

## FLOW AND STRENGTH PROJECTIONS

MONTH: January 2019

	<u>PROJECTED</u>	<u>ACTUAL</u>	<u>DIFFERENCE</u>	<u>PROJECTED INCOME FOR MONTH</u>	<u>ACTUAL INCOME FOR MONTH</u>	<u>SURPLUS OR DEFICIT</u>
FLOW (GALLONS)	160,043,997	181,583,800	21,539,803	\$ 117,632.34	\$ 133,464.09	\$ 15,831.76
B.O.D. (#s)	300,813	407,972	107,159	\$ 71,593.49	\$ 97,097.25	\$ 25,503.76
S. SOLIDS (#s)	322,670	401,012	78,342	\$ 82,280.85	\$ 102,258.00	\$ 19,977.15
PHOSPHORUS (#s)	7,135	6,957	-178	\$ 44,515.27	\$ 43,406.10	\$ (1,109.17)
AMMONIA-N (#s)	40,745	47,557	6,812	\$ 53,946.38	\$ 62,965.76	\$ 9,019.38
CHLORIDES (#s)	719,003	817,797	98,794	\$ 2,876.01	\$ 3,271.19	\$ 395.18
			<b>TOTAL:</b>	<b>\$ 372,844.34</b>	<b>\$ 442,462.38</b>	<b>\$ 69,618.05</b>

### PROJECTED FOR 2019

	<u>END OF YEAR PROJECTED</u>	<u>YEAR TO DATE SURPLUS/ DEFICIT</u>	<u>YEAR TO DATE SURPLUS/ DEFICIT \$\$</u>
FLOW (GALLONS)	1,956,827,410	21,539,803	\$ 15,831.76
B.O.D. (#s)	3,407,824	107,159	\$ 25,503.76
S. SOLIDS (#s)	3,855,538	78,342	\$ 19,977.15
PHOSPHORUS (#s)	80,086	-178	\$ (1,109.17)
AMMONIA-N (#s)	481,498	6,812	\$ 9,019.38
CHLORIDES (#s)	8,235,342	98,794	\$ 395.18
		<b>TOTAL:</b>	<b>\$ 69,618.05</b>

# HEART OF THE VALLEY METROPOLITAN SEWERAGE DISTRICT

MONTH: JANUARY 2019

## HYDRAULIC AND ORGANIC LOADINGS DATA

### INFLUENT\*

**TOTAL FLOW TO PLANT:** 181,037,000 GALLONS  
**AVERAGE B.O.D. :** 249 mg/L  
**AVERAGE SUSPENDED SOLIDS :** 208 mg/L  
**AVERAGE PHOSPHORUS :** 4.64 mg/L  
**AVERAGE AMMONIA-N :** 32.89 mg/L  
**AVERAGE CHLORIDES :** 598.57 mg/L

**MAXIMUM DAILY FLOW TO PLANT:**  
14,426,000

### PERCENT (%) BY COMMUNITY OF TOTAL MONTHLY VOLUME TREATED AT WWTP

<u>COMMUNITY</u>	<u>FLOW</u>	<u>BOD</u>	<u>TSS</u>	<u>PHOSPHORUS</u>	<u>AMMONIA</u>	<u>CHLORIDES</u>
KAUKAUNA	39.75	22.67	26.35	30.04	28.75	30.52
LITTLE CHUTE	24.79	40.53	35.02	27.50	38.11	30.05
KIMBERLY	13.13	11.65	10.33	11.59	9.20	15.22
COMBINED LOCKS	6.46	4.76	5.57	6.66	5.63	2.69
DARBOY	15.87	20.40	22.73	24.21	18.32	21.52

<u>AVERAGE DAILY INFLUENT LOADINGS</u>	<u>FLOW</u>	<u>%</u>	<u>MAX</u>	<u>PLANT DESIGN CRITERIA</u>	<u>AVG</u>	<u>%</u>
<b>FLOW :</b>	5,839,903 GALLONS	49.1	11,900,000	GALLONS/DAY	8,500,000	68.70
<b>B.O.D. :</b>	12,143 POUNDS	82.9	14,651	POUNDS/DAY	12,209	99.46
<b>SUSPENDED SOLIDS :</b>	10,137 POUNDS	62.3	16,278	POUNDS/DAY	13,565	74.73
<b>PHOSPHORUS :</b>	226 POUNDS	55.6	407	POUNDS/DAY	339	66.72
<b>AMMONIA-N :</b>	1,602 POUNDS	83.4	1,920	POUNDS/DAY	1,600	100.11
<b>CHLORIDES :</b>	29,153 POUNDS					

### FINAL EFFLUENT

<u>MONTHLY AVERAGE</u>	<u>MONTHLY AVG PERMIT LIMIT</u>
<b>FLOW:</b> 3,457,452	<u>%</u>
<b>SUSPENDED SOLIDS :</b> 11.16 mg/L	37.2
<b>SUSPENDED SOLIDS :</b> 344.67 lbs	43.0
<b>cB.O.D. :</b> 7.99 mg/L	32.0
<b>PHOSPHORUS :</b> 0.25 mg/L	25.0
<b>AMMONIA-N :</b> 0.33 mg/L	3.3
<b>CHLORIDES :</b> 630.71 mg/L	

