

**Welcome to The Greasy Spoon,
1000 Slippery Way,
MyTown, U.S.A.**

FOG Demonstration Skit



WHO WE ARE →	OUR EVENTS →	OUR PROJECTS →	GET INVOLVED →
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About Us

Western States Alliance (WSA) is a project of the [Pollution Prevention Resource Center](#) that helps professionals identify and implement best practices in Fats, Oils, and Greases (FOG) management.

We are a membership organization of FOG professionals from across the United States. [Click here](#) to check out our staff bios on pprc.org.

Our vision is to be a comprehensive source of knowledge and assistance to advance technologies and best management practices, conserve resources, and derive the most value from FOG while prohibiting its damaging effects in the wastewater system.

Conferences & Workshops

We offer two FOG related technical training conferences each year: The [FOG Forum](#) & the [Pacific Northwest Pretreatment Workshop](#). Both events offer immersive training, program development and implementation sessions, and many opportunities for networking with your peers.

[Subscribe Below >](#)

FOG Abatement Training

With funding from the USDA, we provide both virtual and in-person trainings to help small rural communities and those who serve them. The trainings focus on building the business case for your program, program implementation and emerging chemicals of concern.

[Training Calendar >](#)

National Resource Reference Guide

Our National Reference Resource Guide is a "one-stop" shop to learn about FOG, its value as a resource, its problems in sewer conveyance lines, its contribution to sanitary sewer overflows, its cost of treatment, and how you can establish or enhance a FOG Abatement program.

[View the Guide >](#)

Subscribe to Our Mailing List:

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TECHNICAL RESOURCES TAB

**This training is brought to you through a grant
from the USDA Rural Utilities Service**



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THE GREASY

SPOON

SOULFOOD BISTRO



Outlet Manhole Cover



Inlet Manhole Cover



FOG Impacts on Food Service Establishments



How much did this cost the utility and the FSE to cleanup?

San Jose, CA

FOG Impacts on Food Service Establishments

Controlling FOG in FSEs help lessen the likelihood of:

- Chargebacks for repairs to sewer pipes attributed to FOG, or surcharges from the local sewer authority.
- Getting several testing requirements imposed due to a history of violations.
- Enforcement action by local sewer authorities due to violation of ordinances.

FOG Accumulation in Sewer Line Can Cause Blockages and Sewer Overflows



Courtesy of Superior, WI



Demonstration 1

FOG Separation in Hot Water

Effect of Size on Performance



Effect of Size on Performance

FOG (Oil) Travel Time	
3-inch Rise at 68° F - 0.90 SG - Hour:Minute:Second	
Droplet Diameter in Microns	Rise Time
300	0:00:15
150	0:01:30
50	0:09:18
15	1:43:22

150 microns = .15 mm

50 microns = .05 mm

Rise 5 ft. in 30 minutes

What about Dishwashers and Food Waste DisposAL Unit CONNECTIONs?

2018 & 2021 International Plumbing Codes (IPC):

1003.3.1 Grease interceptors and automatic grease removal devices required

A grease interceptor or automatic grease removal device shall be required to receive the drainage from fixtures and equipment with grease laden waste located in food preparation areas, such as in restaurants; hotel kitchens; hospitals; school kitchens; bars; factory cafeterias and clubs. Fixtures and equipment shall include pot sink; prerinse sinks; soup kettles, or similar devices; wok stations; floor drains or sinks into which kettles are drained; automatic hood wash units; and dishwashers without prerinse sinks.

1003.3.2 Food waste disposers restrictions

A food waste disposer shall not discharge to a grease interceptor.

2018 & 2021 Uniform Plumbing Codes (UPC):

1014.1.3 Food waste disposers and dishwashers

No food waste disposer or dishwasher shall be connected to or discharge into a grease interceptor. Commercial food waste disposers shall be permitted to discharge directly into the building's drainage system.

Exception: Food waste disposers shall be permitted to discharge into grease interceptors that are designed to receive the discharge of food waste.

Demonstration 2

Affect of Detergents on Particle Size and FOG Emulsification

Down The Dishwasher Drain



There Goes The FOG!!!

