

New PFAS Regulations and Impacts to Utilities

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REGIONAL
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AUTHORITY**



Introductions:

Viraj deSilva, PhD, PE, BCEE

- 30+ years exp
- Licensed in TX, KS, OH, NC, FL
- Project experience predominantly Wastewater/Water Treatment, Biosolids Management, Landfill Leachate Treatment
- Chair - WEF PFAS Task Force

PFAS Experience:

- In FL, NC, MI, IL, CA, and TX: PFAS Sampling and Investigations, PFAS Treatment, PFAS Waste Management
- Technical Advisory - PFAS Research at 5 FL and NC universities
- Over 72+ PFAS Publications and Presentations
- PFAS Speaker: WEF, AWWA, AMTA, SAME, SWANA, AAEE, APWA, GWPC, ASCE, and FL Permitting School, FL Rural Water Association
- EPA PFAS Technical Advisor



Agenda

- Introduction to PFAS
- EPA's PFAS Road Map
- FL HB1475/SB 7012 Legislation
- PFAS Source Elimination/Reduction Steps
- PFAS in Biosolids and Industrial pretreatment
- PFAS Treatment Plants
- Summary and Planning Options



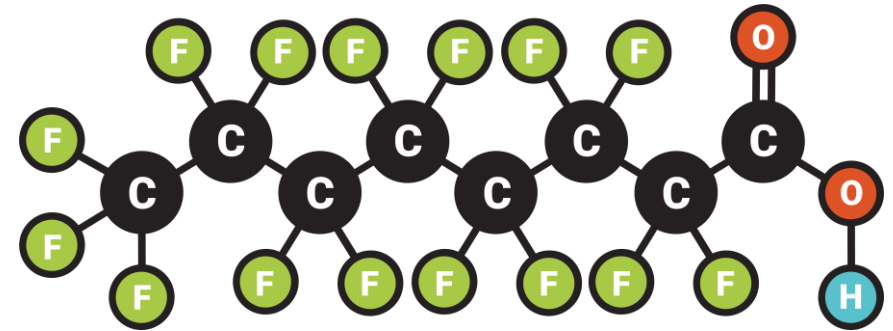


UNDERSTANDING PFAS

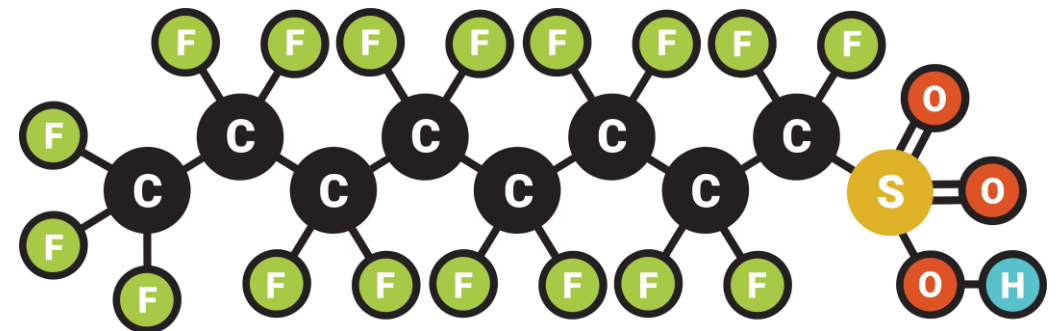
PFAS

- Man-made chemicals- Repel water & oil
- 9000+ chemicals in category since 1940's
- C-F one of strongest - Hard to break
- Bioaccumulation potential
- PFAS found in Living organisms
- PFOA and PFOS most studied
- Impacts surface & groundwater, soil, air
- Limited treatment and disposal options
- Human Health Implications:
 - Increased risk of cancers
 - High Blood Pressure
 - Higher Cholesterol
 - Hormone disruptors
 - Immune system impacts

**PerFloroOctanoic Acid
(PFOA)**



**PerFloroOctane Sulfonate
(PFOS)**



PFAS Pathways



The EPA's PFAS Road Map

2022

The EPA Roadmap lays out:

- Enforceable drinking water limits under the Safe Drinking Water Act
- **A hazardous substance designation under CERCLA**
- Effluent Guideline Limitations for 9 industrial categories.
- Review of past actions on PFAS taken under the Toxic Substances Control Act
- Increased monitoring, data collection and research
- Toxicity assessment for GenX
- PFAS air emissions under the Clean Air Act.

2023

2024

Updated Health Advisories for PFAS

EPA updated Lifetime Health Advisory (LHA) in June 2022.

PFAS	Previous LHA (ppt)	New LHA (ppt)
PFOA	70	0.004
PFOS	70	0.02
GenX	None	10
PFBS	None	2,000



FL HB1475/SB 7012 Legislation

- **HB 1475 and companion bill SB 7012 for PFAS**
- **15 member PFAS Task Force (FDEP, DOH, DOA, FWEA)**
- **FDEP to set Target Cleanup levels (2025) of PFAS:**
- **Enforceable regulatory standards for PFAS in drinking water, groundwater, and soil.**

FL HB1475/SB 7012 Legislation

- **Mechanism for the identification and cleanup of contaminated areas.**
- **Methods to address liability for contamination**
- **Treatment methods of PFAS contamination.**
- **Funding sources**
- **Methods to manage waste containing PFAS**
- **Appropriate testing for and monitoring of PFAS in drinking water, groundwater, and soil**
- **Methods to eliminate workplace exposure within the manufacturing industry.**



UCMR 5

UCMR 5 Timeline (3 Phases)