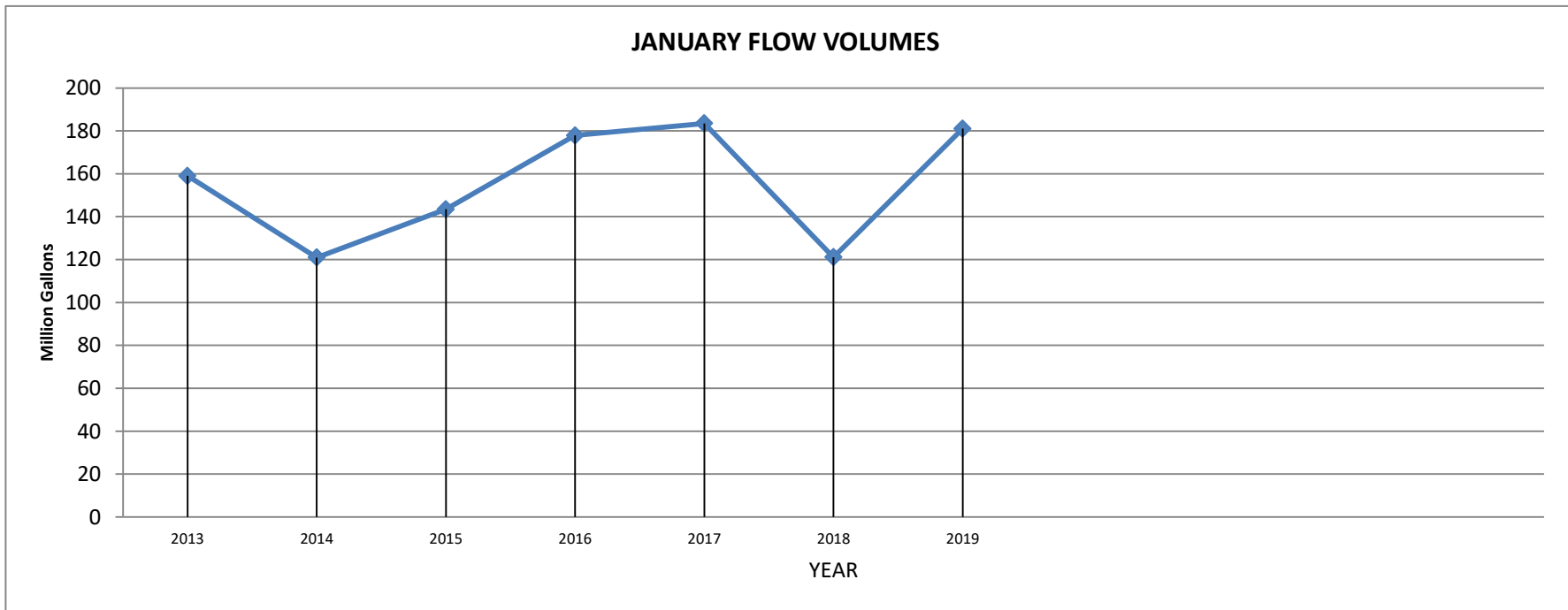
**FOX ENERGY CENTER PUMPED:** 73,856,000 GALLONS

Effluent to Fox Energy  
**41%**

\* INCLUDES HAULED WASTE

# HEART OF THE VALLEY METROPOLITAN SEWERAGE DISTRICT

<u>Year</u>	<u>January Flow Million Gallons</u>	<u>Precipitation Inches</u>
2013	159.014	1.79
2014	120.943	1.65
2015	143.460	0.56
2016	177.906	1.53
2017	183.493	0.00
2018	121.122	0.60
2019	181.037	2.36





# HEART OF THE VALLEY METROPOLITAN SEWERAGE DISTRICT

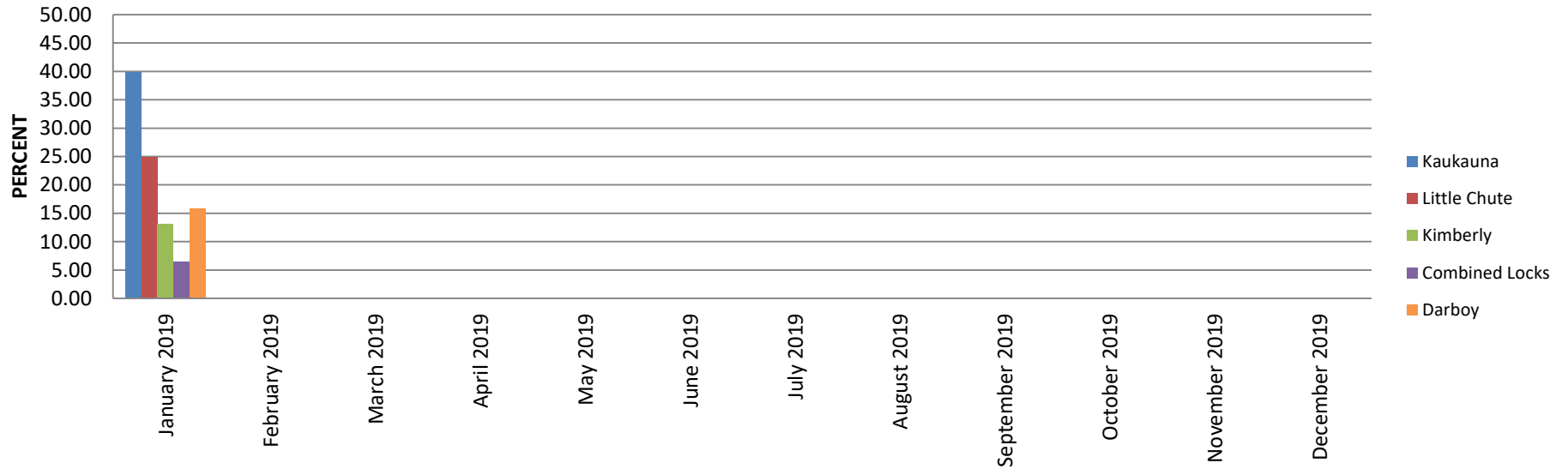
## % CONTRIBUTION BY COMMUNITY - FLOW GALLONS