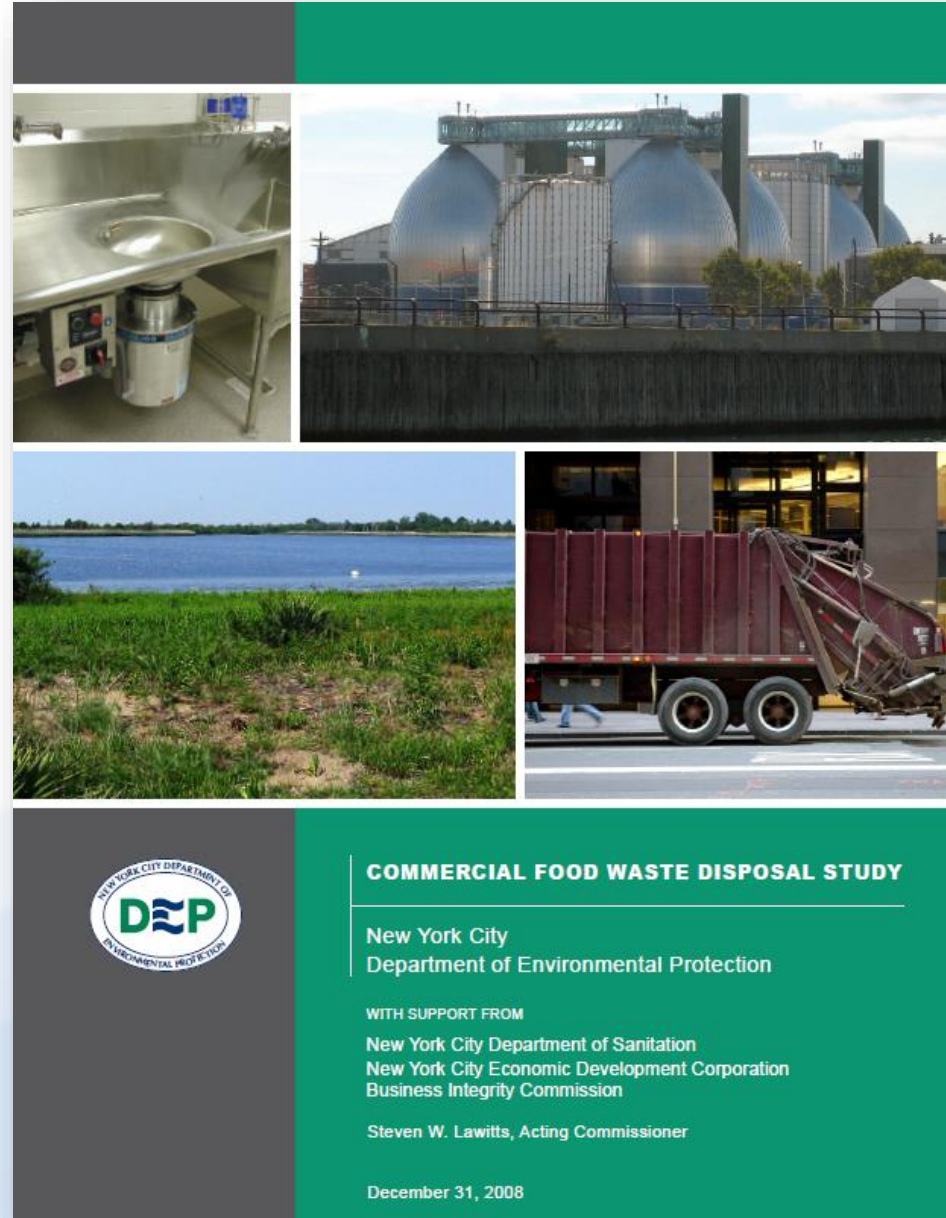
**First Cycle
from the
Dishwasher**

12/29/2009

Look at Detergent Dispenser Settings



FOG LOADING FROM FOOD WASTE DISPOSAL UNITS



COMMERCIAL FOOD WASTE DISPOSAL STUDY

New York City
Department of Environmental Protection

WITH SUPPORT FROM

New York City Department of Sanitation
New York City Economic Development Corporation
Business Integrity Commission