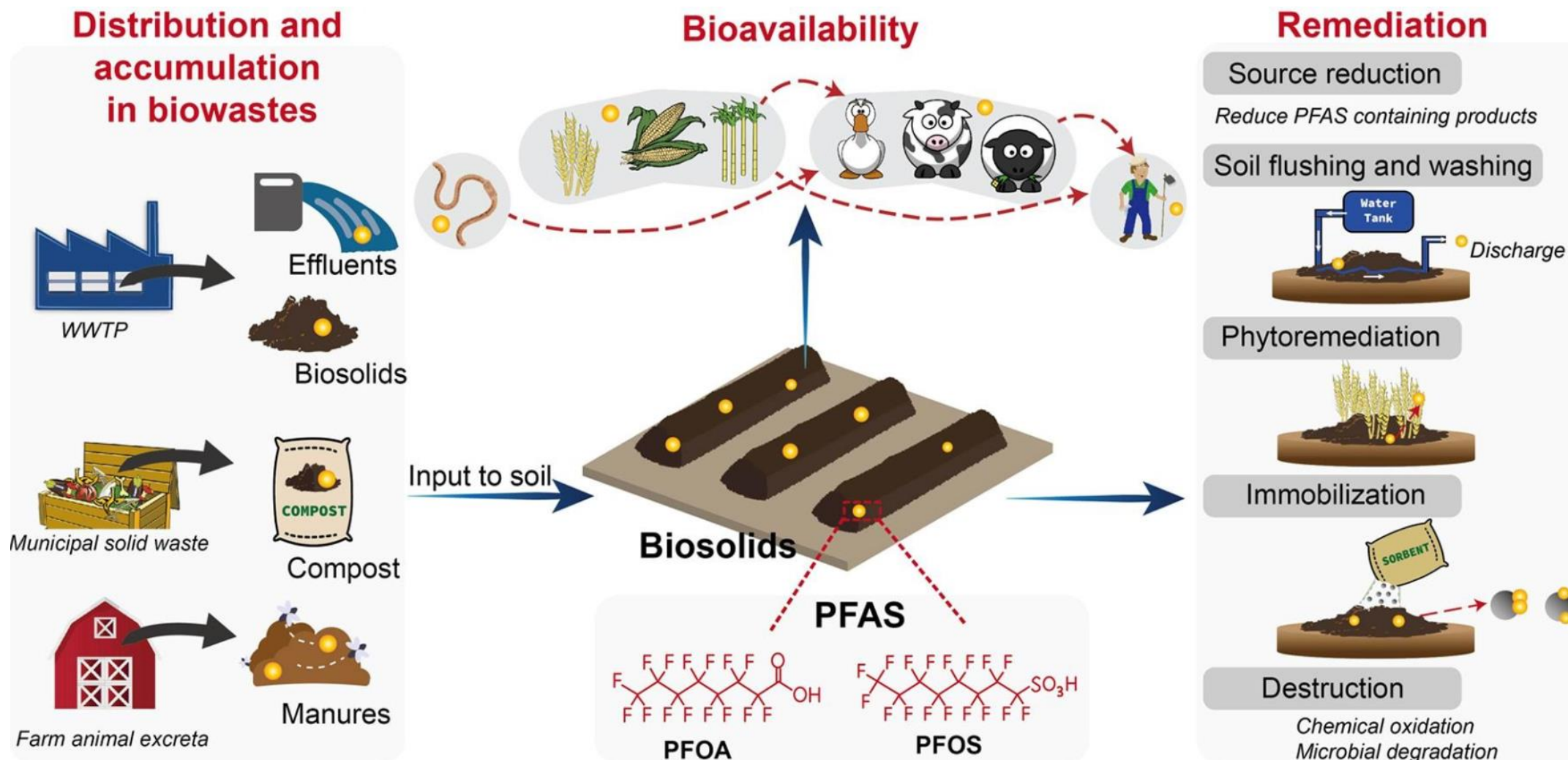
2022	2023	2024	2025	2026
Pre-sampling Activity by EPA, States	← Sampling Period → (Floating 12 months) Ground Water- 2 Samples Surface Water – 4 Samples			Post-Sampling Activity by PWSs, Laboratories
Pre-sampling Activity by PWSs	EPA, State Implementation Activities			Post-sampling Activity by EPA
	PWS Sample Collection, Laboratory Analysis, Reporting			

Source: <https://www.epa.gov/dwucmr>

The background is a solid blue color with a faint, out-of-focus image of laboratory glassware. A test tube is positioned vertically in the upper center, with a single drop of liquid hanging from its tip. Below the test tube, there are several beakers, some of which appear to contain liquid. The overall aesthetic is clean and professional, typical of a scientific or industrial presentation.

INDUSTRIAL PRE- TREATMENT & BIOSOLIDS MANAGEMENT

PFAS Remediation options in Biosolids



PFAS in Biosolids

Do I have PFAS in my Biosolids?

- Processes that stabilize biosolids does not remove PFAS
- EPA has yet to approve a standard method for analysis
- Laboratories have developed their own methods – may get slightly different results

Different States are requiring analysis of different PFAS compounds:

California (Fall 2020):

- WWTPs to sample Biosolids

Michigan (July 2021):

- PFOS < 50 ppb, Can land apply
- PFOS > 150 ppb, Can not land apply
- PFOS < 150 ppb and > 50 ppb, Can land apply 1.5 dry ton/acre

Maine:

- Can land apply or use as fertilizer if biosolids are PFAS free.

