Organizations", "Certificated Remote Pilots including Commercial Operators", and "Public Safety and Government". The main text area contains the heading "Become a Certified Remote Pilot" and the following text: "In order to fly your drone under the FAA's Small UAS Rule (Part 107), you must obtain a Remote Pilot Certificate from the FAA. This certificate demonstrates that you understand the regulations, operating requirements, and procedures for safely flying drones." It also includes links for "Are you a first time pilot or an existing Part 61 Certificate holder?", "Do you need to keep your Remote Pilot Certificate current?", and "Not sure what type of drone flyer you are? We can help you!". Below this is a section for "First-Time Pilots Eligibility" with the heading "To become a pilot you must:" and a list of requirements: "Be at least 16 years old" and "Be able to read, speak, write, and understand English".



Visit
https://www.faa.gov/uas/commercial_operators/become_a_drone_pilot to fill out applications and find a testing center for the exam.

Buy a drone!

Skydio's compact autonomous drone, powered by AI, provides an efficient flying experience paired with obstacle avoidance that makes flying safe.

MAIN CAMERA

4k 60 HDR / 12 MP

MAIN PROCESSOR

NVIDIA Tegra X2
SOC

ONBOARD AI

9 deep networks
for 360° obstacle
avoidance

SPEED

36 MPH

BATTERY

27 min

RANGE (UP TO)

6 km*

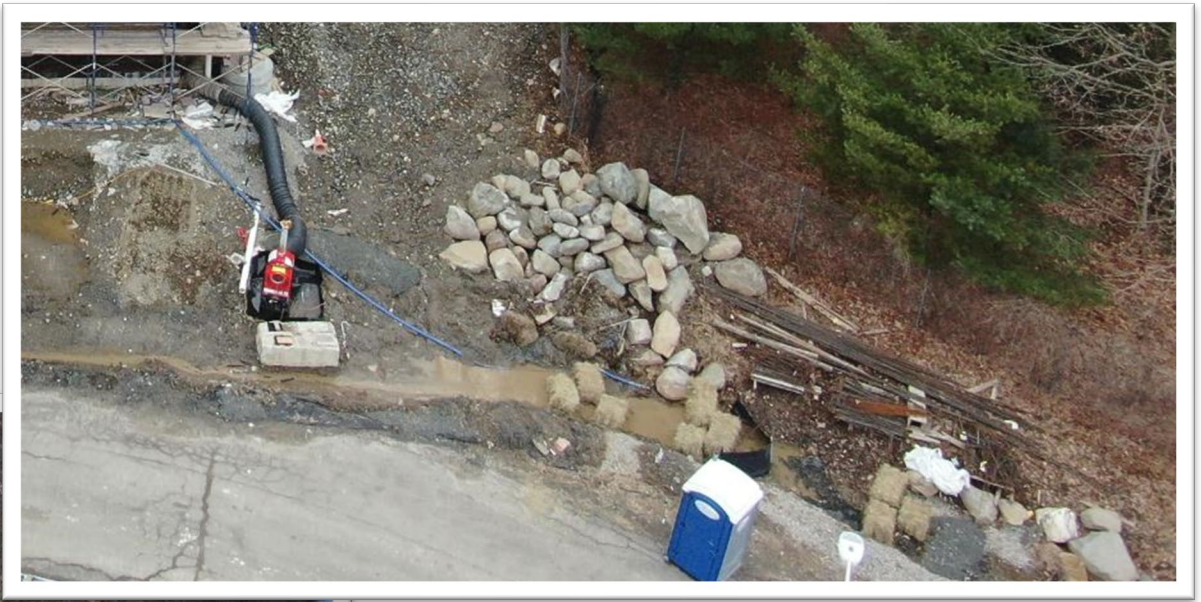
* Always follow local rules, regulations, and FAA guidelines, and fly your drone in line of sight at all times.





