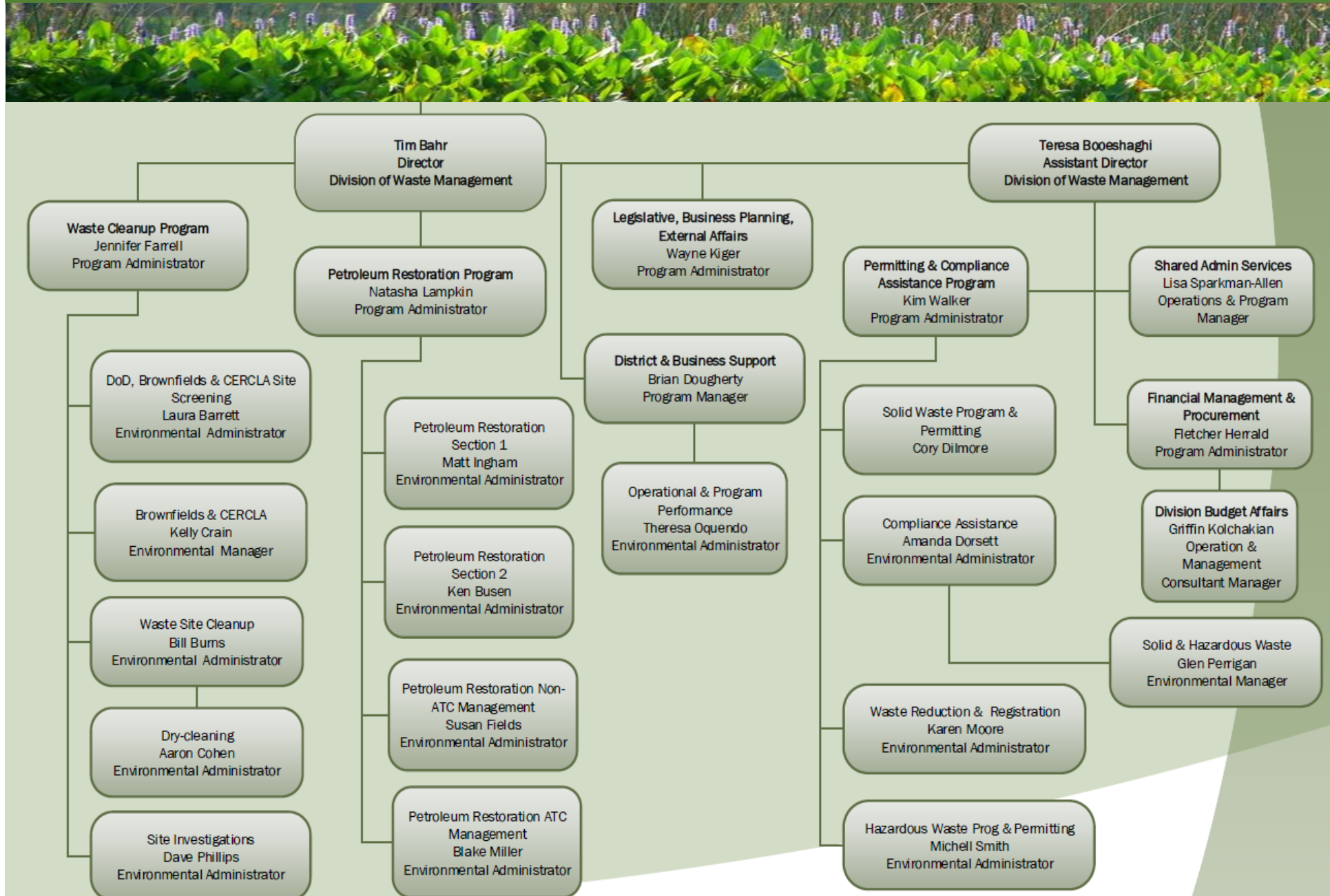


Division of Waste Management Organization



Division of Waste Management PFAS Efforts



- **Development of Provisional Cleanup Target and Screening Levels**
- **Unregulated Contaminant Monitoring Rule 3 (UCMR3)**
- **Certified Fire Training Facilities**
- **Drycleaning Solvent Cleanup Program Sites**
- **State Cleanup Program Sites**
- **Department Of Defense Sites**

Provisional Cleanup Target Levels



Provisional Groundwater Cleanup Target Levels (PGCTL)

- PFOA: 70 ppt (0.07 ug/L)
- PFOS: 70 ppt (0.07 ug/L)
- PFOA + PFOS: 70 ppt (0.07 ug/L)

Developed using non-cancer GCTL equation in 62-777, F.A.C.. Assumptions consistent with EPA calculation of Health Advisory Level (HAL).

