

## FLOW AND STRENGTH PROJECTIONS

MONTH: January 2020

	<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)	156,137,060	183,677,500	27,540,440	\$ 108,671.39	\$ 127,839.54	\$ 19,168.15
B.O.D. (#s)	314,330	441,400	127,070	\$ 69,152.60	\$ 97,107.92	\$ 27,955.32
S. SOLIDS (#s)	318,019	404,742	86,723	\$ 80,776.83	\$ 102,804.56	\$ 22,027.74
PHOSPHORUS (#s)	7,127	7,494	367	\$ 45,049.77	\$ 47,366.92	\$ 2,317.15
AMMONIA-N (#s)	42,702	52,552	9,850	\$ 56,366.64	\$ 69,368.59	\$ 13,001.95
CHLORIDES (#s)	805,572	911,792	106,220	\$ 2,416.72	\$ 2,735.38	\$ 318.66
			<b>TOTAL:</b>	<b>\$ 362,433.94</b>	<b>\$ 447,222.91</b>	<b>\$ 84,788.97</b>

### PROJECTED FOR 2020

	<u>END OF YEAR PROJECTED</u>	<u>YEAR TO DATE SURPLUS/ DEFICIT</u>	<u>YEAR TO DATE SURPLUS/ DEFICIT \$\$</u>
FLOW (GALLONS)	2,053,099,003	27,540,440	\$ 19,168.15
B.O.D. (#s)	3,755,281	127,070	\$ 27,955.32
S. SOLIDS (#s)	3,909,560	86,723	\$ 22,027.74
PHOSPHORUS (#s)	80,410	367	\$ 2,317.15
AMMONIA-N (#s)	505,265	9,850	\$ 13,001.95
CHLORIDES (#s)	8,748,079	106,220	\$ 318.66
		<b>TOTAL:</b>	<b>\$ 84,788.97</b>

# HEART OF THE VALLEY METROPOLITAN SEWERAGE DISTRICT

MONTH: JANUARY 2020

## HYDRAULIC AND ORGANIC LOADINGS DATA

### INFLUENT\*

**TOTAL FLOW TO PLANT:** 172,999,000 GALLONS  
**AVERAGE B.O.D. :** 233 mg/L  
**AVERAGE SUSPENDED SOLIDS :** 174 mg/L  
**AVERAGE PHOSPHORUS :** 4.41 mg/L  
**AVERAGE AMMONIA-N :** 33.93 mg/L  
**AVERAGE CHLORIDES :** 618.46 mg/L

**MAXIMUM DAILY FLOW TO PLANT:**  
8,538,000

### 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	38.93	26.31	30.55	29.15	22.94	33.27
LITTLE CHUTE	28.17	38.06	29.76	30.78	47.58	31.86
KIMBERLY	12.15	9.14	9.13	10.62	7.96	16.93
COMBINED LOCKS	5.79	5.61	5.69	6.50	5.10	2.04
DARBOY	14.97	20.89	24.88	22.95	16.42	15.91

<u>AVERAGE DAILY INFLUENT LOADINGS</u>	<u>%</u>	<u>MAX</u>	<u>PLANT DESIGN CRITERIA</u>	<u>AVG</u>	<u>%</u>
<b>FLOW :</b> 5,580,613 GALLONS	46.9	11,900,000	GALLONS/DAY	8,500,000	65.65
<b>B.O.D. :</b> 10,496 POUNDS	71.6	14,651	POUNDS/DAY	12,209	85.97
<b>SUSPENDED SOLIDS :</b> 7,805 POUNDS	48.0	16,278	POUNDS/DAY	13,565	57.54
<b>PHOSPHORUS :</b> 198 POUNDS	48.7	407	POUNDS/DAY	339	58.48
<b>AMMONIA-N :</b> 1,530 POUNDS	79.7	1,920	POUNDS/DAY	1,600	95.62
<b>CHLORIDES :</b> 28,151 POUNDS					

### FINAL EFFLUENT

<u>MONTHLY AVERAGE</u>	<u>%</u>	<u>MONTHLY AVG PERMIT LIMIT</u>	
<b>FLOW:</b> 2,794,839			
<b>SUSPENDED SOLIDS :</b> 9.64 mg/L	32.1	30	mg/L
<b>SUSPENDED SOLIDS :</b> 218.70 lbs	27.3	801	lbs
<b>B.O.D. :</b> 7.20 mg/L	28.8	25	mg/L
<b>PHOSPHORUS :</b> 0.19 mg/L	19.4	1	mg/L
<b>AMMONIA-N :</b> 0.24 mg/L	2.4	10	mg/L
<b>CHLORIDES :</b> 632.31 mg/L			

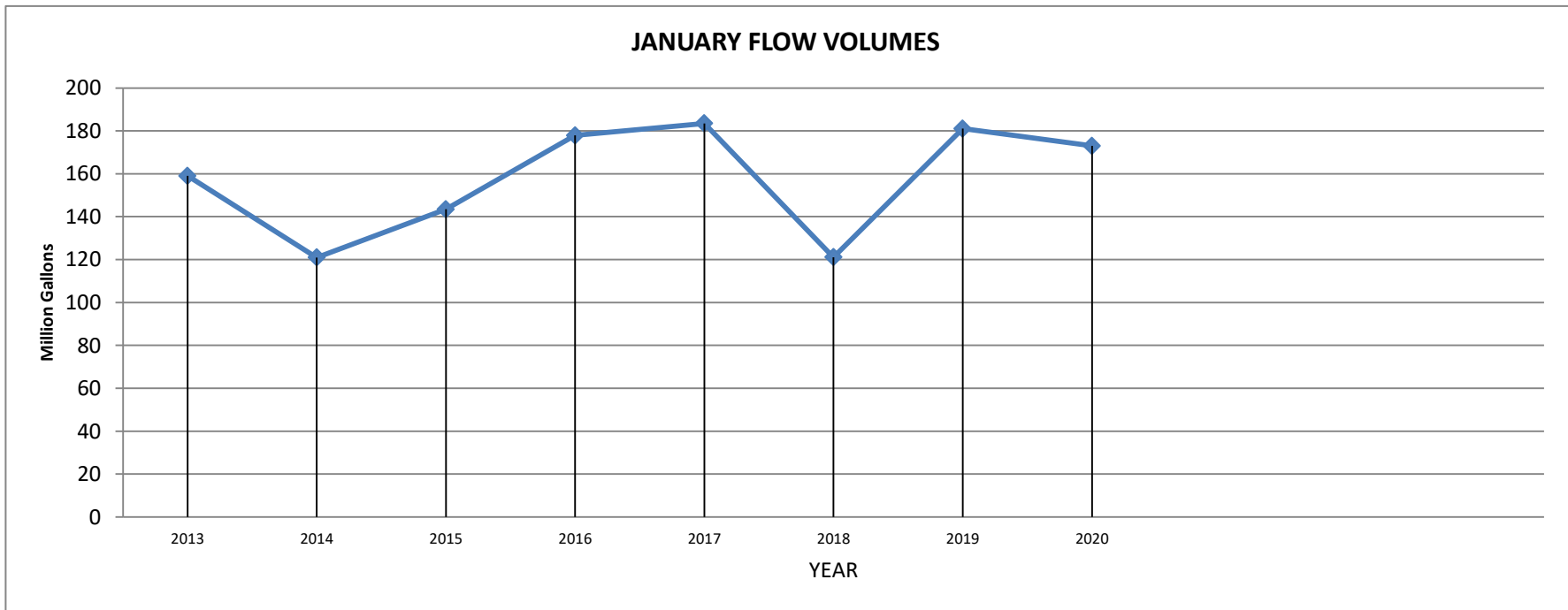
**FOX ENERGY CENTER PUMPED:** 86,359,000 GALLONS

