



LAKE COUNTY  
Investing in People  
and Our Communities

# SUSTAINING OUR ENVIRONMENT

Environmental Health  
Lake County Health Department  
January 8, 2020

# Environmental Health

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- **Environmental Health** is the science and practice of preventing human injury and illness by identifying and limiting exposures to hazardous physical, chemical, and biological agents in air, water, soil, food that may adversely affect human health
- The main focus of **Environmental Health** is the health of our residents, but part of preventing and/or mitigating hazards is protecting and sustaining the environment

# Environmental Health

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- Four key public health developments expanded life expectancy in the early 1900s:
  - Safer food
  - Safer water
  - Better sewage disposal
  - Immunizations against communicable diseases
- Three of those four areas are a part of Environmental Health

# Environmental Health Programs

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- Food Facility licensing and inspections
- Potable Water and Water Wells
- Onsite Wastewater Treatment Systems
- Solid Waste
- Ecological Services
- Animal Care and Control
- Environmental Laboratory



# Environmental Sustainability

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- Ethylene Oxide (EtO) emissions

- On November 2, 2018 the Health Department learned about EtO emissions from Medline Industries in Waukegan and Vantage Specialty Chemicals in Gurnee
- Initial efforts were focused on seeking action from the Illinois EPA and the U.S. EPA
- LCHD, with Gurnee and Waukegan agreed to conduct the air monitoring in Lake County, with LCHD managing the logistics of the project

# Environmental Sustainability

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- Ethylene Oxide (EtO) emissions
  - The initial 30-day monitoring program began on June 6, 2019 and concluded on July 4, 2019
  - Results:
    - The highest EtO levels ( $10 \mu\text{g}/\text{m}^3$ ) were on June 6-7, 2019 at the monitoring location closest to Medline
    - Subsequent results continued to indicate that the highest levels were at sites closest to Medline, with  $5.56 \mu\text{g}/\text{m}^3$  on June 21-22, 2019
    - Levels were generally lower around the Vantage facility, with a high of  $3.6 \mu\text{g}/\text{m}^3$  on June 30-July 1, 2019

# Environmental Sustainability

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- Ethylene Oxide (EtO) emissions
  - Legislation has required both facilities to make improvements to their pollution controls
    - Vantage completed installation in April of 2019
    - Medline did some work in early June of 2019 and completed installation of additional controls in December of 2019
  - The IEPA provided funding for additional monitoring, which resumed in late October and will continue through January of 2020

# Environmental Sustainability

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- Ethylene Oxide (EtO) emissions
  - Initial results from Phase II indicate:
    - Lower levels around Medline
      - Highest reading was  $1.61 \mu\text{g}/\text{m}^3$  on October 26-27, 2019
    - Elevated readings near Vantage
      - $3.66 \mu\text{g}/\text{m}^3$  on November 1-2, 2019
      - $5.29 \mu\text{g}/\text{m}^3$  and  $8.86 \mu\text{g}/\text{m}^3$  on November 13-14, 2019
  - All results will be analyzed by State and Federal partner agencies to develop risk assessments and a cancer incidence rate study



# Environmental Sustainability

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- Groundwater protection: Supplemental Irrigation Well (SIW) initiative
  - Adopted in December of 2015
  - SIW = *A non-potable water well that is used at a dwelling for residential watering and/or other outdoor purposes, where a separate water supply exists for drinking, culinary and sanitation purposes*
  - SIWs present a groundwater contamination threat if abandoned

# Environmental Sustainability

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- Groundwater protection: Supplemental Irrigation Well (SIW) initiative
  - Surveys prior to program start showed about 30% were abandoned
  - Program includes inspection and registration requirements
  - 92% have been registered, recorded, sealed, or were found to have no SIW
    - Others are in enforcement process for compliance
    - Follow-up inspections will determine future course

# Environmental Sustainability

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- Groundwater protection: Solid Waste Program