Provisional Cleanup Target Levels



Provisional Soil Cleanup Target Levels (PSCTL)

- **PFOA: 1.3 mg/kg residential, 25 mg/kg commercial/industrial, 0.002 mg/kg leachability**
- **PFOS: 1.3 mg/kg residential, 25 mg/kg commercial/industrial, 0.007 mg/kg leachability**

Developed using non-cancer GCTL equation in 62-777, F.A.C., chemical specific properties and reference dose developed by EPA in their 2016 HAL calculation.

PFAS Screening Levels



Irrigation Well Screening Levels (IWSL)

Chemical	Residential (ug/L)	Industrial (ug/L)
PFOA	6.7	750
PFOS	72	370

Derived using the irrigation water equations developed by the University of Florida in the January 14, 2009 IWSL letter. Uses updated assumptions from the 2011 Exposure Factors Handbook and an oral RfD of 2E-05mg/kg-d.

PFAS Screening Levels



DRAFT Surface Water Screening Levels

- For the protection of human health, surface water screening levels for the consumption of freshwater and estuarine finfish and shellfish include:
 - 0.150 ug/L for PFOA
 - 0.004 ug/L for PFOS

Developed in consultation with the Division of Environmental Assessment and Restoration.

Regulatory Status Florida-Specific CTLs and SLs

Provisional PFOA and PFOS Cleanup Target Levels/Screening Levels							
Media	Groundwater - PGCTL**	Soil – PSCTL			Irrigation - IWSL		
		Residential	Commercial / Industrial	Leachability	Residential	Commercial / Industrial	Produce
Perfluorooctanoic acid (PFOA)	70 ng/L (0.07 µg/L)	1.3 mg/kg	25 mg/kg	0.002 mg/kg	6.7 µg/L	750 µg/L	NA
Perfluorooctane sulfonate (PFOS)		1.3 mg/kg	25 mg/kg	0.007 mg/kg	72 µg/L	370 µg/L	0.6 µg/L

Notes:

PGCTL – provisional groundwater cleanup target level

PSCTL – provisional soil cleanup target level

IWSL – irrigation water screening level

NA – not applicable, model not applicable based on K_{ow}

ND – No data available for this calculation

** - sum of PFOA and PFOS should be compared to the PGCTL

µg/L – micrograms per liter

ng/L – nanograms per liter

mg/kg – milligrams per kilogram

PFOA and PFOS Surface Water Screening Levels				
Criteria	Human Health		Ecological	
	Freshwater	Marine	Freshwater	Marine
Perfluorooctanoic acid (PFOA)	0.15 µg/L	0.15 µg/L	1,300 µg/L	ND
Perfluorooctane sulfonate (PFOS)	0.004 µg/L	0.004 µg/L	37 µg/L	13 µg/L



Regulatory Status Florida-Specific CTLs and SLs

- Following procedures promulgated under Chapters 62-777 and -780, Florida Administrative Code (F.A.C.) and at request of Florida Department of Environmental Protection (FDEP), University of Florida (UF) calculated **provisional cleanup target levels (CTLs) for PFOA and PFOS in soil and groundwater**
- Applicability of provisional CTLs
 - Subsection 62-780.150(6) – “This chapter shall be applied in conjunction with Chapter 62-777, F.A.C., to determine the appropriate CTLs for a contaminated site...Chapter 62-777, F.A.C., also includes equations that may be used to establish CTLs for...substances that are not listed in Chapter 62-777, F.A.C...”
- Use of provisional CTLs
 - **FDEP has issued letters indicating the requirements for site rehabilitation under Chapter 62-780, FAC apply to PFAS**
 - FDEP has been using the provisional CTLs for site rehabilitation of state-owned lands and other government sites
 - Revisions to CTLs are possible given the changing state of the science – if CTLs and cleanup strategies are presented in an approved Remedial Action Plan, then the CTLs approved in the plan will be used for site closure
 - Pursuant to Chapter 62-780, F.A.C. site-specific, alternative-CTLs can be calculated



- UF also calculated **screening levels for PFOA and PFOS in irrigation water and surface water**
 - Not calculated using formulas promulgated under Chapter 62-777, F.A.C.
 - Provisional CTLs for surface water may be developed using the formulas promulgated under Chapter 62-777, F.A.C., but the timeframe is unknown
- **Use of screening levels**
 - **Not being used to trigger site rehabilitation under Chapter 62-780, F.A.C.**
 - Developed to communicate potential concerns to stakeholders
- **Potential Implications of provisional surface water cleanup target level**
 - Fish consumption warnings
 - Biosolids applications
 - Permit modifications due to stringent surface water criteria could require permit modifications could require effluent testing and treatment