	<u>Kaukauna</u>	<u>Little Chute</u>	<u>Kimberly</u>	<u>Combined Locks</u>	<u>Darboy</u>	<u>Rainfall - Inches</u>
January 2019	39.75	24.79	13.13	6.46	15.87	2.36
February 2019						
March 2019						
April 2019						
May 2019						
June 2019						
July 2019						
August 2019						
September 2019						
October 2019						
November 2019						
December 2019						

## GALLONS CONTRIBUTION BY COMMUNITY - FLOW GALLONS

	<u>Kaukauna</u>	<u>Little Chute</u>	<u>Kimberly</u>	<u>Combined Locks</u>	<u>Darboy</u>
January 2019	72,170,800	45,016,000	23,842,000	11,739,000	28,816,000
February 2019					
March 2019					
April 2019					
May 2019					
June 2019					
July 2019					
August 2019					
September 2019					
October 2019					
November 2019					
December 2019					

## % CONTRIBUTION BY COMMUNITY - FLOW GALLONS



## GALLONS CONTRIBUTION BY COMMUNITY - FLOW GALLONS



# HEART OF THE VALLEY METROPOLITAN SEWERAGE DISTRICT

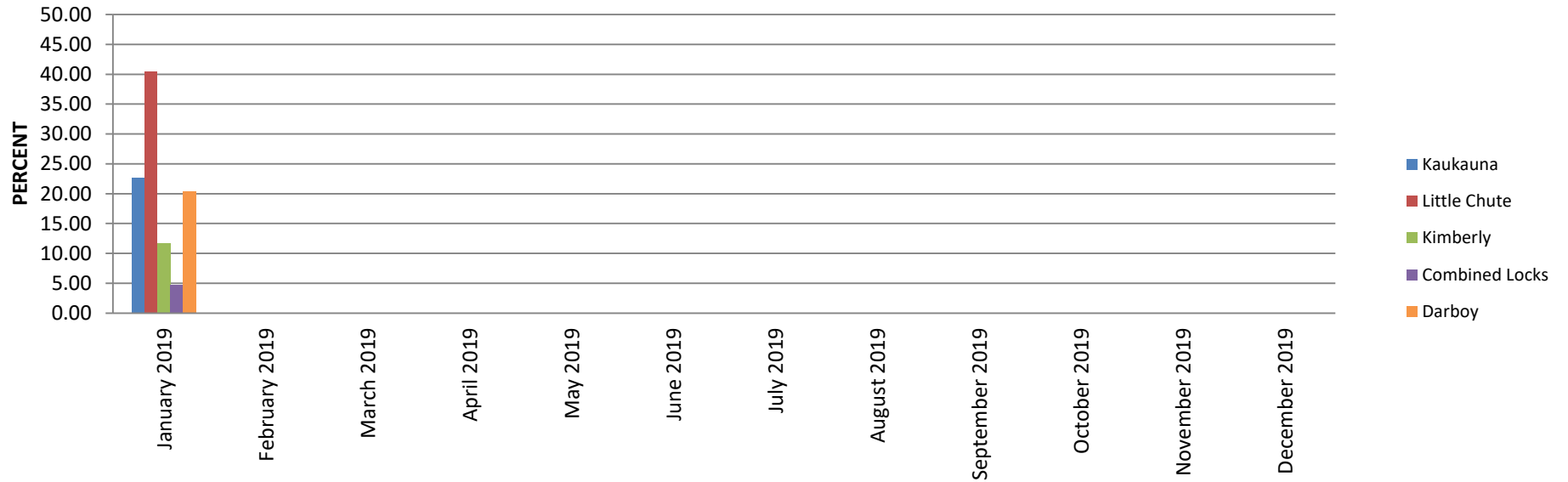
## % CONTRIBUTION BY COMMUNITY - B.O.D. POUNDS

	<u>Kaukauna</u>	<u>Little Chute</u>	<u>Kimberly</u>	<u>Combined Locks</u>	<u>Darboy</u>
January 2019	22.67	40.53	11.65	4.76	20.40
February 2019					
March 2019					
April 2019					
May 2019					
June 2019					
July 2019					
August 2019					
September 2019					
October 2019					
November 2019					
December 2019					

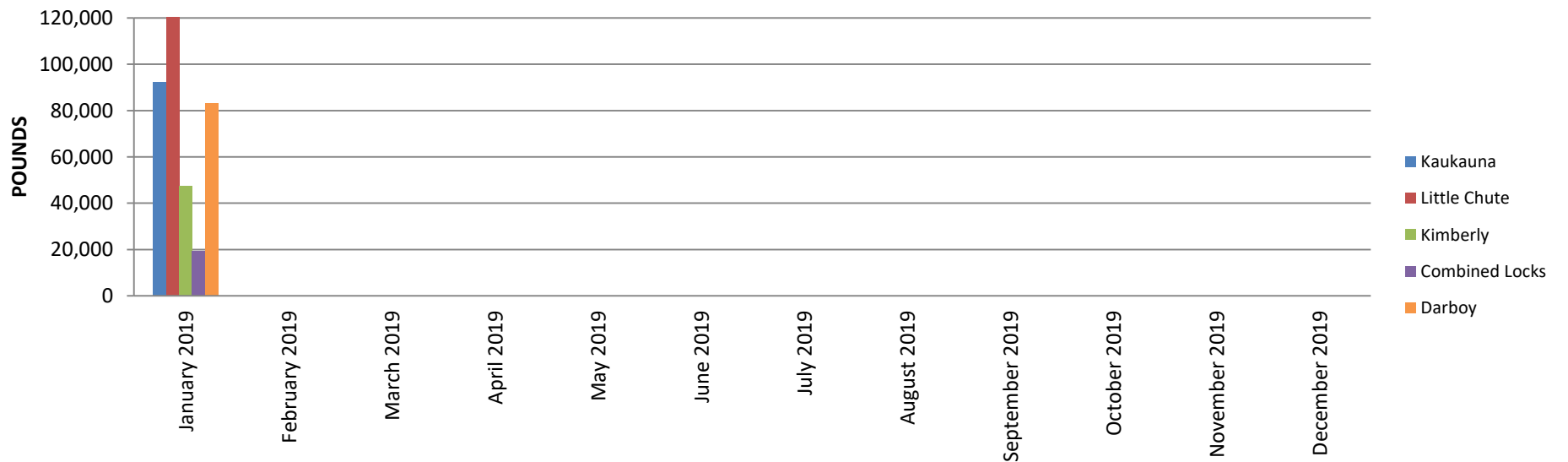
## POUNDS CONTRIBUTION BY COMMUNITY - B.O.D. POUNDS