NPDES Permits

- PFAS monitoring Requirements (EPA Region I)
- VCWRF is currently going through a Permit Renewal
- Expect PFAS Monitoring in future NPDES Permit Renewals

Effluent Characteristic	Effluent Limitation			Monitoring Requirements ^{1,2,3,4}	
	Average Monthly	Average Weekly	Maximum Daily	Measurement Frequency	Sample Type ⁴
Ammonia Nitrogen (April 1 – April 30)	7.1 mg/L Report lb/day	10.0 mg/L Report lb/day	15.0 mg/L	2/week	Composite
Ammonia Nitrogen (May 1 – May 31)	5.0 mg/L Report lb/day	5.0 mg/L Report lb/day	8.0 mg/L	2/week	Composite
Ammonia Nitrogen (June 1 – September 30)	2.0 mg/L Report lb/day	2.0 mg/L Report lb/day	3.0 mg/L	2/week	Composite
Total Kjeldahl Nitrogen ¹⁰	Report mg/L	---	Report mg/L	1/month	Composite
Nitrate + Nitrite ¹⁰	Report mg/L	---	Report mg/L	1/month	Composite
Total Nitrogen ¹⁰	Report mg/L Report lb/day	---	Report mg/L	1/month	Calculation
Rolling Average Total Nitrogen ¹¹	400 lb/day	---	---	1/month	Calculation
Total Phosphorus (April 1 – October 31)	0.14 mg/L	---	Report mg/L	2/week	Composite
Total Phosphorus (November 1 – March 31)	1.0 mg/L	---	Report mg/L	1/week	Composite
Perfluorohexanesulfonic acid (PFHxS) ¹²	---	---	Report ng/L	1/quarter	Composite
Perfluoroheptanoic acid (PFHpA) ¹²	---	---	Report ng/L	1/quarter	Composite
Perfluorononanoic acid (PFNA) ¹²	---	---	Report ng/L	1/quarter	Composite
Perfluorooctanesulfonic acid (PFOS) ¹²	---	---	Report ng/L	1/quarter	Composite
Perfluorooctanoic acid (PFOA) ¹²	---	---	Report ng/L	1/quarter	Composite
Perfluorodecanoic acid (PFDA) ¹²	---	---	Report ng/L	1/quarter	Composite
Whole Effluent Toxicity (WET) Testing^{13,14}					
LC ₅₀	---	---	≥ 100 %	1/quarter	Composite
C-NOEC	---	---	≥ 65 %	1/quarter	Composite
Hardness	---	---	Report mg/L	1/quarter	Composite
Ammonia Nitrogen	---	---	Report mg/L	1/quarter	Composite
Total Aluminum	---	---	Report mg/L	1/quarter	Composite
Total Cadmium	---	---	Report mg/L	1/quarter	Composite
Total Copper	---	---	Report mg/L	1/quarter	Composite
Total Nickel	---	---	Report mg/L	1/quarter	Composite
Total Lead	---	---	Report mg/L	1/quarter	Composite

PFAS Source Reduction -Michigan

Municipal WWTP	Recent PFOS, Effluent (ng/L)	PFOS Reduction (highest)	Actions Taken to Reduce PFOS
Ionia	<7.6	99%	Treatment (GAC) at source
Lapeer	11	99%	Treatment (GAC) at source
Port Huron	13	99%	Eliminated source PFOS
Wixom	18	99%	Treatment (GAC) at source
Howell	3.7	95%	Treatment (GAC/resin) at source
Bronson	13	96%	Treatment (GAC) at source
Kalamazoo	3.1	92%	Treatment (GAC) at source, change water supply
K.I. Sawyer	27	89%	Eliminated leak PFOS-in firefighting foam
GLWA (Detroit)	30	No Value	Treatment (GAC) at sources
Belding	7.2	49%	Reduced landfill leachate quantity accepted

Source: Substantial PFOS Reduction at WWTPs with Exceedances (EGLE, 2020)



PFAS TREATMENT SYSTEMS

California: PFAS Treatment Using IX at Fullerton, CA

Total PFAS:

Influent = Varies

Effluent = ND

4.3 MGD

\$3.7 Million

July 2021



Massachusetts: PFAS Treatment at City of Westfield - GAC

- 2 Groundwater wells contaminated with PFOA/PFOS
- Owen District Road Water Treatment Plant
- Site is next to airfield
- After Pilot testing GAC was selected
- GAC with 20-minute EBCT
- 30 months Project Duration
- Operating for over 2 years







SUMMARY & RECOMMENDATIONS

Summary

- Stay tuned for PFAS Regulations – USEPA and FDEP regs underway
- PFAS destruction research are on-going
- Treatment of PFAS in wastewater is challenging
- Separation technologies (GAC, RO/NF, IX) - very good PFAS removal from Water/Wastewater
- Lookout for Potential PFAS contaminated sources/sites
- Include PFAS in your Industrial Pretreatment Program
- PFAS could be in your Biosolids

What Can You Do Now in Preparation for Pending PFAS Regulations?

- Coordinate with a Consultant to develop a PFAS Action and Mitigation Plan
- Test your Water/Wastewater/Biosolids/Air Emissions for PFAS
- Eliminate landfill leachate discharges to your sewer
- Include PFAS in your industrial pretreatment program
- Test your industrial discharges and eliminate PFAS at source
- Plan disposal alternatives if PFOA/PFOS is classified as Haz Waste
- Include \$\$ in your CIP to deal with PFAS
- Plan PFAS community engagement events
- Visit PFAS treatment facilities currently under operation
- Conduct bench or pilot testing for PFAS treatment before selection
- Have an alternative plan for Biosolids Management

Questions / Comments?