- Solid Waste Program staff collect water samples from wells around the County's closed landfill sites 2 times per year
- One sample set is for volatile organic chemicals, one for inorganics
- 2004: Vinyl chloride was detected near the Wauconda Sand and Gravel landfill site
- Approximately 450 homes connected to community water via an IGA between the County and Wauconda

# Environmental Sustainability

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- Surface water protection

- Onsite Wastewater Treatment Program – Surface Discharging Systems

- Approximately 100 existing systems that treat and discharge wastewater to bodies of water
- Failure rate was 30 – 40%
- Quality improvement efforts as par of the LCHD Strategic Plan have reduced the failure rate to ~15%
  - Prioritization
  - Enforcement
  - Education

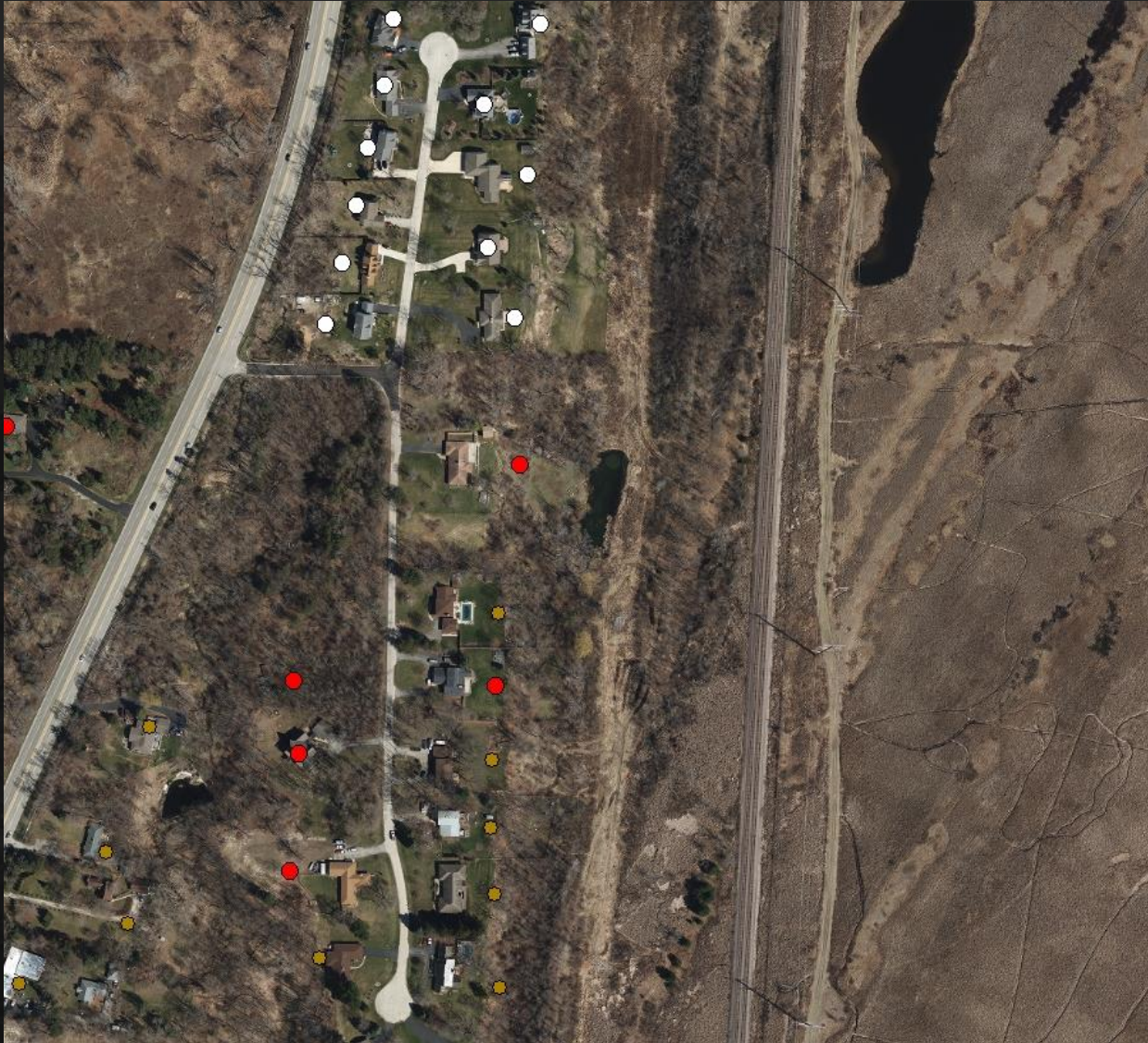


# Environmental Sustainability



- Surface water protection
  - Onsite Wastewater Treatment Program – Lake Michigan Watershed Project
    - IL DNR
    - US EPA

# Environmental Sustainability





# Environmental Sustainability



# Environmental Sustainability



Illicit Discharges



# Environmental Sustainability

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# Environmental Sustainability

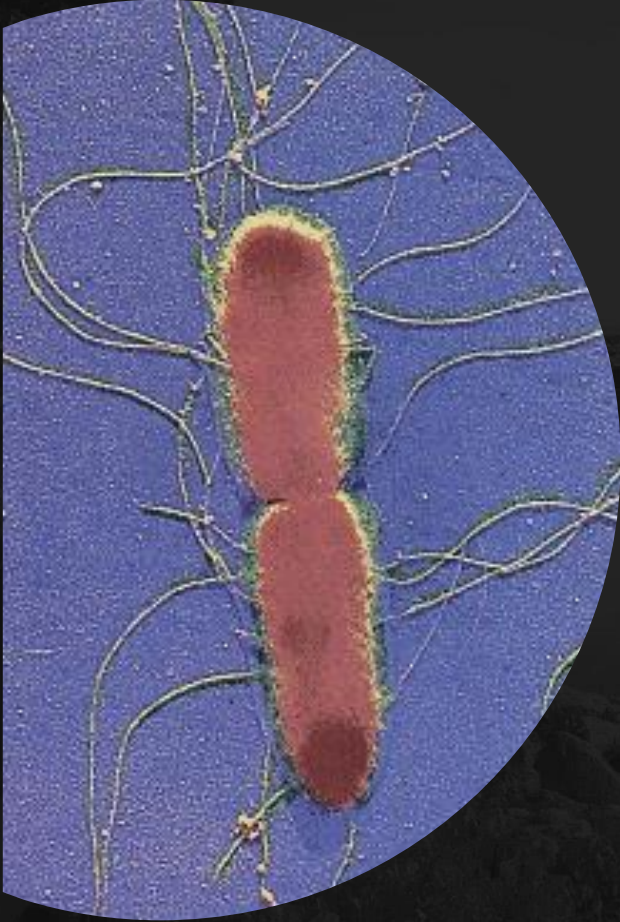


## Beach Safety & Sanitary Survey

- Beach sampling season Memorial Day to Labor Day
- Over 100 beaches sampled (>1/4 of all beaches in IL)