	<u>Kaukauna</u>	<u>Little Chute</u>	<u>Kimberly</u>	<u>Combined Locks</u>	<u>Darboy</u>
January 2019	92,486	165,332	47,538	19,408	83,208
February 2019					
March 2019					
April 2019					
May 2019					
June 2019					
July 2019					
August 2019					
September 2019					
October 2019					
November 2019					
December 2019					

## % CONTRIBUTION BY COMMUNITY - B.O.D. POUNDS



## POUNDS CONTRIBUTION BY COMMUNITY - B.O.D. POUNDS





# HEART OF THE VALLEY METROPOLITAN SEWERAGE DISTRICT

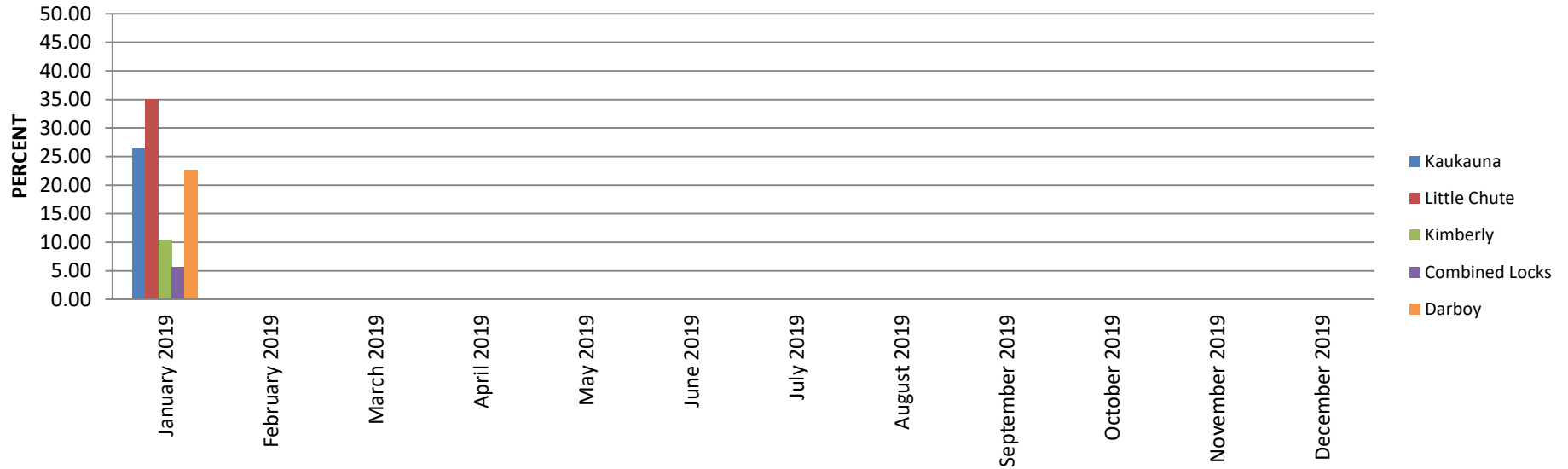
## % CONTRIBUTION BY COMMUNITY -TOTAL SUSPENDED SOLIDS POUNDS

	<u>Kaukauna</u>	<u>Little Chute</u>	<u>Kimberly</u>	<u>Combined Locks</u>	<u>Darboy</u>
January 2019	26.35	35.02	10.33	5.57	22.73
February 2019					
March 2019					
April 2019					
May 2019					
June 2019					
July 2019					
August 2019					
September 2019					
October 2019					
November 2019					
December 2019					