Effluent to Fox Energy  
**50%**

\* 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
2020	172.999	1.54

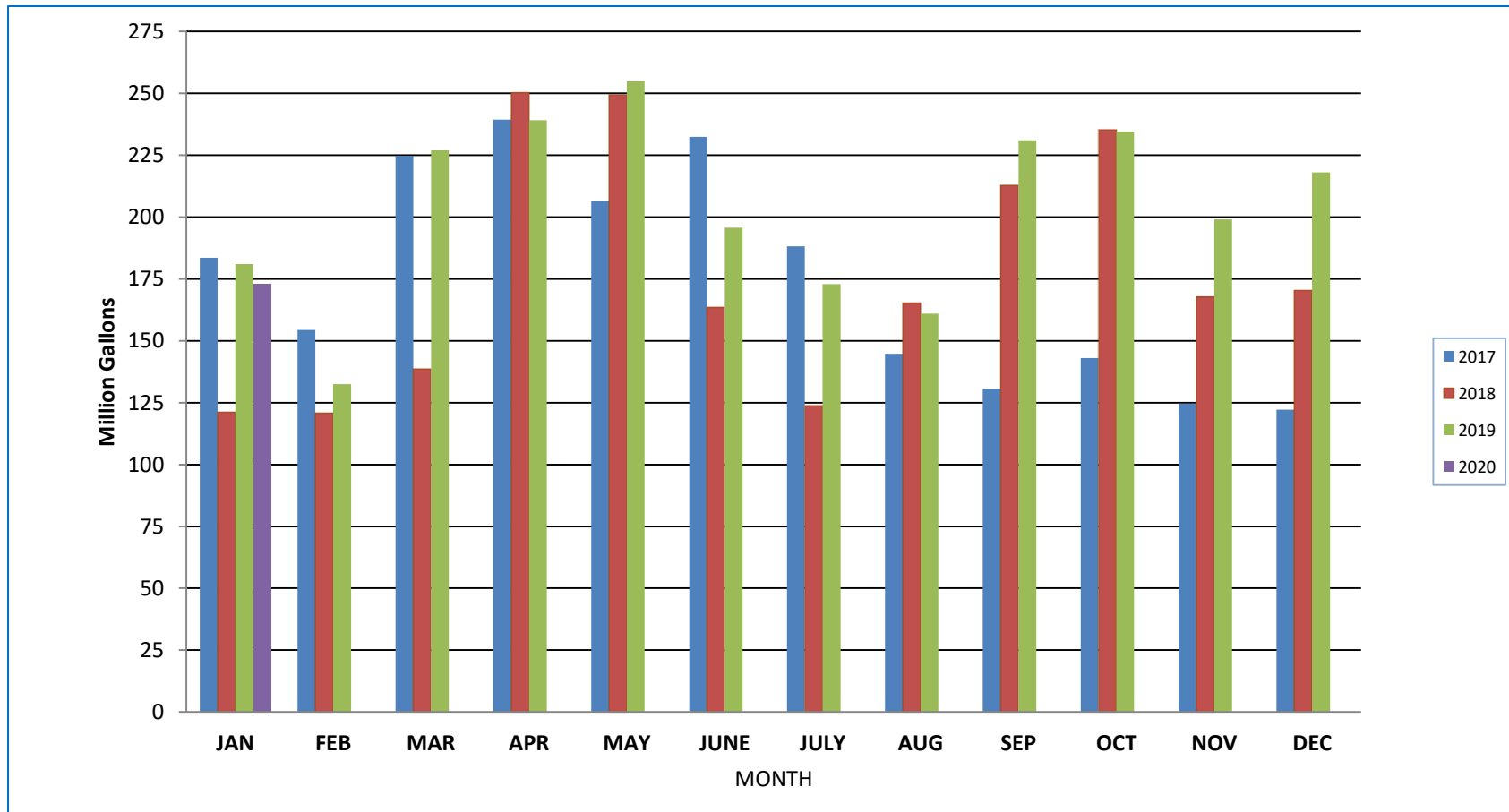


# HEART OF THE VALLEY METROPOLITAN SEWERAGE DISTRICT

	<u>JAN</u>	<u>FEB</u>	<u>MAR</u>	<u>APR</u>	<u>MAY</u>	<u>JUNE</u>	<u>JULY</u>	<u>AUG</u>	<u>SEP</u>	<u>OCT</u>	<u>NOV</u>	<u>DEC</u>
<b>2017</b>	183.493	154.391	224.799	239.329	206.521	232.395	188.142	144.717	130.601	143.016	124.659	122.136
<b>2018</b>	121.122	120.841	138.664	250.232	249.379	163.461	123.780	165.254	212.799	235.273	167.657	170.368
<b>2019</b>	181.037	132.459	226.921	239.147	254.810	195.654	172.916	160.932	231.033	234.439	199.024	218.097
<b>2020</b>	172.999											