Steven W. Lawitts, Acting Commissioner

December 31, 2008

Food Waste Disposal Study



Food waste before grinding



Food waste after grinding

EPA Method 1664 laboratory results for FSEs (all types)

- Range: 6 to 10 g/Kg food waste

Source: NYCDEP Commercial Food Waste Disposal Study 2008

FSE SAMPLING FOR FOG LOADING FROM FOOD WASTE DISPOSAL UNITS

Category	No. of Samples	1664 Oil and Grease (g/kg food waste)
Colleges and Universities	15	14.83
Medical Facilities	32	1.03
Retail Food Establishments (supermarkets)	29	6.16
Restaurants and hotels	61	18.59
Other FSEs (caterers, shelters, non-public schools, and senior centers)	35	18.21

FSE SAMPLING FOR FOG LOADING FROM FOOD WASTE DISPOSAL UNITS

Category	No. of Samples	1664 Oil and Grease (mg/L food waste)
Colleges and Universities	15	14830
Medical Facilities	32	1030
Retail Food Establishments (supermarkets)	29	6160
Restaurants and hotels	61	18590
Other FSEs (caterers, shelters, non-public schools, and senior centers)	35	18210

Summary

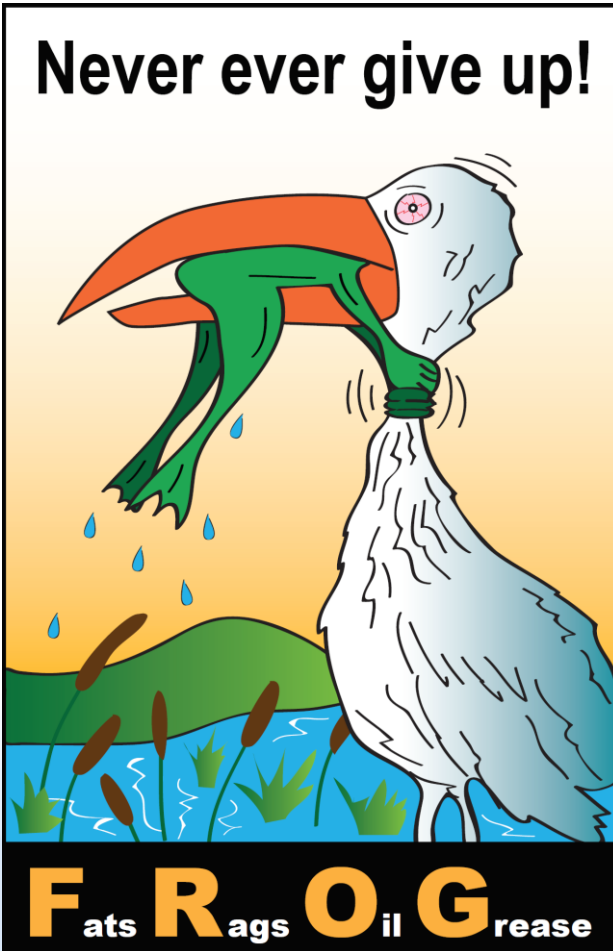
- Heat reduces viscosity and in fact, testing of interceptors is usually done with vegetable lard and water, occasionally around 160°. Heat can be an interceptor's friend.
- Detergents affects the separation of FOG in the interceptor and requires a longer detention time in the interceptor to achieve good FOG capture.

Summary - continued

- Interceptors should not be located too close to the dishwasher.
- Dishwashers may need a drain water tempering valve that adds cold water when discharging
- FSEs need to monitor detergent use.
- Jurisdictions may need to amend the local plumbing code to allow for all fixtures to be connected to the interceptor.

Summary - continued

- Use the inspection as an opportunity to educate the FSE.
- It's important to build and maintain a good relationships with the FSE and other departments.
- Training and cross-training are important.
- Be empathetic and understanding.
- Maintain a positive attitude.
- Be helpful, not overbearing.



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**THANK YOU FOR ATTENDING SESSION 1
USDA FOG PRETREATMENT TRAINING**

RAPID RESPONSE --

<https://pprc.org/rapid-response/>

PPRC provides free and well-researched answers to specific questions about pollution prevention, with thorough and unbiased answers to inform decision making.