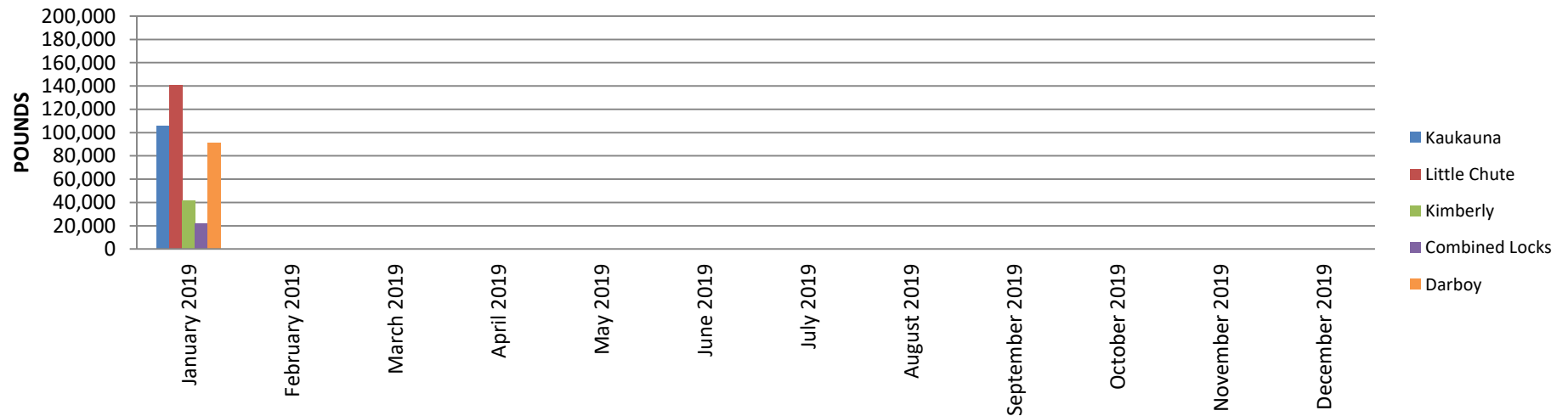
## POUNDS CONTRIBUTION BY COMMUNITY - TOTAL SUSPENDED SOLIDS POUNDS

	<u>Kaukauna</u>	<u>Little Chute</u>	<u>Kimberly</u>	<u>Combined Locks</u>	<u>Darboy</u>
January 2019	105,658	140,432	41,434	22,346	91,142
February 2019					
March 2019					
April 2019					
May 2019					
June 2019					
July 2019					
August 2019					
September 2019					
October 2019					
November 2019					
December 2019					

## % CONTRIBUTION BY COMMUNITY -TOTAL SUSPENDED SOLIDS POUNDS



## POUNDS CONTRIBUTION BY COMMUNITY - TOTAL SUSPENDED SOLIDS POUNDS



# HEART OF THE VALLEY METROPOLITAN SEWERAGE DISTRICT

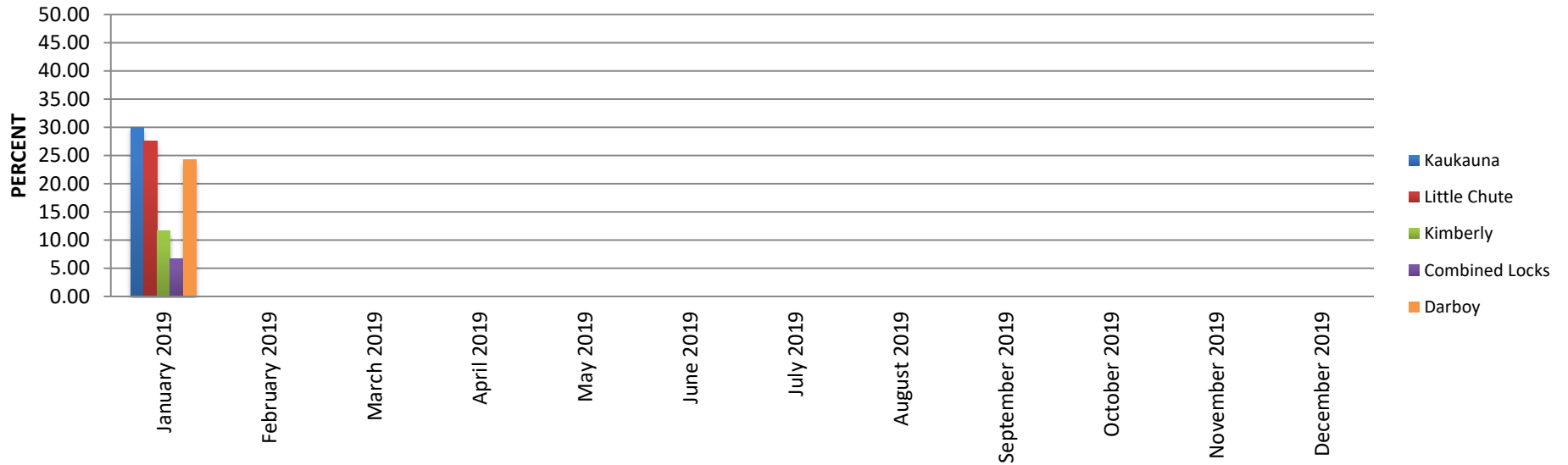
## % CONTRIBUTION BY COMMUNITY - PHOSPHORUS POUNDS

	<u>Kaukauna</u>	<u>Little Chute</u>	<u>Kimberly</u>	<u>Combined Locks</u>	<u>Darboy</u>
January 2019	30.04	27.50	11.59	6.66	24.21
February 2019					
March 2019					
April 2019					
May 2019					
June 2019					
July 2019					
August 2019					
September 2019					
October 2019					
November 2019					
December 2019					