\*\*\* FLOW VOLUMES REPORTED IN MILLION GALLONS \*\*\*

## MONTHLY FLOW VOLUMES



# HEART OF THE VALLEY METROPOLITAN SEWERAGE DISTRICT

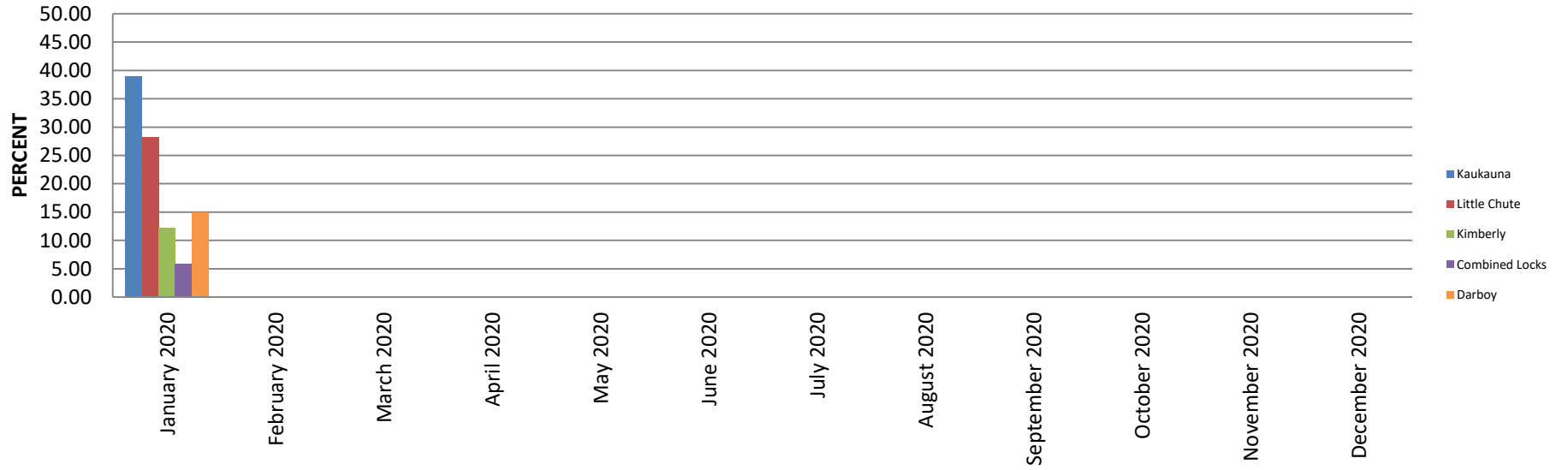
## % CONTRIBUTION BY COMMUNITY - FLOW GALLONS

	<u>Kaukauna</u>	<u>Little Chute</u>	<u>Kimberly</u>	<u>Combined Locks</u>	<u>Darboy</u>	<u>Rainfall - Inches</u>
January 2020	38.93	28.17	12.15	5.79	14.97	1.54
February 2020						
March 2020						
April 2020						
May 2020						
June 2020						
July 2020						
August 2020						
September 2020						
October 2020						
November 2020						
December 2020						

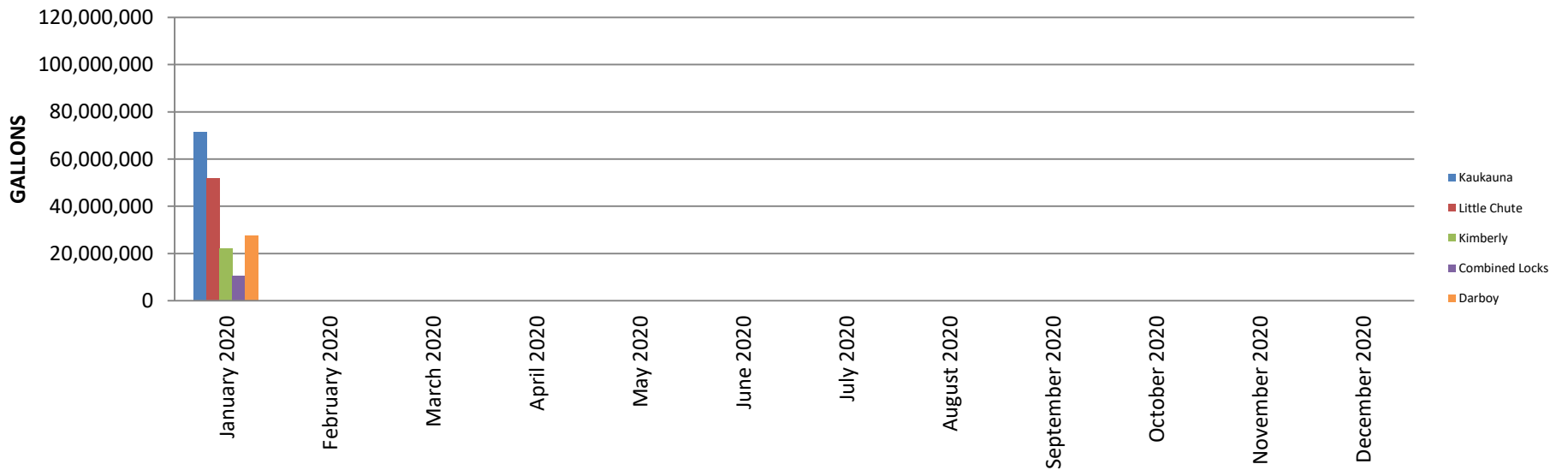
## GALLONS CONTRIBUTION BY COMMUNITY - FLOW GALLONS

	<u>Kaukauna</u>	<u>Little Chute</u>	<u>Kimberly</u>	<u>Combined Locks</u>	<u>Darboy</u>
January 2020	71,501,500	51,734,000	22,308,000	10,633,000	27,501,000
February 2020					
March 2020					
April 2020					
May 2020					
June 2020					
July 2020					
August 2020					
September 2020					
October 2020					
November 2020					
December 2020					