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Potential PFAS Sites in the WRWSA






Citrus County

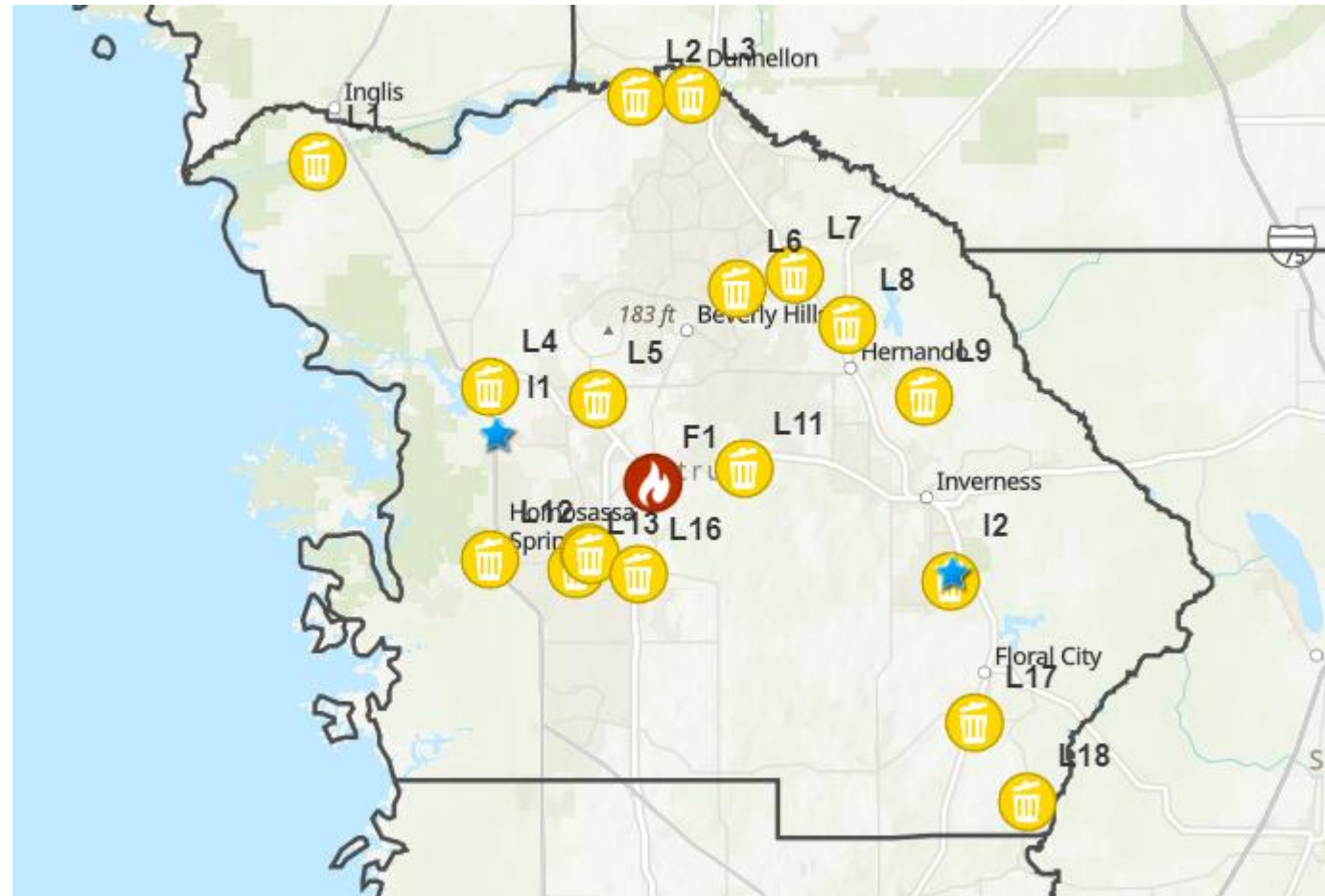
Sumter County

Hernando County

Marion County

Citrus County Potential PFAS Locations

- ☒ Citrus County Industrial Facilities
 - 
 - 
- ☒ Citrus County Fire Training Facilities
 - 
- ☒ Citrus County Solid Waste Facilities
 - 
- ☒ Florida County Lines
 - 



Citrus County Potential PFAS Location Details

WRWSA PFAS Summary Table			
County	Code	Description	Address
Citrus	L1	Hollins Corp C & D Landfill	8 Mi N Crystal River, Crystal River, FL 34428
Citrus	L2	South Dunnellon Dump	SR 488, 2 Mi W JCT US 41, Citrus Springs, FL 34433
Citrus	L3	Old Dunnellon Landfill	Adjacent to Rush Lake, Dunnellon, FL 34434
Citrus	L4	Crystal River Landfill	S End of 7th Avenue, Crystal River, FL 34429
Citrus	L5	Citrus Sand & Debris I	1590 N. Quarterback Terrace, Crystal River, FL 34429
Citrus	L6	Beverly Hills Dump	0.5 Mi E. on SR 491, Beverly Hills, FL 34465
Citrus	L7	Sand/Land of Florida Enterprises, Inc.	5920 N. Florida Avenue, Hernando, FL 34442
Citrus	L8	Hernando Highway 200 Dump	SR 200, 1.4 Miles North of US 41, Hernando, FL 34442
Citrus	L9	Crystal River Land Development C&D	Citrus County (Never Operated, Permit Never Used)
Citrus	L10	Inverness City Dump	South Side of Inverness Airport, Inverness, FL 34452
Citrus	L11	Citrus Central SLF	230 W. Gulf to Lake Highway, Lecanto, FL34461
Citrus	L12	Homosassa Springs Dump	1/4 Mile NW of Homosassa Springs, Homosassa Springs, FL 34448
Citrus	L13	Citron Investment Group C&D LF	SR 495, Homosassa Springs, FL
Citrus	L14	RIP, Inc. C&D Disposal Facility	5355 W. Grover Cleveland Blvd., Homosassa, FL 34446
Citrus	L15	Monex (Monier Ash) Closed Class I Landfill	5355 W. Grover Cleveland Blvd., Homosassa, FL 34446
Citrus	L16	Citrus Landfill, Inc.C&DD, FKA Citrus Sand & Debris II	3890 W. Grover Cleveland Blvd., Homosassa, FL
Citrus	L17	Floral City Dump	2 Mi S. of Floral City, E. US 41, Floral City, FL 34436
Citrus	L18	D.E.I. Site Prep Inc. C&D Landfill	Latitude: 28° 41' 0", Longitude: 82° 16' 30.01"
Citrus	F1	Citrus County Sherrif's Department Training Facility	1300 S. Lecanto Highway, Lecanto, FL 34461
Citrus	I1	Crystal River/Captain Tom Davis Field Airport	718 N. Lindberg Terrace, Crystal River, FL 34429
Citrus	I2	Inverness Airport	4250 S. Airport Road, Inverness, FL 34450

