

BIOSOLIDS, WATERSHEDS, & P3s

CSWEA Pre-Conference Workshop
May 28, 2025
Kristin Schultheis/MMSD



MILWAUKEE METROPOLITAN SEWERAGE DISTRICT

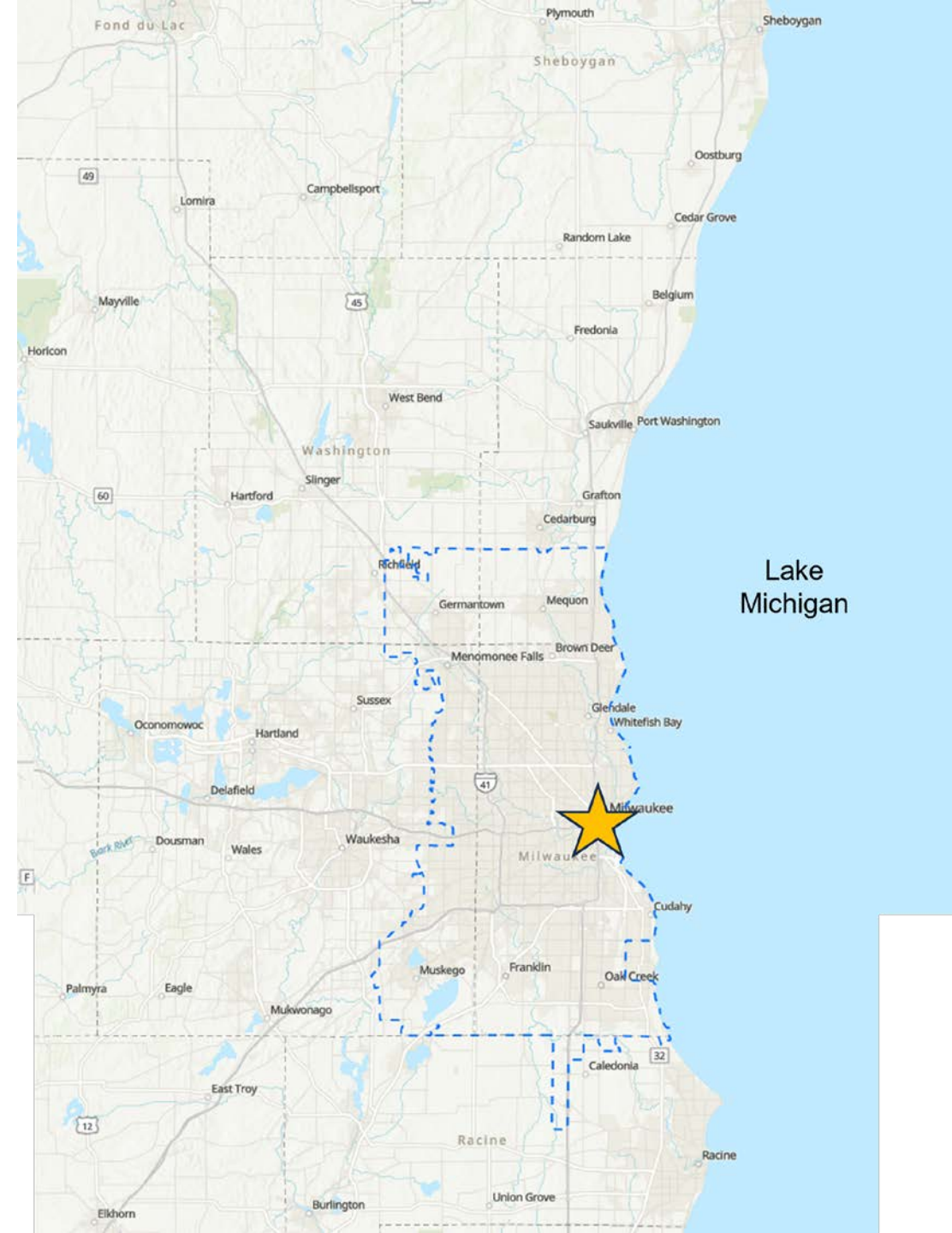


Core Initiatives:

- Wastewater management
- Floodwater management

We serve:

- 29 municipalities
- 1.1 million customers





MILORGANITE® Slow-Release Fertilizer

For Your Lawn & Garden



OVERVIEW OF MILORGANITE®

- Demand to improve water quality
- Reclaiming wastewater using biosolids
- Milorganite (MILwaukee ORGAnic NITrogen)
- Since 1926: over 10 billion lbs. of nutrients have been diverted from landfills
- Produce about 45,000 tons per year (2008 – 2024)



MILORGANITE® BAGGED PRODUCTS

5lb Bag

- Ideal for gardens, vegetables, and small containers



32lb Bag

- Most Popular Product
- Sold in Retail stores nationwide
- Covers 2,500 sq. ft.
- Feeds for 8-10 weeks



50lb Bag

- Professional Product
- Smaller granule
- Golf Courses, Landscapers



MILORGANITE® REVENUE & EXPENSES

Revenue of \$12.7 million in 2024



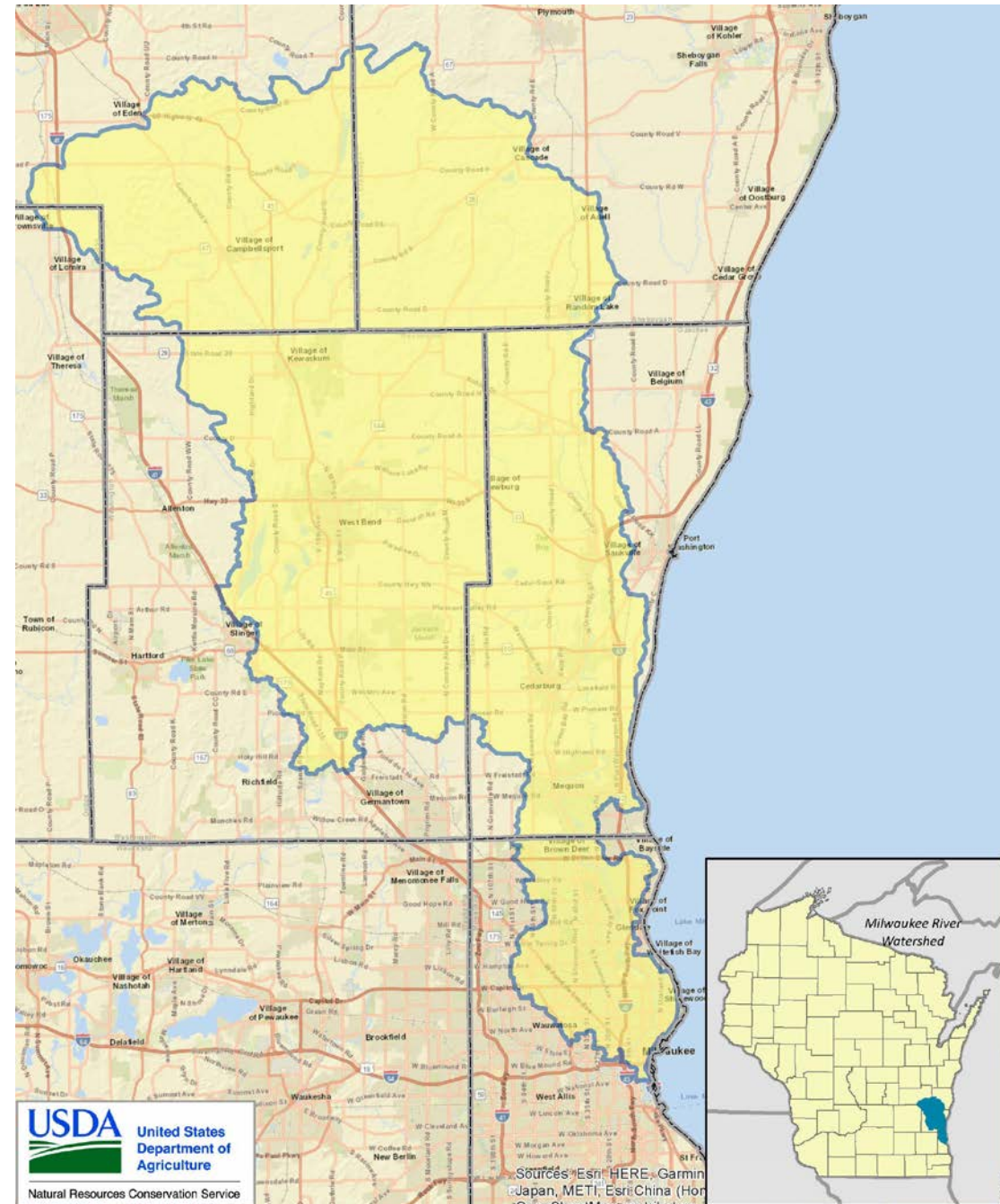
MASS BALANCE FOR MILORGANITE®

6-4-0 with 2.5% Iron

Process	Flow	TSS	TSS	VSS	BOD	TP	TKN
	mgd	mg/L	lb/d	lb/d	lb/d	lb/d	lb/d
Jones Island Water Reclamation Facility							
JIWRF Influent	91.50	257	196,000	155,000	204,000	2,700	16,500
JIWRF Primary Sludge	0.26	32,700	71,000	51,000	50,000	600	1,700
JIWRF Waste Activated Sludge	1.88	8,000	126,000	94,000	40,000	2,300	7,300