## % CONTRIBUTION BY COMMUNITY - FLOW GALLONS



## GALLONS CONTRIBUTION BY COMMUNITY - FLOW GALLONS



# HEART OF THE VALLEY METROPOLITAN SEWERAGE DISTRICT

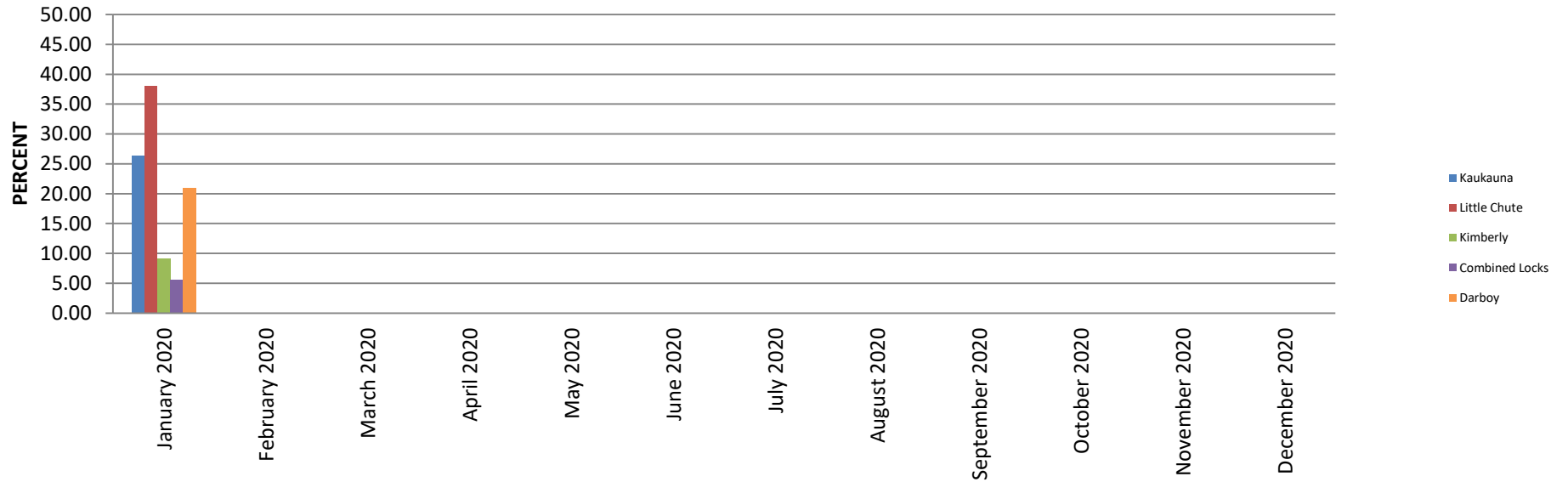
## % CONTRIBUTION BY COMMUNITY - B.O.D. POUNDS

	<u>Kaukauna</u>	<u>Little Chute</u>	<u>Kimberly</u>	<u>Combined Locks</u>	<u>Darboy</u>
January 2020	26.31	38.06	9.14	5.61	20.89
February 2020					
March 2020					
April 2020					
May 2020					
June 2020					
July 2020					
August 2020					
September 2020					
October 2020					
November 2020					
December 2020					

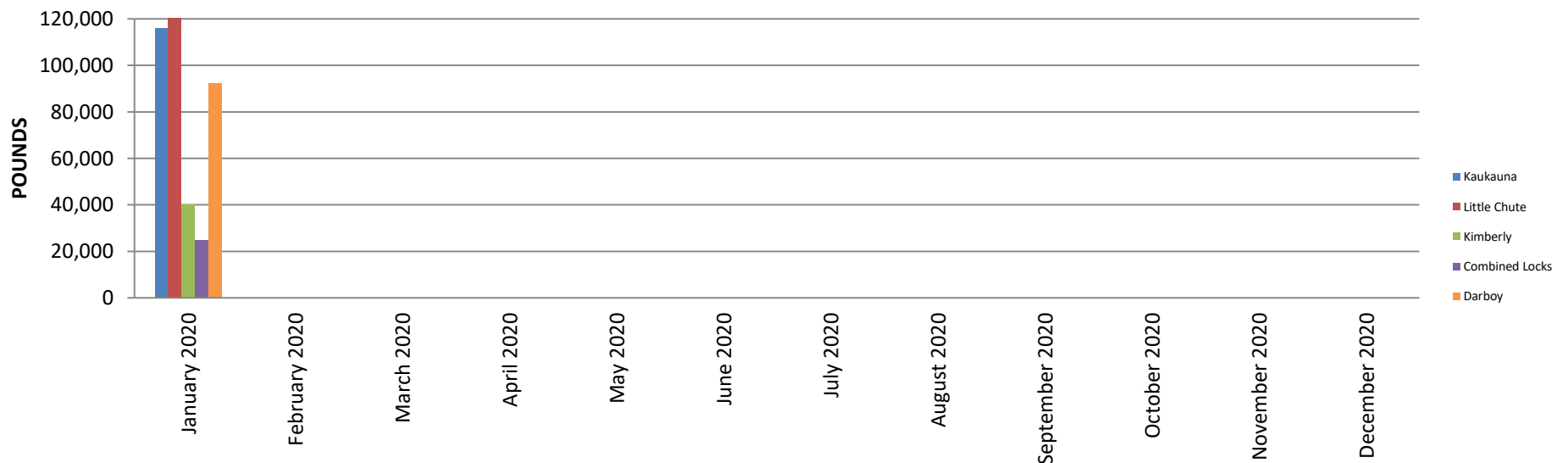
## POUNDS CONTRIBUTION BY COMMUNITY - B.O.D. POUNDS

	<u>Kaukauna</u>	<u>Little Chute</u>	<u>Kimberly</u>	<u>Combined Locks</u>	<u>Darboy</u>
January 2020	116,126	167,978	40,327	24,751	92,218
February 2020					
March 2020					
April 2020					
May 2020					
June 2020					
July 2020					
August 2020					
September 2020					
October 2020					
November 2020					
December 2020					