Sumter County Potential PFAS Locations

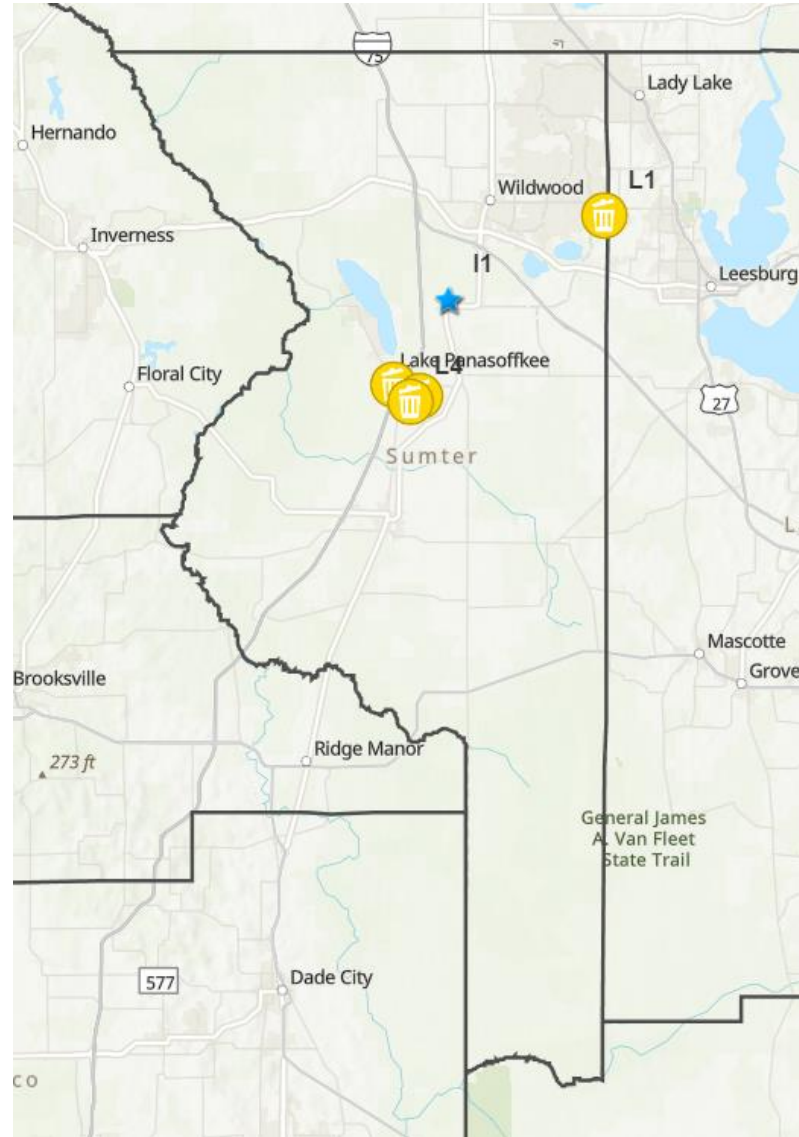
✓ Sumter County Industrial Facilities



✓ Sumter County Solid Waste Facilities



✓ Florida County Lines

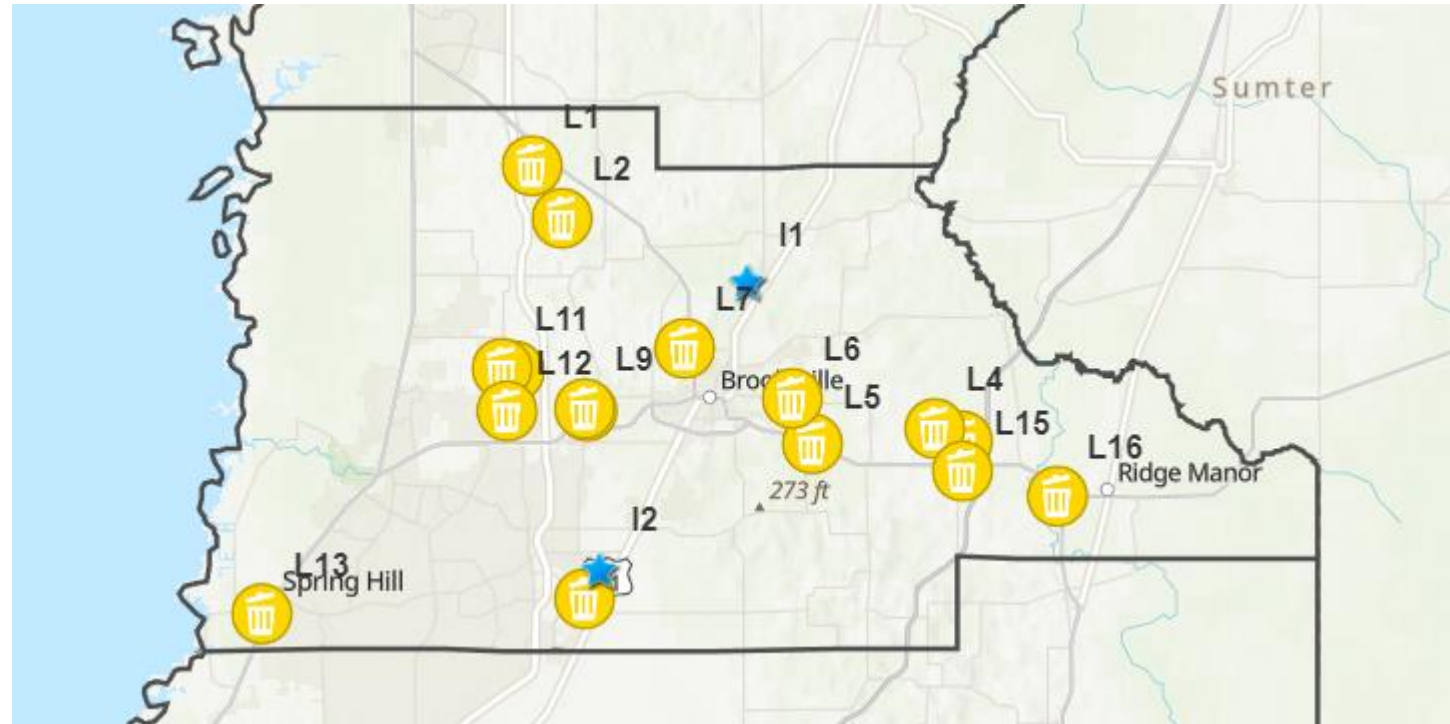


Sumter County Potential PFAS Location Details

WRWSA PFAS Summary Table			
County	Code	Description	Address
Sumter	L1	C.R. 466A C&D Facility	8979 C.R. 466A, Wildwood, FL 34785
Sumter	L2	Sumter Recycling & Solid Waste Disposal Inc.	420 County Road 489B, Lake Panasoffkee, FL 33538