Total Sludge to GBT Feed	3.15	11,000	288,000	190,000	89,000	5,100	13,700
Total Sludge Bypass of GBT	0.63	15,200	80,000	47,000	24,000	1,400	3,200
Total Sludge to BFP	1.45	29,400	356,000	226,000	107,000	6,200	15,400
Milorganite	-	-	296,000	188,000	89,000	5,100	12,200
South Shore Water Reclamation Facility							
SSWRF Influent	90.88	332	252,000	190,000	188,000	4,000	20,400
SSWRF Primary Sludge	0.38	33,100	105,000	77,000	58,000	800	1,700
SSWRF Waste Activated Sludge	1.25	11,700	122,000	74,000	34,000	2,600	5,900
High Strength Waste	0.01	59,900	5,000	3,000	4,000	100	500
Total Sludge to Anaerobic Digestion	0.65	33,400	181,000	130,000	112,000	1,500	3,800
Digested Sludge from SSWRF	0.65	22,300	121,000	69,000	39,000	1,500	3,700
WAS from SSWRF	1.25	11,700	122,000	74,000	34,000	2,600	5,900

AGRICULTURAL WATERSHED PUBLIC-PRIVATE PARTNERSHIP

- USDA-Natural Resources Conservation Service (NRCS)
- Milwaukee River Watershed Conservation Partnership
 - MMSD
 - Four County Land & Water Depts.
 - Two Municipalities – Adaptive Management
 - Three land trusts
 - Two Farmer-led groups
- Funders
 - Fund for Lake Michigan, NFWF
- Other Partners
 - Sand County Foundation
 - InDepth Agronomy
 - UW-Madison Applied & Agricultural Economics