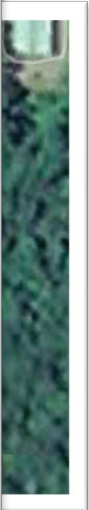
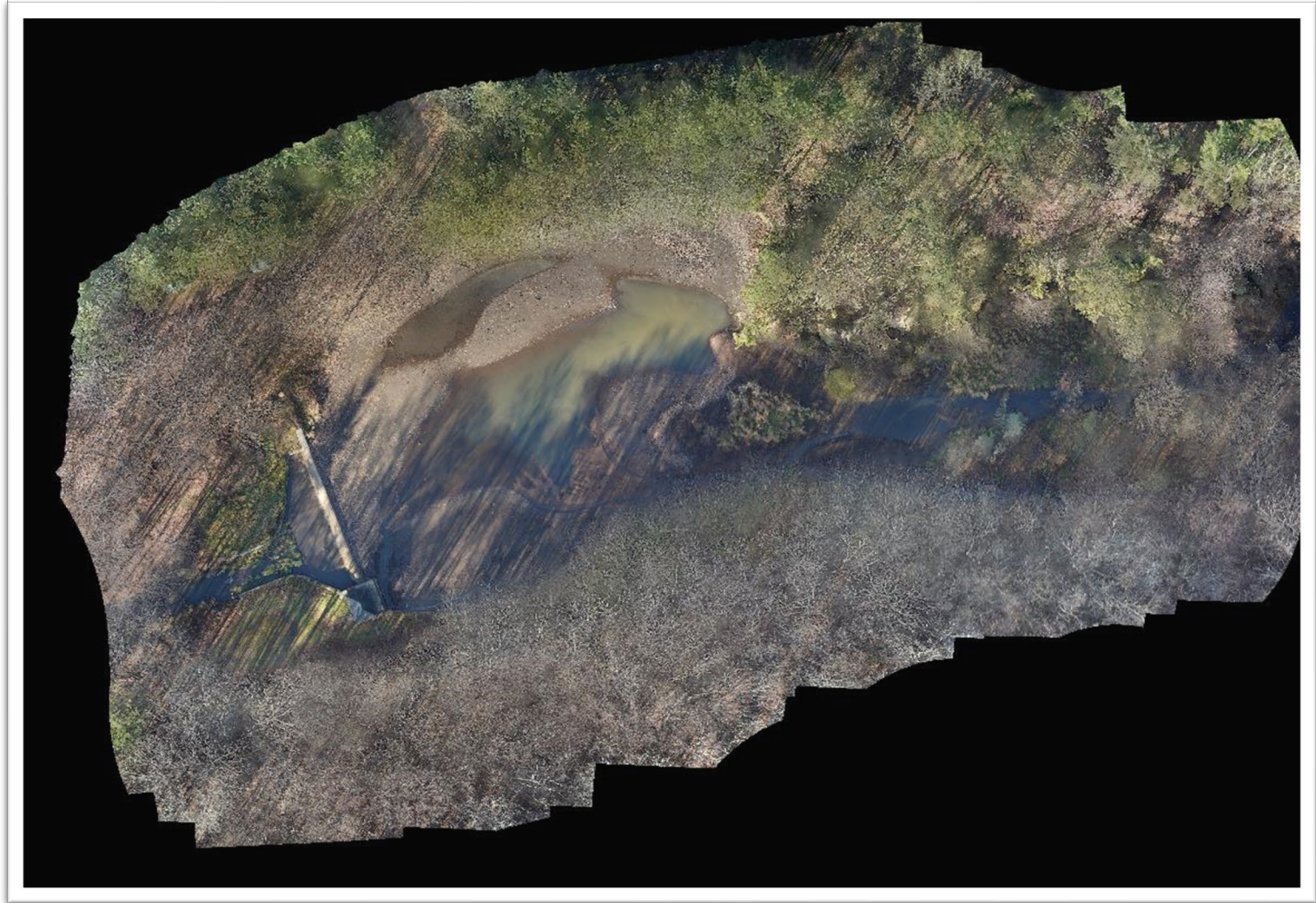
Joshua Tracy
Forester and Drone Manger
03/05/2025







Farm River Diversion, North Branford, CT





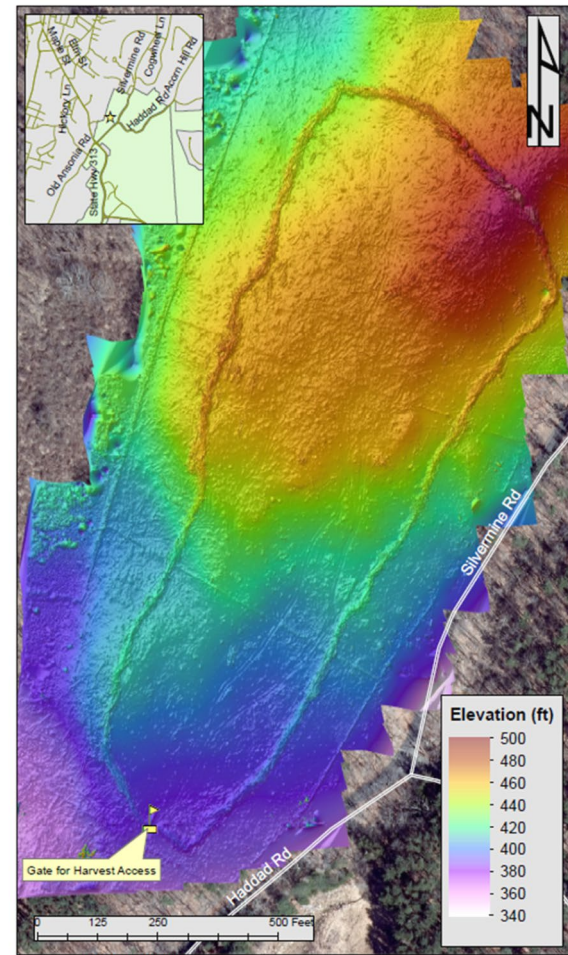


Seymour, Connecticut. Clear-cut and slashwall.

