

## FLOW AND STRENGTH PROJECTIONS

MONTH: June 2018

	<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)	198,584,600	161,605,910	-36,978,690	\$ 158,073.34	\$ 128,638.30	\$ (29,435.04)
B.O.D. (#s)	307,673	331,216	23,543	\$ 80,610.33	\$ 86,778.59	\$ 6,168.27
S. SOLIDS (#s)	365,782	333,275	-32,507	\$ 97,298.01	\$ 88,651.11	\$ (8,646.90)
PHOSPHORUS (#s)	7,266	6,173	-1,093	\$ 45,703.14	\$ 38,830.69	\$ (6,872.45)
AMMONIA-N (#s)	37,178	37,864	686	\$ 55,729.82	\$ 56,757.66	\$ 1,027.83
CHLORIDES (#s)	660,081	641,658	-18,423	\$ 3,300.41	\$ 3,208.29	\$ (92.11)
			<b>TOTAL:</b>	<b>\$ 440,715.05</b>	<b>\$ 402,864.64</b>	<b>\$ (37,850.40)</b>

(THRU JUNE 2018)

PROJECTED FOR 2018

	<u>END OF YEAR PROJECTED</u>	<u>YEAR TO DATE SURPLUS/ DEFICIT</u>	<u>YEAR TO DATE SURPLUS/ DEFICIT \$\$</u>
FLOW (GALLONS)	1,947,278,400	-21,753,153	\$ (17,315.51)
B.O.D. (#s)	3,292,724	216,122	\$ 56,623.99
S. SOLIDS (#s)	3,957,399	-156,026	\$ (41,502.93)
PHOSPHORUS (#s)	83,650	-6,135	\$ (38,588.02)
AMMONIA-N (#s)	464,411	12,153	\$ 18,217.68
CHLORIDES (#s)	7,768,031	285,495	\$ 1,427.48
		<b>TOTAL:</b>	<b>\$ (21,137.31)</b>

# HEART OF THE VALLEY METROPOLITAN SEWERAGE DISTRICT

MONTH: JUNE 2018

## HYDRAULIC AND ORGANIC LOADINGS DATA

### INFLUENT\*

TOTAL FLOW TO PLANT: 163,461,000 GALLONS  
 AVERAGE B.O.D. : 229 mg/L  
 AVERAGE SUSPENDED SOLIDS : 210 mg/L  
 AVERAGE PHOSPHORUS : 4.83 mg/L  
 AVERAGE AMMONIA-N : 30.76 mg/L  
 AVERAGE CHLORIDES : 583.33 mg/L

MAXIMUM DAILY FLOW TO PLANT:  
13,728,000

### 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	39.39	29.73	28.17	27.89	26.98	29.25
LITTLE CHUTE	26.07	30.49	27.07	29.06	37.22	35.52
KIMBERLY	13.11	12.63	18.93	13.08	9.23	15.54
COMBINED LOCKS	5.20	5.38	5.16	5.83	5.64	1.49
DARBOY	16.23	21.77	20.68	24.13	20.93	18.20

### AVERAGE DAILY INFLUENT LOADINGS

FLOW : 5,448,700 GALLONS  
 B.O.D. : 10,053 POUNDS  
 SUSPENDED SOLIDS : 9,235 POUNDS  
 PHOSPHORUS : 212 POUNDS  
 AMMONIA-N : 1,353 POUNDS  
 CHLORIDES : 25,653 POUNDS

### %

45.8  
68.6  
56.7  
52.2  
70.4

### PLANT DESIGN CRITERIA

11,900,000 GALLONS/DAY  
 14,651 POUNDS/DAY  
 16,278 POUNDS/DAY  
 407 POUNDS/DAY  
 1,920 POUNDS/DAY

### FINAL EFFLUENT

<u>MONTHLY AVERAGE</u>	<u>%</u>	<u>MONTHLY AVG PERMIT LIMIT</u>
FLOW: 2,325,900		
SUSPENDED SOLIDS : 9.99 mg/L	33.3	30 mg/L
SUSPENDED SOLIDS : 216.05 lbs	27.0	801 lbs
cB.O.D. : 4.71 mg/L	18.8	25 mg/L
PHOSPHORUS : 0.27 mg/L	27.0	1 mg/L
AMMONIA-N : 0.40 mg/L	9.1	4.4 mg/L
CHLORIDES : 574.17 mg/L		