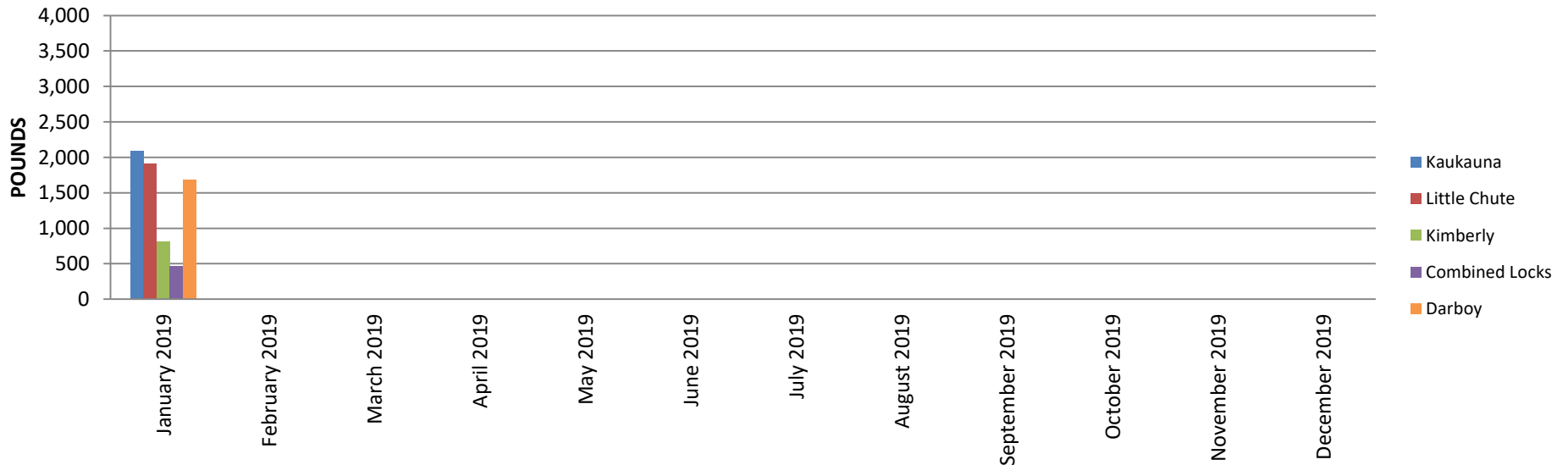
## POUNDS CONTRIBUTION BY COMMUNITY - PHOSPHORUS POUNDS

	<u>Kaukauna</u>	<u>Little Chute</u>	<u>Kimberly</u>	<u>Combined Locks</u>	<u>Darboy</u>
January 2019	2,090	1,913	806	464	1,684
February 2019					
March 2019					
April 2019					
May 2019					
June 2019					
July 2019					
August 2019					
September 2019					
October 2019					
November 2019					
December 2019					

## % CONTRIBUTION BY COMMUNITY - PHOSPHORUS POUNDS



## POUNDS CONTRIBUTION BY COMMUNITY - PHOSPHORUS POUNDS



# HEART OF THE VALLEY METROPOLITAN SEWERAGE DISTRICT

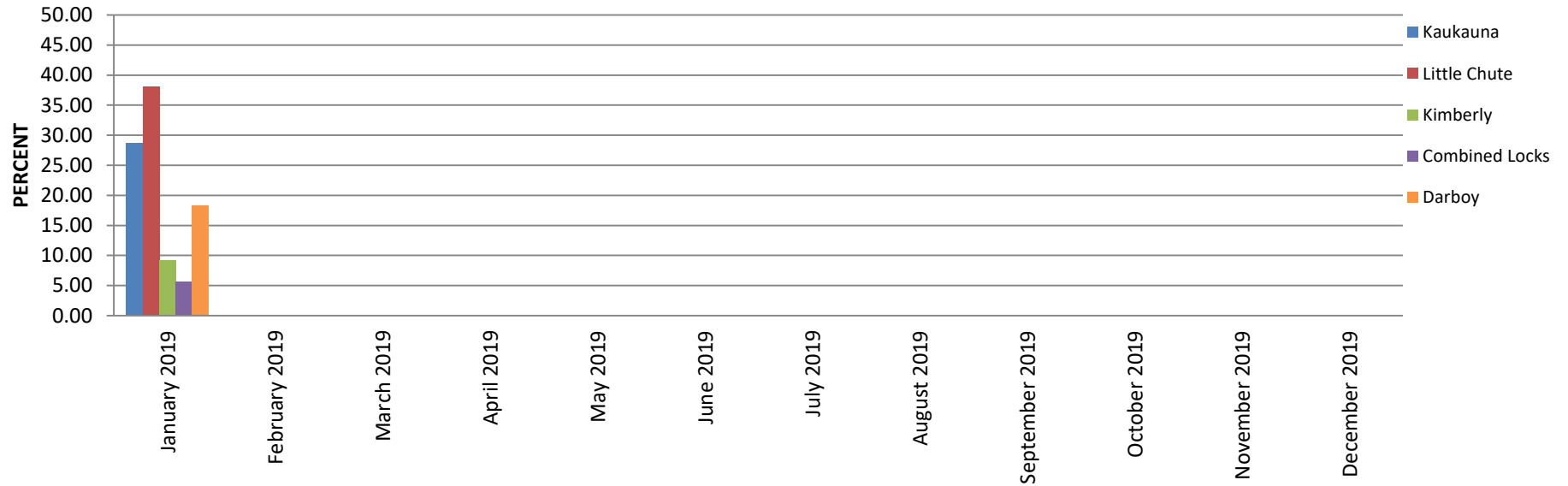
## % CONTRIBUTION BY COMMUNITY - AMMONIA POUNDS

	<u>Kaukauna</u>	<u>Little Chute</u>	<u>Kimberly</u>	<u>Combined Locks</u>	<u>Darboy</u>
January 2019	28.75	38.11	9.20	5.63	18.32
February 2019					
March 2019					
April 2019					
May 2019					
June 2019					
July 2019					
August 2019					
September 2019					
October 2019					
November 2019					
December 2019					