Slash Wall Harvest- Seymour, CT (Ortho)



Slash Wall Harvest- Seymour, CT (Color Topography)



An aerial photograph of a large pond, identified as Furnace Pond, which is almost entirely covered in a thick layer of green algae. The pond is surrounded by dense green trees and vegetation. A blue banner with a white border is positioned in the upper right quadrant of the image, containing the text 'Furnace Pond' in a yellow, cursive font. The banner has a slight 3D effect with shadows.

Furnace Pond

Water Chestnut Harvest- Pre Harvest



Map made by:
Joshua Tracy
Inv.Spc.Mgt.Tech.
08/31/2020

07/06/2020

Water Chestnut Harvest- Post Harvest



Map made by:
Joshua Tracy
Inv.Spc.Mgt.Tech.
08/31/2020

08/20/2020



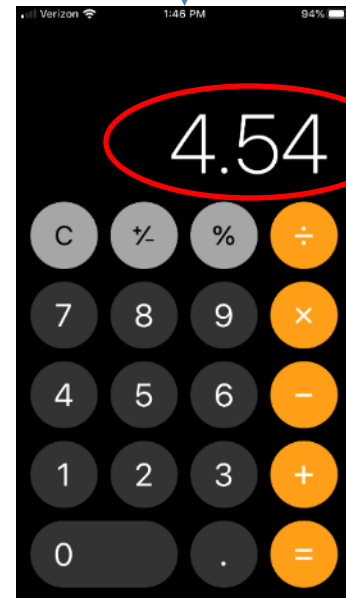
Water Chestnut Harvest- Post over Pre Harvest



Map made by:
Joshua Tracy
Inv. Spc. Mgt. Tech.
08/31/2020

Trappa_Natans_Pre_2020					
OBJECTID *	SHAPE *	SHAPE_Length	SHAPE_Area	Acreage	
1	Polygon	4599.025279	367033.26831	8.425958	

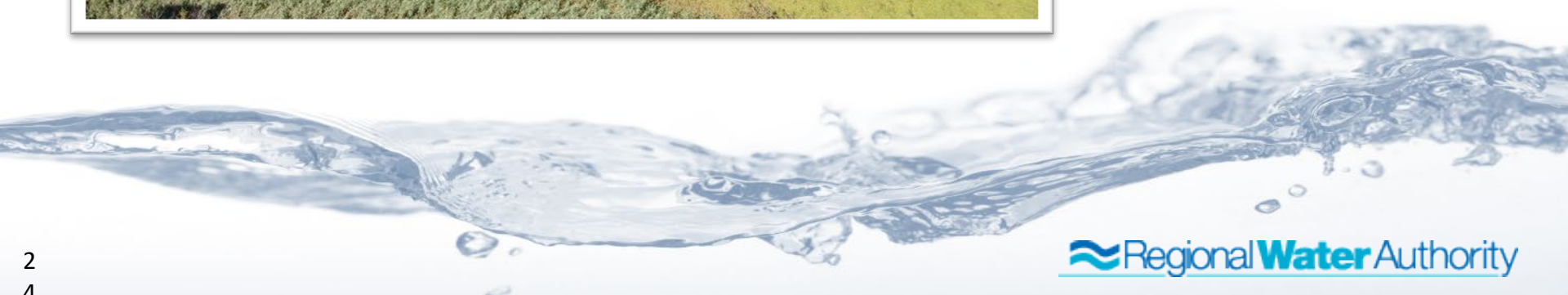
Trappa_Natans_Post_2020					
OBJECTID *	SHAPE *	SHAPE_Length	SHAPE_Area	Acreage	
1	Polygon	5527.499739	196092.199497	4.501676	
4	Polygon	288.139721	2909.051446	0.066783	



The drone will provide essential data.



Conducting these pre-and-post harvest flights will allow us to closely monitor the progress of remediation.





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An aerial photograph showing a dense, vibrant green forest canopy. The trees are packed closely together, creating a textured, mosaic-like pattern of various shades of green. The lighting is bright, highlighting the individual crowns of the trees. In the center of the image, the words "Thank you." are written in a white, elegant, cursive script font.

Thank you.