Rotational Grazing



Planting Green



Harvestable Field Border



Pollinator Planting





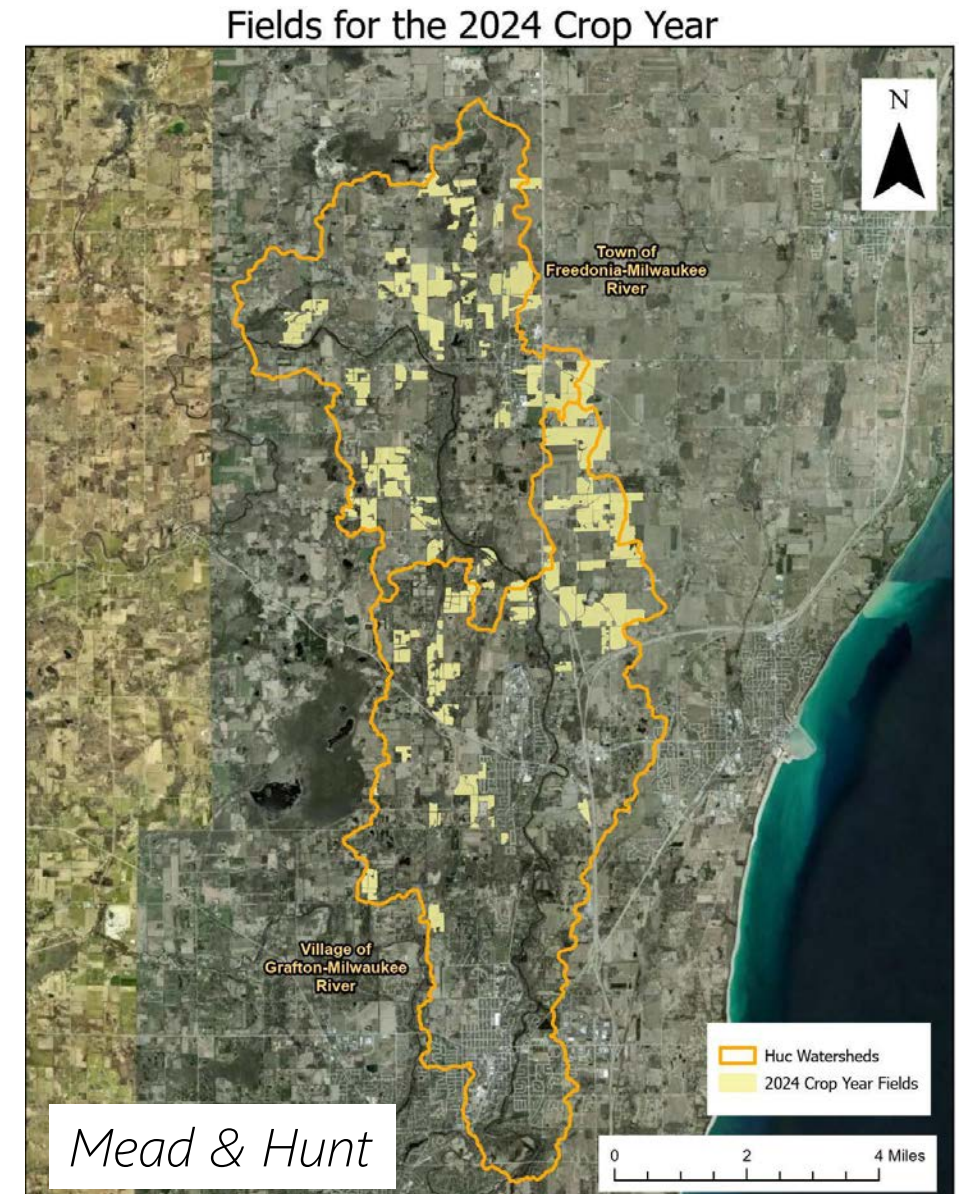
EDUCATION & OUTREACH

- >200 site visits per year
 - 8 staff added/sustained
 - 2 Farmer groups started
 - 1 Demonstration farm network started
 - 15 field days per year
- Multiple Watershed Partnership meetings held every year - COMMUNICATION



MUNICIPAL WWTP ADAPTIVE MANAGEMENT

- WWTPs partnering with point & non-point sources in a watershed
- Reduce TP in compliance WDPES and TMDL
- Provide financial incentives to farmers to implement conservation practices
- 5-year reviews with Wisconsin DNR
- Majority of TP is dissolved phosphorus





Kewaskum Creek

THANK YOU

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