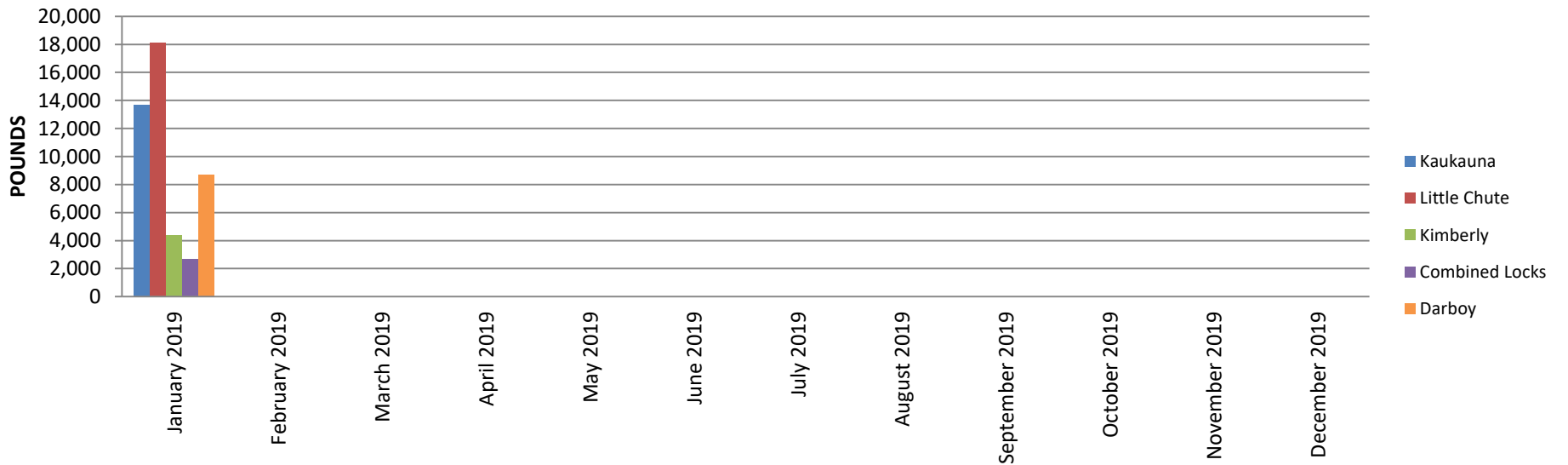
## POUNDS CONTRIBUTION BY COMMUNITY - AMMONIA POUNDS

	<u>Kaukauna</u>	<u>Little Chute</u>	<u>Kimberly</u>	<u>Combined Locks</u>	<u>Darboy</u>
January 2019	13,672	18,124	4,373	2,676	8,712
February 2019					
March 2019					
April 2019					
May 2019					
June 2019					
July 2019					
August 2019					
September 2019					
October 2019					
November 2019					
December 2019					

## % CONTRIBUTION BY COMMUNITY - AMMONIA POUNDS



## POUNDS CONTRIBUTION BY COMMUNITY - AMMONIA POUNDS



# HEART OF THE VALLEY METROPOLITAN SEWERAGE DISTRICT

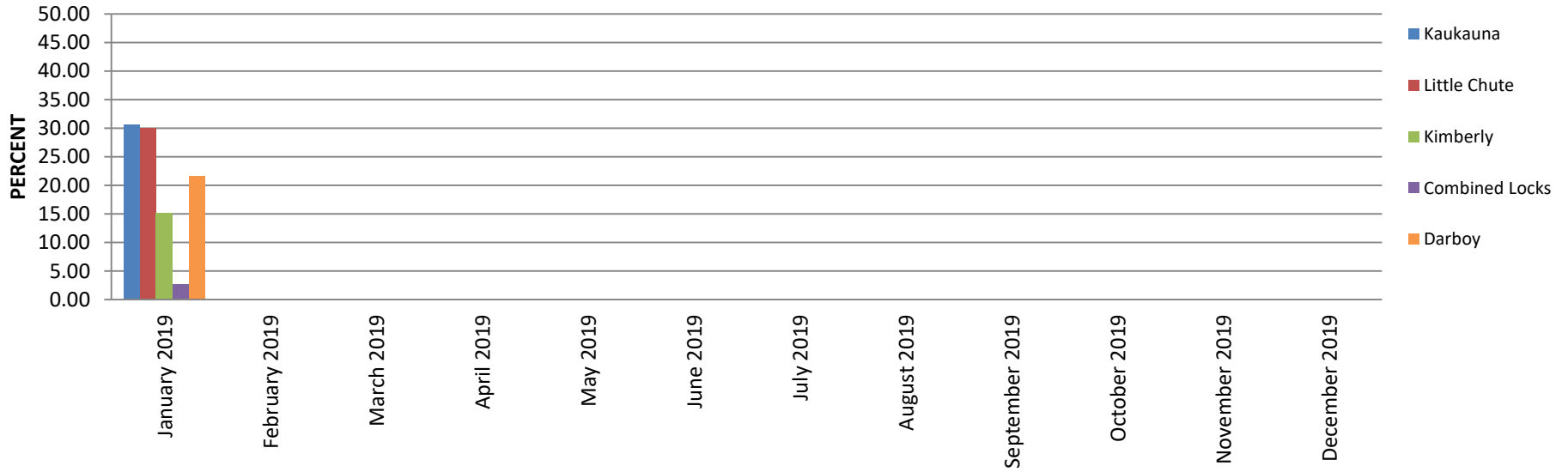
## % CONTRIBUTION BY COMMUNITY - CHLORIDE POUNDS

	<u>Kaukauna</u>	<u>Little Chute</u>	<u>Kimberly</u>	<u>Combined Locks</u>	<u>Darboy</u>
January 2019	30.52	30.05	15.22	2.69	21.52
February 2019					
March 2019					
April 2019					
May 2019					
June 2019					
July 2019					
August 2019					
September 2019					
October 2019					
November 2019					
December 2019					