Sumter	L3	Sumter County Citizen Drop-Off Area Facility	835 CR 529, Sumterville, FL 33585
Sumter	L4	ACMS Class I Landfill	1032 CR 529A, Lake Panasoffkee, FL 33538
Sumter	I1	Free Flight Airpark	1511 Taylor Avenue, Coleman, FL 33521

Hernando County Potential PFAS Locations

- ☒ Hernando County Industrial Facilities
 -     | 
- 
- ☒ Hernando County Solid Waste Facilities
 - 
- ☒ Florida County Lines
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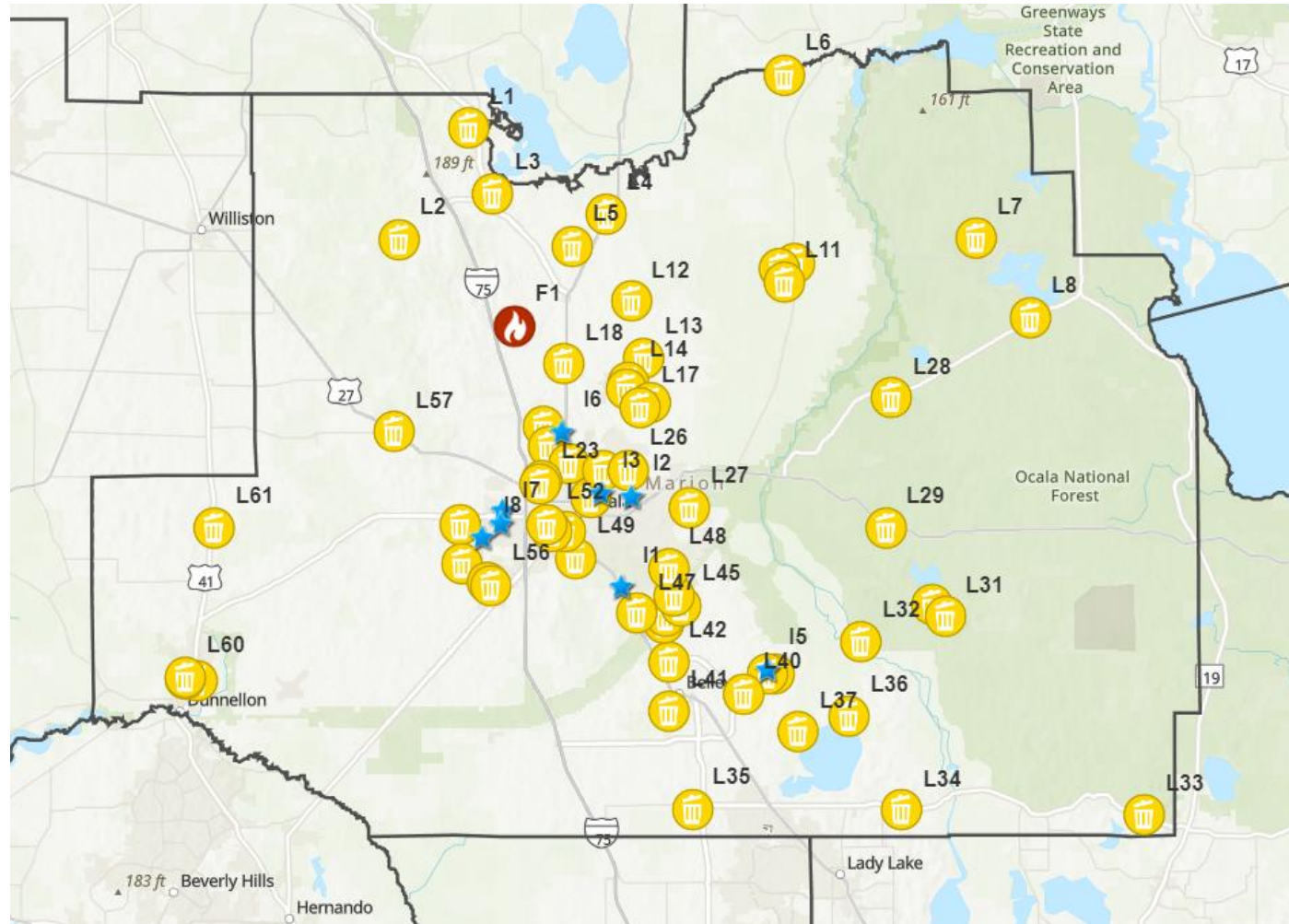