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



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





# HEART OF THE VALLEY METROPOLITAN SEWERAGE DISTRICT

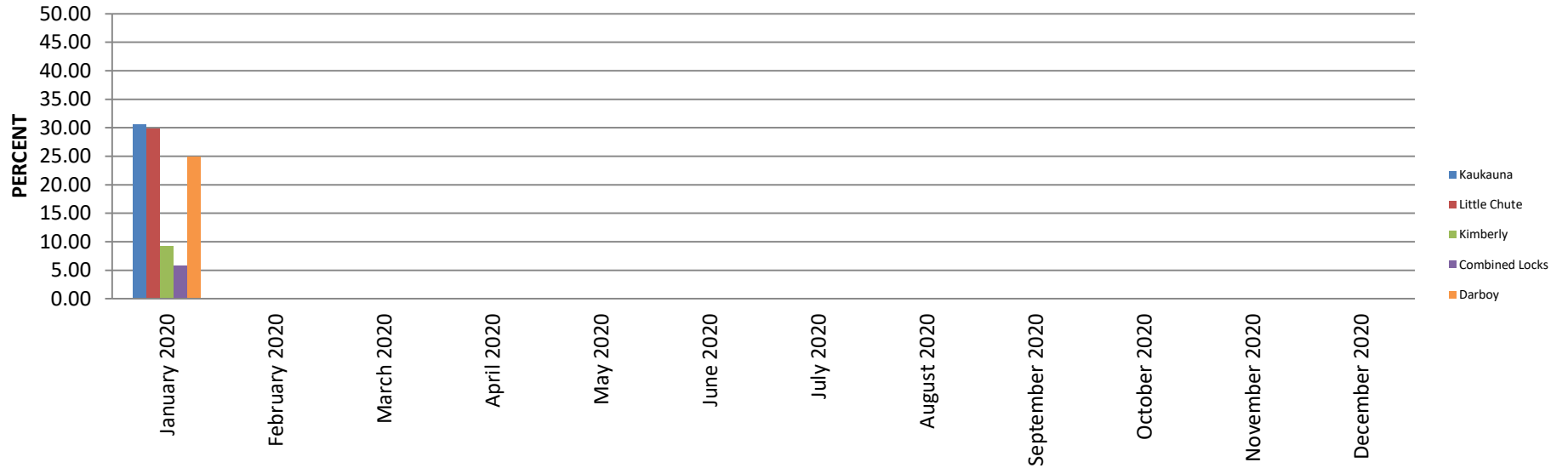
## % CONTRIBUTION BY COMMUNITY -TOTAL SUSPENDED SOLIDS POUNDS

	<u>Kaukauna</u>	<u>Little Chute</u>	<u>Kimberly</u>	<u>Combined Locks</u>	<u>Darboy</u>
January 2020	30.55	29.76	9.13	5.69	24.88
February 2020					
March 2020					
April 2020					
May 2020					
June 2020					
July 2020					
August 2020					
September 2020					
October 2020					
November 2020					
December 2020					

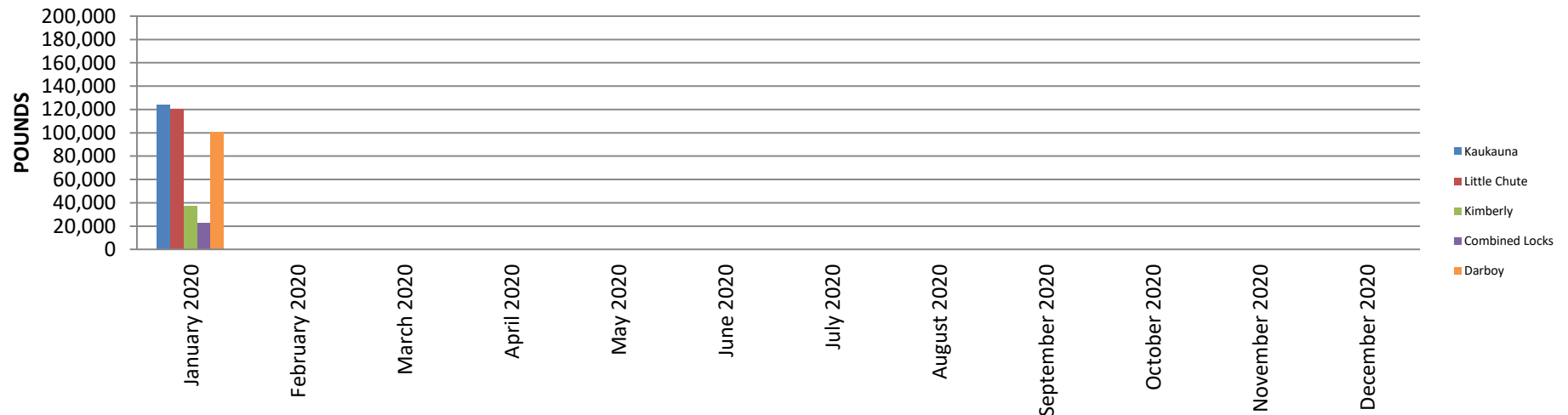
## POUNDS CONTRIBUTION BY COMMUNITY - TOTAL SUSPENDED SOLIDS POUNDS

	<u>Kaukauna</u>	<u>Little Chute</u>	<u>Kimberly</u>	<u>Combined Locks</u>	<u>Darboy</u>
January 2020	123,653	120,453	36,933	23,018	100,685
February 2020					
March 2020					
April 2020					
May 2020					
June 2020					
July 2020					
August 2020					
September 2020					
October 2020					
November 2020					
December 2020					

## % CONTRIBUTION BY COMMUNITY -TOTAL SUSPENDED SOLIDS POUNDS



## POUNDS CONTRIBUTION BY COMMUNITY - TOTAL SUSPENDED SOLIDS POUNDS



# HEART OF THE VALLEY METROPOLITAN SEWERAGE DISTRICT

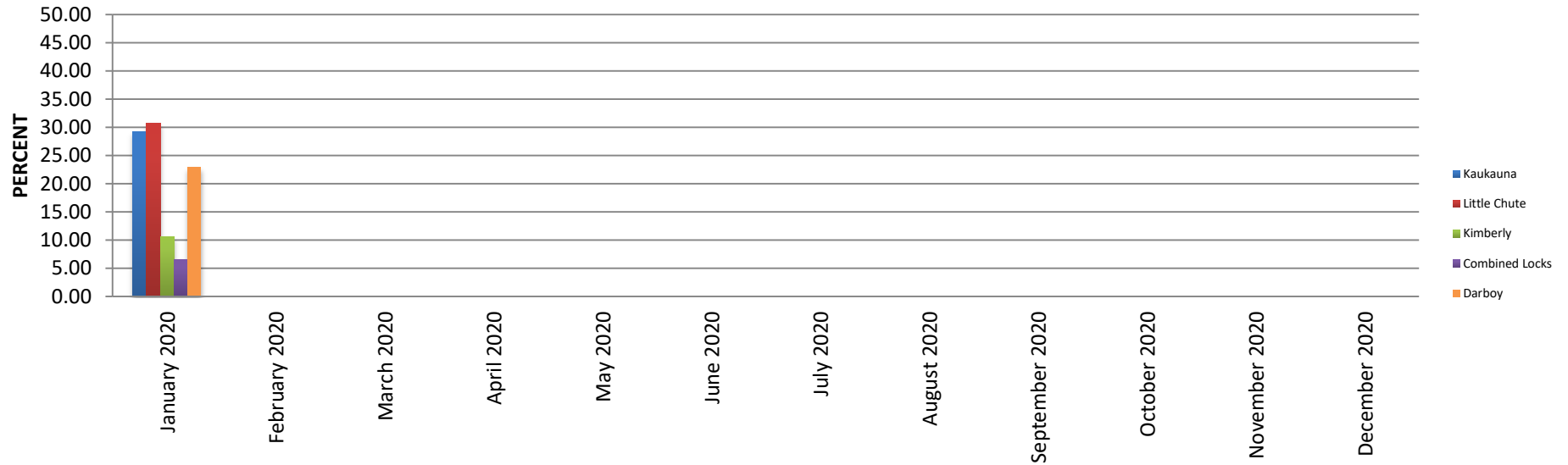
## % CONTRIBUTION BY COMMUNITY - PHOSPHORUS POUNDS