# Environmental Sustainability

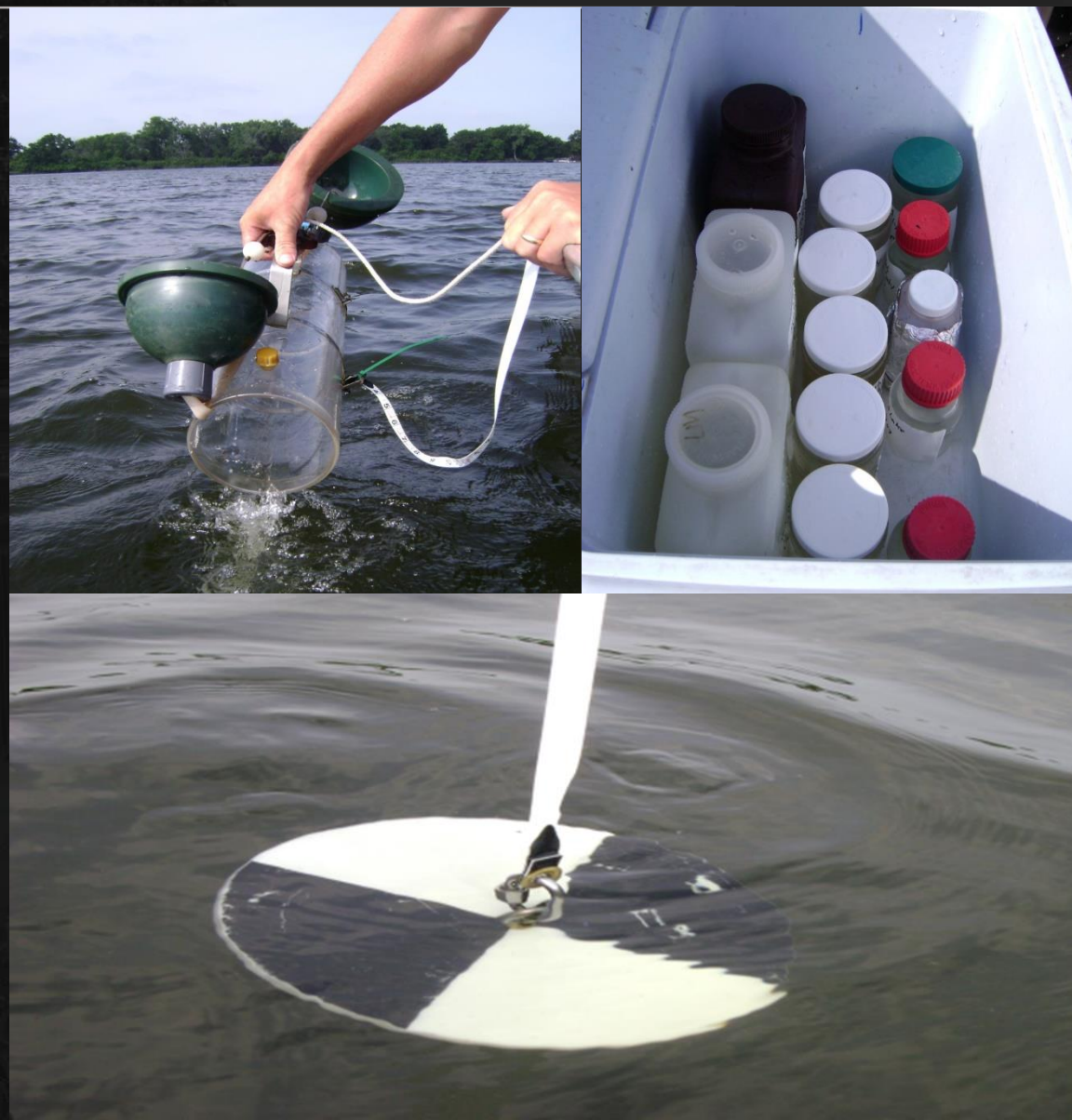
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Pathogens at Beaches



# Environmental Sustainability



- Over 200 Lakes
  - Highest concentration of glacial lakes in IL
  - Deepest: Third Lake (65 feet)
  - Largest: Fox Lake (1,880 acres)
- Most lakes are listed as impaired waters as defined by the Clean Water Act
  - Nutrients (Phosphorus)
- High recreational, property and tourism value
- High ecological value
  - Threatened and endangered aquatic species



# Environmental Sustainability



- Fishkills



- Harmful Algae Blooms (HABs or blue-green algae)

# Environmental Sustainability

## Deicing/Chlorides

- Annual workshops
  - Stormwater Management Commission
  - Lake County Division of Transportation
  - Lake County Public Works
- Sept 30 – Oct 2, 2019



# Environmental Sustainability

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- 32 members
- >70 monitoring sites
- LCHD
  - Executive Board
  - Lakes Committee
  - Monitoring Committee





QUESTIONS?

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