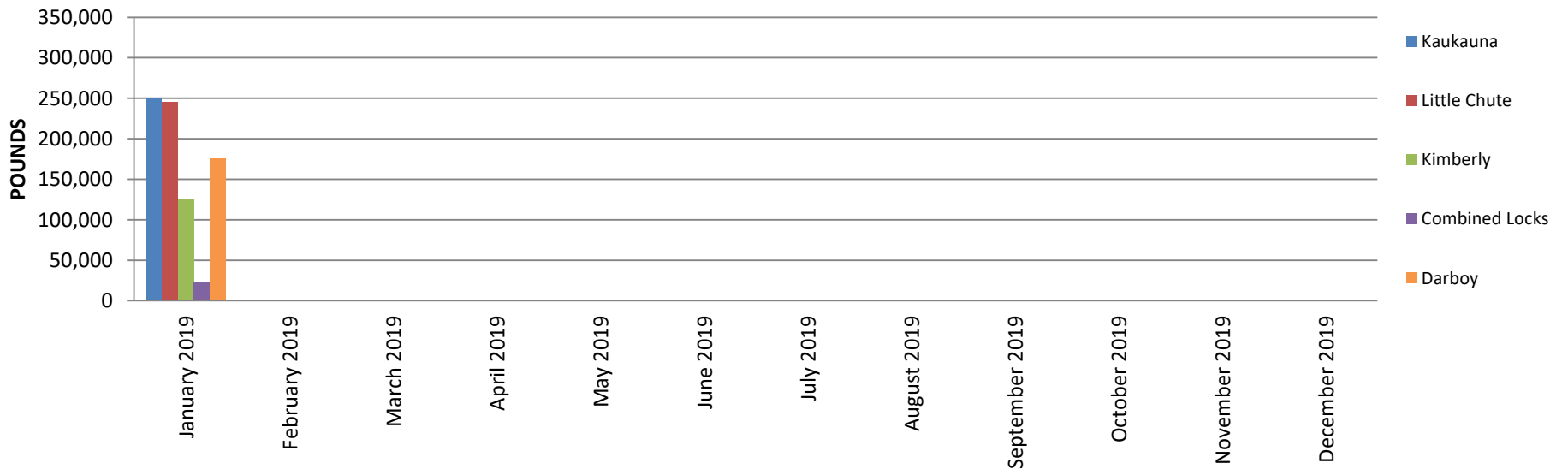
## POUNDS CONTRIBUTION BY COMMUNITY - CHLORIDE POUNDS

	<u>Kaukauna</u>	<u>Little Chute</u>	<u>Kimberly</u>	<u>Combined Locks</u>	<u>Darboy</u>
January 2019	249,568	245,742	124,501	21,975	176,010
February 2019					
March 2019					
April 2019					
May 2019					
June 2019					
July 2019					
August 2019					
September 2019					
October 2019					
November 2019					
December 2019					

## % CONTRIBUTION BY COMMUNITY - CHLORIDE POUNDS



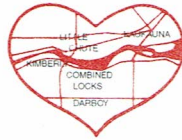
## POUNDS CONTRIBUTION BY COMMUNITY - CHLORIDE POUNDS





**DISTRICT DIRECTOR:**

Brian M. Helminger



**COMMISSIONERS:**

David J. Casper, President  
Bruce M. Siebers, Vice-Pres.  
Kevin P. Coffey, Secretary  
Patrick E. Hennessey  
John W. Sundelius

**SERVING:**

Combined Locks  
Kaukauna  
Kimberly  
Little Chute  
Darboy S.D.

**Heart of the Valley**

**METROPOLITAN SEWERAGE DISTRICT**

801 THILMANY ROAD  
KAUKAUNA, WISCONSIN 54130  
(920) 766-5731 FAX (920) 766-5733  
www.hvmsd.org

**Facility:** Wisconsin Public Service Corporation - Fox Energy Center  
P.O. Box 5651  
Bismarck, ND 58506

**Attn:** Account # N2310E

**Month:** January

**Year:** 2019

**Gallons of Final Effluent Purchased (Billing)**

<u>Date</u>	<u>Gallons</u>	<u>Date</u>	<u>Gallons</u>
1/1/2019	2,378,000	1/21/2019	1,579,000
1/2/2019	2,462,000	1/22/2019	1,062,000
1/3/2019	2,791,000	1/23/2019	2,436,000
1/4/2019	2,554,000	1/24/2019	2,713,000
1/5/2019	2,144,000	1/25/2019	2,709,000
1/6/2019	1,924,000	1/26/2019	2,681,000
1/7/2019	2,010,000	1/27/2019	2,680,000
1/8/2019	2,131,000	1/28/2019	1,706,000
1/9/2019	1,593,000	1/29/2019	2,676,000
1/10/2019	2,568,000	1/30/2019	2,731,000
1/11/2019	2,815,000	1/31/2019	1,994,000
1/12/2019	2,850,000		
1/13/2019	2,851,000		
1/14/2019	2,852,000		
1/15/2019	2,872,000		
1/16/2019	2,896,000		
1/17/2019	2,608,000		
1/18/2019	2,049,000		
1/19/2019	1,989,000		
1/20/2019	2,552,000		
		<b>Total:</b>	<b>73,856,000</b>

**Facility:** Wisconsin Public Service Corporation - Fox Energy Center  
P.O. Box 5651  
Bismarck, ND 58506

**Attn:** Account # N2310E

## **MONTHLY BILLING**

**Month:** January

**Year:** 2019

**GALLONS PURCHASED:** 73,856,000

**BILLING RATE:** \$0.1559218 PER 1000 GALLONS

**TOTAL AMOUNT DUE: \$11,515.76**

**Heart of the Valley  
Metropolitan Sewerage District**

**Fox Energy Revenue  
From the Sale of Final Effluent**

**2019**

**Final Effluent Sent to Fox Energy Facility**

**Gallons:** 73,856,000

**Charge Per 1000 Gallons:** \$0.1559218 Per 1000 Gallons

**Sale of Final Effluent (Revenue Collected): \$11,515.76**