	<u>Kaukauna</u>	<u>Little Chute</u>	<u>Kimberly</u>	<u>Combined Locks</u>	<u>Darboy</u>
January 2020	29.15	30.78	10.62	6.50	22.95
February 2020					
March 2020					
April 2020					
May 2020					
June 2020					
July 2020					
August 2020					
September 2020					
October 2020					
November 2020					
December 2020					

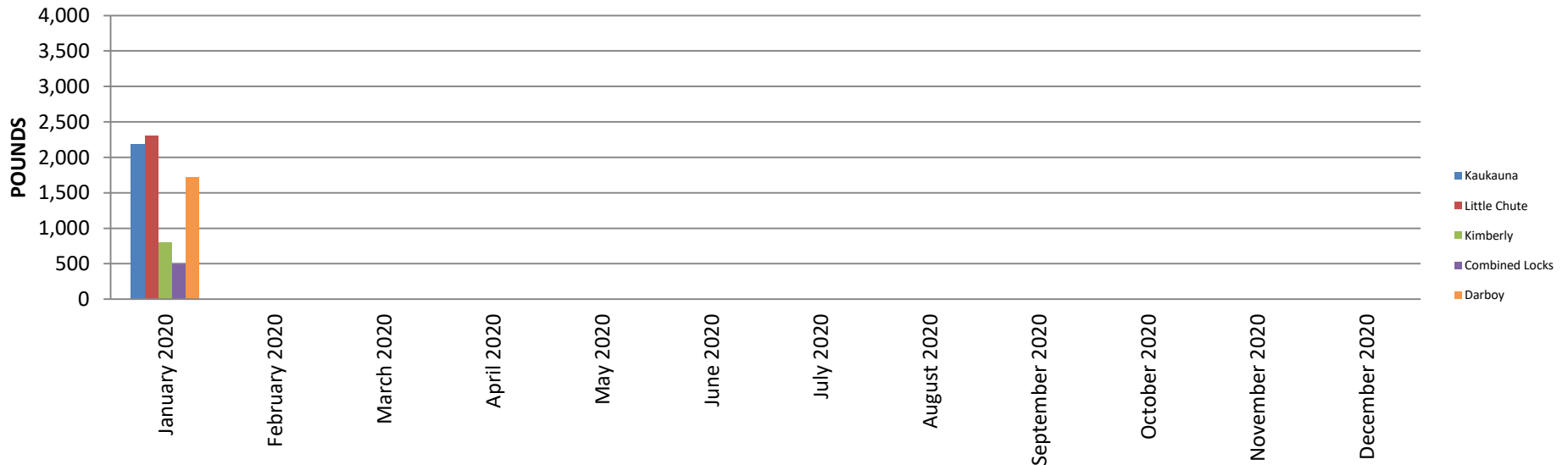
## POUNDS CONTRIBUTION BY COMMUNITY - PHOSPHORUS POUNDS

	<u>Kaukauna</u>	<u>Little Chute</u>	<u>Kimberly</u>	<u>Combined Locks</u>	<u>Darboy</u>
January 2020	2,185	2,306	796	487	1,720
February 2020					
March 2020					
April 2020					
May 2020					
June 2020					
July 2020					
August 2020					
September 2020					
October 2020					
November 2020					
December 2020					

## % CONTRIBUTION BY COMMUNITY - PHOSPHORUS POUNDS



## POUNDS CONTRIBUTION BY COMMUNITY - PHOSPHORUS POUNDS



# HEART OF THE VALLEY METROPOLITAN SEWERAGE DISTRICT

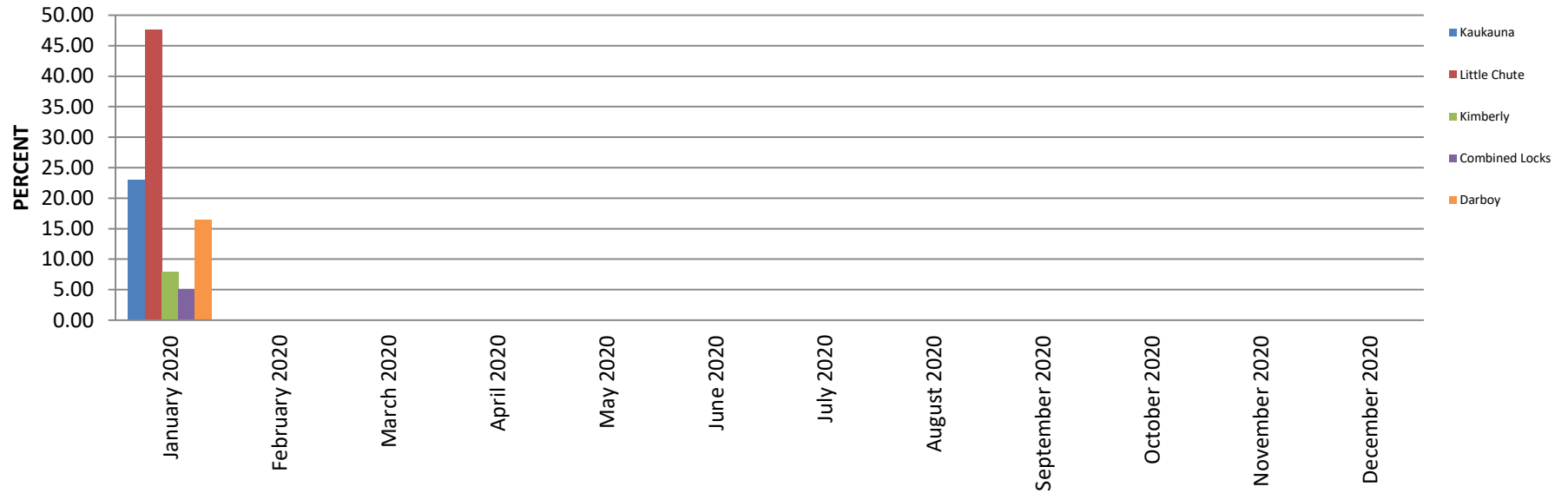
## % CONTRIBUTION BY COMMUNITY - AMMONIA POUNDS