Hernando County Potential PFAS Location Details

WRWSA PFAS Summary Table			
County	Code	Description	Address
Hernando	L1	Hernando County Northwest Landfill	14450 Landfill Road, Brooksville, FL 34614-806
Hernando	L2	CEMEX Brooksville North Plant (FKA FM&M)	P.O. Box 6, Brooksville, FL 34605-6
Hernando	L3	Croom C&D Debris Disposal Facility	1 Mi NW of JCT I-75 & SR 50, Ridge Manor, FL 34602
Hernando	L4	Croom SLF (High Corner Road Landfill)	High Corner Road Off SR 50, Brooksville, FL 34602
Hernando	L5	W Clyde Daniel Construction Inc. - Mondon Hill Road	Mondon Hill Road, Brooksville, FL
Hernando	L6	S.A. Williams Corp Site #2 (C&D)	Mondon Hill Road & SR 484, Brooksville, FL 34601
Hernando	L7	Old City of Brooksville Landfill (County Data)	Yontz Road & Cheyenne Pass Road, Brooksville, FL
Hernando	L8	Brooksville Dump #1 (SWFWMD Data)	W of Fort Dade Avenue, N of SR 50, Brooksville, FL
Hernando	L9	Brooksville Dump #2 (SWFWMD Data)	E of Fort Dade Avenue, N of SR 50, Brooksville, FL
Hernando	L10	Sunshine Grove Road Phase 1 (C&D)	Sunshine Grove Road, Brooksville, FL 34613
Hernando	L11	Wilson C&D Facility	Sweet Gum Road, Brooksville, FL
Hernando	L12	Graves Property	Sunshine Grove Road, Brooksville, FL 34613
Hernando	L13	Spring Hill Landfill	Wendy Court, Spring Hill, FL 34607
Hernando	L14	Airport Landfill	20 N Main Street (US 41, 7 mi S of Brooksville), Brooksville, FL 34604
Hernando	L15	High Corners Lanfill (East Side)	SR 50, 7.5 Mi E of Brooksville, Brooksville, FL
Hernando	L16	Ridge Manor Disposal Service Landfill	US 98 & SR 50, Ridge Manor, FL
Hernando	I1	Chisengut Airport - 5FD7	22300 Pilots Path, Brooksville, FL 34601
Hernando	I2	Brooksville - Tampa Bay Regional Airport	15800 Flight Path Drive, Brooksville, FL 34604

Marion County Potential PFAS Locations

- ✓ Marion County Industrial Facilities
- ★ Marion County Fire Training Facilities
- ✓ Marion County Solid Waste Facilities
- ✓ Florida County Lines



Marion County Potential PFAS Location Details

WRWSA PFAS Summary Table			
County	Code	Description	Address
Marion	L1	McIntosh Dump (County Data)	NW 65th Avenue & NW 214 Lane, McIntosh, FL
Marion	L2	Becker Road Dump (County Data)	NW 160 Street, 0.5 Mi West of N. Highway 329, Fairfield, FL
Marion	L3	Orange Lake Landfill	18341 NW 53rd Court Road, Orange Lake, FL 32681
Marion	L4	Citra Landfill	West of US 301, 1 Mile South of CR 318, Citra, FL 32113
Marion	L5	Emily C. Pruitt Property	759 NW 155th Street, Citra, FL 32113-3069
Marion	L6	Orange Springs Dump (County Data)	11095 East Highway 318, Orange Springs, FL 32182
Marion	L7	Forest 88 Landfill	1.5 Mi North of SR 316 on Forest Road 88, Lake Kerr, FL 32134
Marion	L8	Salt Springs Dump (County Data)	NW of Intersection of CR 314 & NE 231 Avenue, Salt Springs, FL
Marion	L9	Fort McCoy Development, LLC.	14823 NE HWY 315, Fort McCoy, FL 32134
Marion	L10	Fort McCoy Dump (County Data)	SW of Intersection of CR 316 & NE 110 Avenue Road, Fort McCoy, FL
Marion	L11	Douglas Property	29°21'7.3386" x -81°58'33.3831"
Marion	L12	Sparr Dump (County Data)	2835 NW CR 329, Sparr, FL 32617
Marion	L13	Burbank Dump (County Data)	West of NE 36th Avenue & North of NE 97th Street Road, Anthony, FL
Marion	L14	Old Anthony Dump #2	29°16'53.6285" x -82°6'3.8201"
Marion	L15	Old Anthony Dump #1	29°16'38.0298" x -82°6'10.2866"
Marion	L16	Northside C&D (Previously AMODEO Trucking)	3805 NE 77th Street, Ocala, FL 34479
Marion	L17	Cypress Acres Landfill	7424 NE 33rd Court, Ocala, FL 34479
Marion	L18	Newton Landfill	1750 NW 100th Street, Ocala, FL 34475-1318
Marion	L19	Kendrick Landfill	2850 NW 63rd Street, Off SR 25A, Kendrick, FL 34475
Marion	L20	Hollerwanger Dump (County Data)	NE of Intersection of NW 27 Avenue & NW 45 Place, Kendrick, FL 34475
Marion	L21	Tires Unlimited	1311 NW 35th Street, Ocala, FL 34475-4309
Marion	L22	Friends Recycling (Formerly Ocala Recycling)	2350 NW 27th Avenue, Ocala, FL 34475-3330
Marion	L23	Junie Counts Landfill	3021 NW 21st Street, Ocala, FL 32675
Marion	L24	Speedy Tires and Brakes LLC (AKA Speedy Tire Disposal)	334 NE 14th Street, Ocala, FL 34470-4101
Marion	L25	SHANBRU, Inc.	1200 NE 31st Street, Ocala, FL 34479-3309
Marion	L26	T.N.T. Trucking	3100 NE 27th Avenue, Ocala, FL 32670
Marion	L27	Howell Open Dump	5960 NE 7th Street, Ocala, FL 34470
Marion	L28	Cedar Creek Dump (County Data)	SW Intersection of CR 314 & CR 314A, Silver Springs, FL
Marion	L29	Lynne Dump (County Data)	950 South Hwy 314A, Ocklawaha, FL
Marion	L30	Rolly Watson C&D Landfill	17971 SE 62nd Place, Ocklawaha, FL 32179
Marion	L31	Levy Hammock Dump (County Data)	East of Levy Hammock Road, Near Brown Pond, Silver Springs, FL
Marion	L32	Ocklawaha Farm Landfill	14835 SE 85th Street, Ocklawaha, FL 32179
Marion	L33	Holmes Fill Dirt C&D Landfill	28351 SE Highway 42, Umatilla, FL
Marion	L34	Old Weirsdale Dump (County Data)	West of SE 165th Avenue & 1000 Feet South of SR 42, Weirsdale, FL
Marion	L35	Bedrock Resources/SR 42 Mine (C&D)	6249 SE 58th Avenue, Ocala, FL 34491

