

Preventing sewer backups

# Best Management Practices for FATS, OILS and GREASE

Protecting the Environment

Funding provided by

## Agenda

- What are Fats Oils and Grease and why are they a problem?
- Ordinance requirements of regional collection systems?
- How other food service institutions are addressing the problem
- What Food Service Establishments can do now?
  - FOG plan
  - Cleaning and maintaining grease traps
  - Yard maintenance
- WLSDD Composting Activities
- Questions

## What are FATS, OILS and Grease (FOG)

- Fats, oils and grease are both the separate oils and fats used in cooking and the natural fats and oils found in foods. Foods such as meats, peanut butter, milk products, ice cream, and sauces are frequently very high in fat.

## Why are they a problem in the sewer system?

- Fatty material when cooled solidifies and clings to the sides of pipes.

Eventually the Sewers blocks up

## What are the costs of clogged Sewers?

- Cleaning cost about \$150 per hour (2 man and one truck) plus disposal costs.
- Basement and business backups are even more costly.
- Vermin and Pest Problems

## The Treatment Plant charges the communities for cleaning by:

- The amount of water (flow)
- The concentration of the water
  - BOD : Biochemical Oxygen Demand - measure of organic material
  - TSS : Total Suspended Solids - The solid material suspended in the water

## WHAT ARE WE DOING ABOUT IT?

Identifying sources of BOD and TSS by sampling.

**The numbers are rising!**

USER GROUP	Ave CBOD mg/l	Ave. TSS mg/l
Food Industry	835	387
Fast Food	898	370
Food Store	813	403
Hotel/Motel	411	339
Industry	306	448
Laundry	326	270
Medical	366	262
Rest home	490	323
Restaurant	816	606
Retail	492	437
Residential	329	364

Text book strength for average residential customers is 220 mg/l for BOD and 250 mg/l for TSS

## Why have we invited you here?

- Get your cooperation in order to:
  - Alert you to the problem
  - Get a good FOG program going before it is required. Upcoming federal requirements for collection systems (CMOM).
  - Improve maintenance of our systems
  - Save money for everyone
  - Most importantly PROTECT LAKE SUPERIOR



## Community by Community Expectations

- City of Cloquet
  - Sewer Rate
 

Currently all restaurants and food service establishments pay the same sewer rates as residential customers. Cloquet will be reviewing their sewer rate structure to determine if higher rates are more appropriate for facilities with FOG issues. Facilities that have an acceptable grease management program may be exempted from these higher rates. (Prior to 1996, restaurants were billed at a higher sewer rate.)

## Community by Community Expectations

- City of Cloquet
  - All new food service establishments will be required to install grease interceptors. Larger facilities will be required to install exterior grease interceptors outside the building
  - All existing facilities will be required to install grease interceptors when the facility is found by the City to be contributing grease in sufficient quantities that cause sewer line blockages or necessitate increased sewer line maintenance. Facilities that undergo a remodeling that require the issuance of a building permit will be required to comply at that time.

## Community by Community Expectations

- City of Cloquet
  - All facilities with grease interceptors will be required to develop and implement a grease management plan that incorporates best management practices into their operations.
  - When and if it can be shown the grease discharge from a particular facility has caused either a sewer line blockage or has resulted in abnormally high sewer line maintenance, the City may charge excessive cleanup costs and/or damages to the facility at fault.

## Community by Community Expectations

- City of Duluth
  - in the process of updating our ordinance expect to see
    - Every Food Service Establishment will develop a FOG and Yard Maintenance Best Management Plan
    - Change in the billing structure to charge for the actual discharge (if we cannot sample - the average for food service categories.)

## Example of billing by strength

- Rate: -BOD \$0.23/lb  
- TSS \$0.39/lb  
- Flow \$2.54/unit
- Restaurant 1 - yearly charge **\$25,717**
  - yearly flow 1,374,824 gallons = 1838 units = \$4669
  - Testing BOD 2140 mg/l or 24,537Lbs / yr = \$5643
  - Testing TSS 3445mg/l or 39,500 lbs/yr = \$15,405
- Restaurant 2 - yearly charge **\$10,401**
  - Yearly flow - same = \$4669
  - Testing BOD 713 mg/l or 8179 lbs/ yr = \$1881
  - Testing TSS 861 mg/l or 9875 lbs/yr = \$3851

## Community by Community Expectations

- City of Duluth
  - All new facilities will have grease traps Preferred route - interceptor
  - May require sampling manholes on new facilities or facilities that are problematic - at owner's expense
  - Will bill problem customers for line cleaning

## Community by Community Expectations

- City of Hermantown
  - \* Past FOG clogs in Arrowhead Rd Hwy 53 intersection
  - \* City Code Section 9
    - Prohibits Fats, Oils, and Grease in sewers
    - Allows City to charge businesses/facilities that are easily traced to FOG violations

## Community by Community Expectations

- City of Proctor
  - past FOG clogs at North Boundary Ave / Hwy 2 and Westgate Blvd ( billed the violators )
  - city code 401 Sewers -- prohibits FOG in sanitary sewers and requires
    - grease, oil and sand interceptors ( traps ) at the discretion of City working street foreman or WLSSD
  - code provides for billing of violators for line cleaning

## Community by Community Expectations

- City of Superior

## How other Food Service Institutions are addressing the Problem



## Plumbers Concerns

## What Food Service Establishments Can Do Now

- Review Current Practices
- Create a FOG Plan
- Train Personnel
- Maintain your Grease Trap
- Maintain your Garbage Areas
- Maintain your exhaust fans
- Recycle, Compost

## Review Current Practices

- Look at the food areas from the view of the drain



## Create a FOG Plan

- Set up a plan with the goals:
  - Minimize what goes down the drain
  - Maximize recycling



## TRAIN PERSONNEL

- Make sure that staff understand why this is important.
- Provide the tools so the job can be done right
  - Absorbents
  - Scrapers
  - Easily accessible grease traps
  - Time
- Follow up on training

## Maintain your Grease Trap

- Never more than 50% full
- Keep a cleaning log
- Schedule grease pick ups regularly
- Never use hot water in drains with grease traps



## Maintain your Garbage Yards

- Identify storm drains
- Clean up spills
- Schedule regular pick ups
- Keep all containers covered.



## Maintain your Exhaust fans

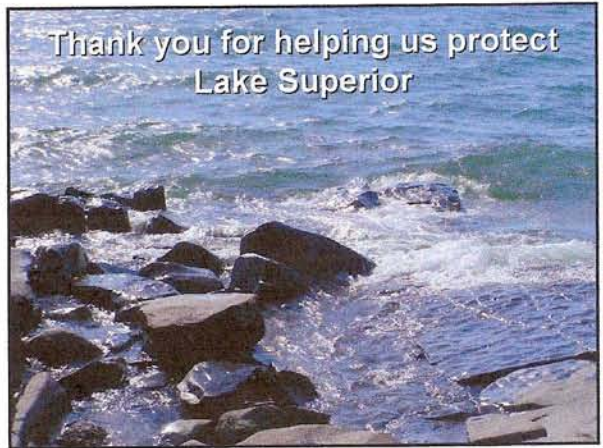
- Exhaust fans extract oils and grease and release them in to the environment
  - Clean regularly
  - Remove grease - do not wash to street.



## Recycle and Compost

- WLSSD

Thank you for helping us protect  
Lake Superior



Questions?