	<u>Kaukauna</u>	<u>Little Chute</u>	<u>Kimberly</u>	<u>Combined Locks</u>	<u>Darboy</u>
January 2020	22.94	47.58	7.96	5.10	16.42
February 2020					
March 2020					
April 2020					
May 2020					
June 2020					
July 2020					
August 2020					
September 2020					
October 2020					
November 2020					
December 2020					

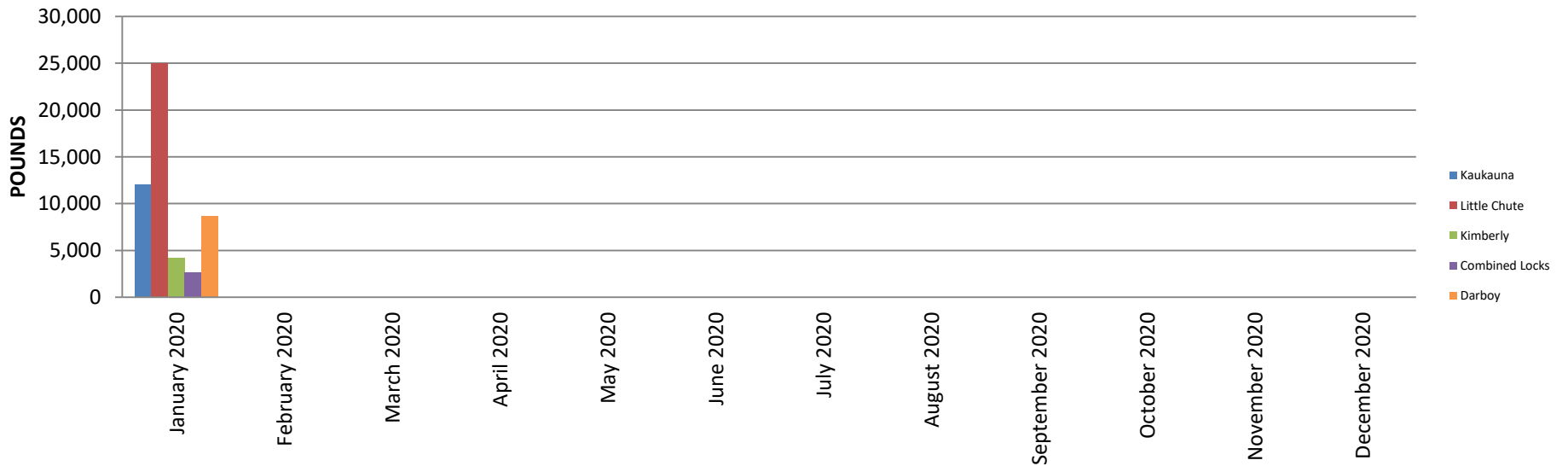
## POUNDS CONTRIBUTION BY COMMUNITY - AMMONIA POUNDS

	<u>Kaukauna</u>	<u>Little Chute</u>	<u>Kimberly</u>	<u>Combined Locks</u>	<u>Darboy</u>
January 2020	12,057	25,004	4,184	2,679	8,628
February 2020					
March 2020					
April 2020					
May 2020					
June 2020					
July 2020					
August 2020					
September 2020					
October 2020					
November 2020					
December 2020					

## % CONTRIBUTION BY COMMUNITY - AMMONIA POUNDS



## POUNDS CONTRIBUTION BY COMMUNITY - AMMONIA POUNDS



# HEART OF THE VALLEY METROPOLITAN SEWERAGE DISTRICT

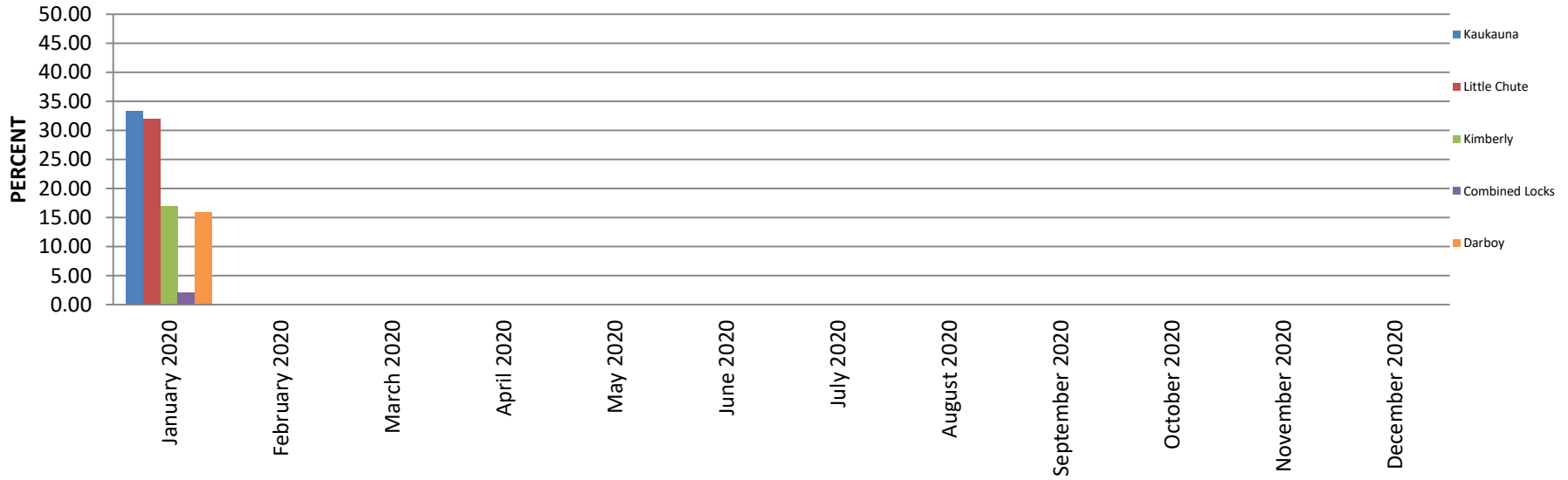
## % CONTRIBUTION BY COMMUNITY - CHLORIDE POUNDS