Marion County Potential PFAS Location Details (Continued)

WRWSA PFAS Summary Table			
County	Code	Description	Address
Marion	L36	Oklawaha Dump (County Dump)	East Highway 25 (Ocala Road) & SE 139th Avenue (Victoria Avenue) Ocklawaha, FL
Marion	L37	Davis Landfill	12950 SE 115th Avenue, Ocklawaha, FL 32719-5023
Marion	L38	H&I Sand & Clay Enterprises	0.5 Miles South of Emerald Road, West of SR 464, Candler, FL 34472
Marion	L39	Larry Waldren Clay Pit (C&D)	Spruce Loop Pass, Ocala, FL
Marion	L40	Verel C&D	8498 SE 110th Street, Belleview, FL 34420
Marion	L41	Harrison Open Dump (AKA: Belleview Open Dump)	4800 SE 120th Street, Belleview, FL 34420
Marion	L42	Southside Materials Recycling	4980 SE 92nd Place, Ocala, FL 34480
Marion	L43	Papy Brothers Inc. C&D Disposal	North of 80th Street, W of 41st Court, Ocala, FL 34480
Marion	L44	Bayside Landfill	4371 SE 73rd Street, Ocala, FL 34480
Marion	L45	Baseline Landfill Class I	5601 SE 66th Street, Ocala, FL 34480
Marion	L46	McKay Dump (County Data)	5601 SE 66th Street, Ocala, FL 34480
Marion	L47	Mark's Recycling Center	7125 S Pine Avenue, Ocala, FL 34480-8071
Marion	L48	Cullison Dump (County Data)	SE Corner of SE 38th Street & SE 47th Avenue, Ocala, FL
Marion	L49	LT Manning Landfill	SW 32nd Street & 7th Avenue, Ocala, FL 34474
Marion	L50	Dave's Towing & Recovery, Inc.	3610 West SR 326, Ocala, FL 34474
Marion	L51	SW 17th Street Extension Former Dump	North and South of Southwest 17th Street Extension, Ocala, FL 34474
Marion	L52	Smallwood Auto Salvage	601 SW 2nd Avenue, Ocala, FL 34471-916
Marion	L53	Martell Landfill	Off SR 40, Approximately 3 Miles West of I-75, Ocala, FL 34474
Marion	L54	H&B Excavating (C&D)	7007 SW 38th Street, Ocala, FL 34474
Marion	L55	Castlerock Inc. (C&D)	4805 SW 60th Avenue, Ocala, FL 34474
Marion	L56	O'Neal Property	5685 SW 52nd Street, Ocala, FL 34474
Marion	L57	Fellowship Dump	South of Intersection of US 27 & CR 464B, Fellowship, FL
Marion	L58	Dunnellon Dump #1 (County Data)	East of US 41, 0.25 Miles South of SW 102nd Street Road, Dunnellon, FL
Marion	L59	Dunellon Dump #2 (County Data)	0.5 Miles SW of US 41 & SW 102nd Street Road, Dunnellon, FL
Marion	L60	Dunellon Landfill	West of US 41, SCL RR, Dunellon, FL 34432
Marion	F1	Florida State Fire College	11655 NW Gainesville Road, Ocala, FL 34482
Marion	I1	JR Plastics Corporation (Plastics Manufacturing)	5111 South Pine Avenue, Suite "G", Ocala, FL 34480
Marion	I2	Artemis Plastics	2811 NE 14th Street, Ocala, FL 34470
Marion	I3	Profab Plastics Corporation	1056 NE 16th Street, Ocala, FL 34470
Marion	I4	United Plastic Fabricating	5000 NW 5th Street, Ocala, FL 34482
Marion	I5	Southwind Manufacturing Services (Plastic Fabrication)	415 Cypress Road, Ocala, FL 34472
Marion	I6	Pro Poly of America, Inc. (Plastic Fabrication)	1821 NW 57th Street, Ocala, FL 34475
Marion	I7	Joshen Paper and Packaging	445 SW 52nd Avenue, Ocala, FL 34474
Marion	I8	Ocala International Airport	1770 SW 60th Avenue, Suite 60, Ocala, FL 34474