	<u>Kaukauna</u>	<u>Little Chute</u>	<u>Kimberly</u>	<u>Combined Locks</u>	<u>Darboy</u>
January 2020	33.27	31.86	16.93	2.04	15.91
February 2020					
March 2020					
April 2020					
May 2020					
June 2020					
July 2020					
August 2020					
September 2020					
October 2020					
November 2020					
December 2020					

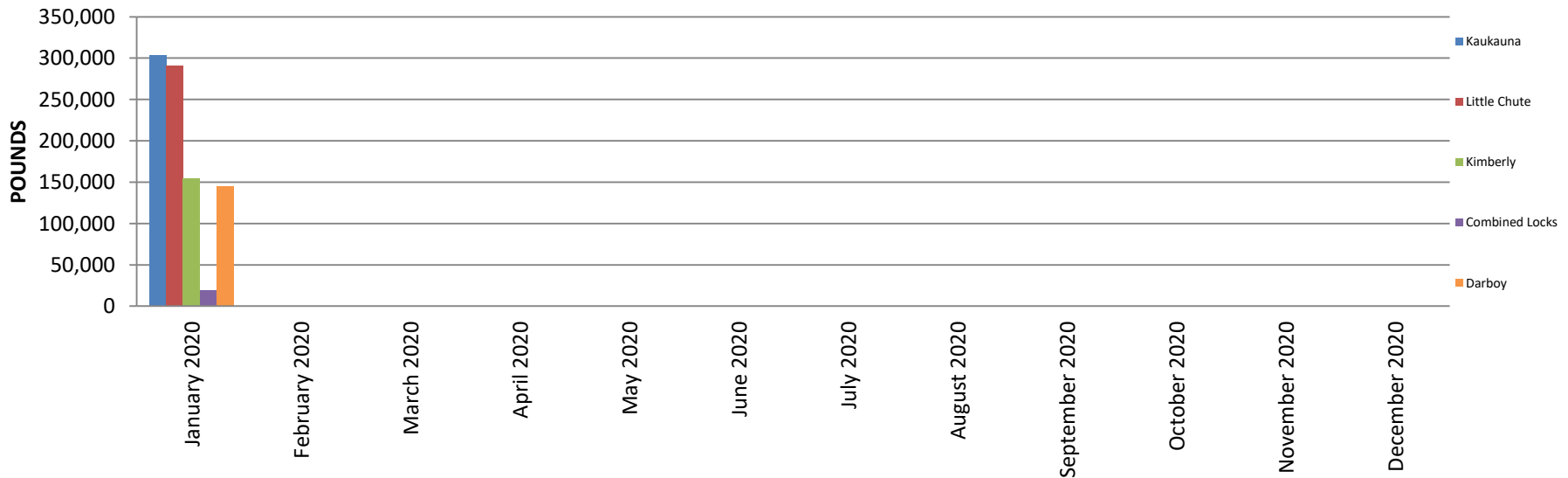
## POUNDS CONTRIBUTION BY COMMUNITY - CHLORIDE POUNDS

	<u>Kaukauna</u>	<u>Little Chute</u>	<u>Kimberly</u>	<u>Combined Locks</u>	<u>Darboy</u>
January 2020	303,362	290,456	154,342	18,577	145,056
February 2020					
March 2020					
April 2020					
May 2020					
June 2020					
July 2020					
August 2020					
September 2020					
October 2020					
November 2020					
December 2020					

## % CONTRIBUTION BY COMMUNITY - CHLORIDE POUNDS



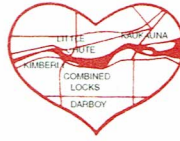
## POUNDS CONTRIBUTION BY COMMUNITY - CHLORIDE POUNDS





**DISTRICT DIRECTOR:**

Brian M. Helminger

**COMMISSIONERS:**

David J. Casper, President  
 Bruce M. Siebers, Vice-Pres.  
 Patrick E. Hennessey, Secretary  
 Kevin P. Coffey  
 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:** 2020

## Gallons of Final Effluent Purchased (Billing)

<u>Date</u>	<u>Gallons</u>	<u>Date</u>	<u>Gallons</u>
1/1/2020	2,716,000	1/21/2020	2,939,000
1/2/2020	2,699,000	1/22/2020	2,938,000
1/3/2020	2,846,000	1/23/2020	2,939,000
1/4/2020	2,848,000	1/24/2020	2,938,000
1/5/2020	2,851,000	1/25/2020	2,973,000
1/6/2020	2,851,000	1/26/2020	2,977,000
1/7/2020	2,799,000	1/27/2020	2,977,000
1/8/2020	2,776,000	1/28/2020	2,976,000
1/9/2020	2,835,000	1/29/2020	2,583,000
1/10/2020	2,938,000	1/30/2020	2,779,000
1/11/2020	2,735,000	1/31/2020	2,939,000
1/12/2020	2,720,000		
1/13/2020	2,762,000		
1/14/2020	2,764,000	<b>Total:</b>	<b>86,359,000</b>
1/15/2020	2,764,000		
1/16/2020	2,551,000		
1/17/2020	2,298,000		
1/18/2020	2,267,000		
1/19/2020	2,444,000		
1/20/2020	2,937,000		

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

**Attn:** Account # N2310E

## **MONTHLY BILLING**

**Month:** January

**Year:** 2020

**GALLONS PURCHASED:** 86,359,000

**BILLING RATE:** \$0.1592812 PER 1000 GALLONS

**TOTAL AMOUNT DUE: \$13,755.37**

**Heart of the Valley  
Metropolitan Sewerage District**

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

**2020**

**Final Effluent Sent to Fox Energy Facility**

**Gallons: 86,359,000**

**Charge Per 1000 Gallons: \$0.1592812 Per 1000 Gallons**

**Sale of Final Effluent (Revenue Collected): \$13,755.37**