FOX ENERGY CENTER PUMPED: 93,684,000 GALLONS

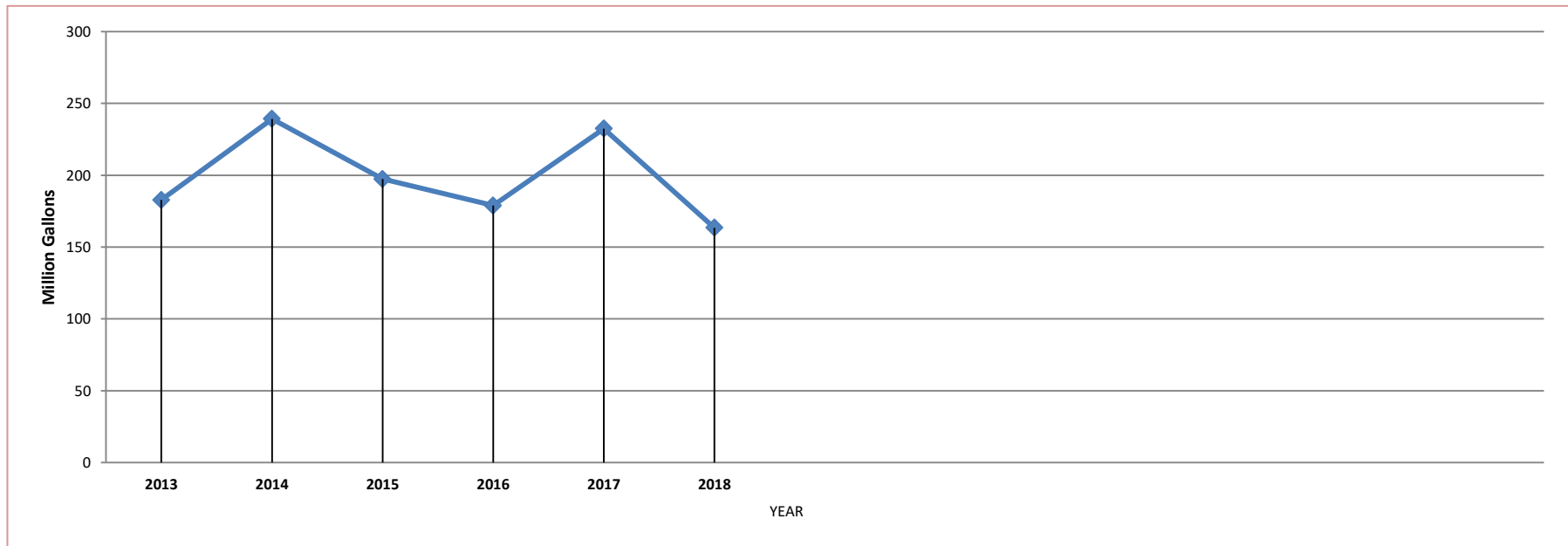
Effluent to Fox Energy  
57%

\* INCLUDES HAULED WASTE

# HEART OF THE VALLEY METROPOLITAN SEWERAGE DISTRICT

<u>Year</u>	<u>June Flow Million Gallons</u>	<u>Precipitation Inches</u>
2013	182.739	2.27
2014	239.160	5.92
2015	197.337	4.59
2016	178.887	5.19
2017	232.395	6.37
2018	163.461	3.65

## JUNE FLOW VOLUMES





# HEART OF THE VALLEY METROPOLITAN SEWERAGE DISTRICT

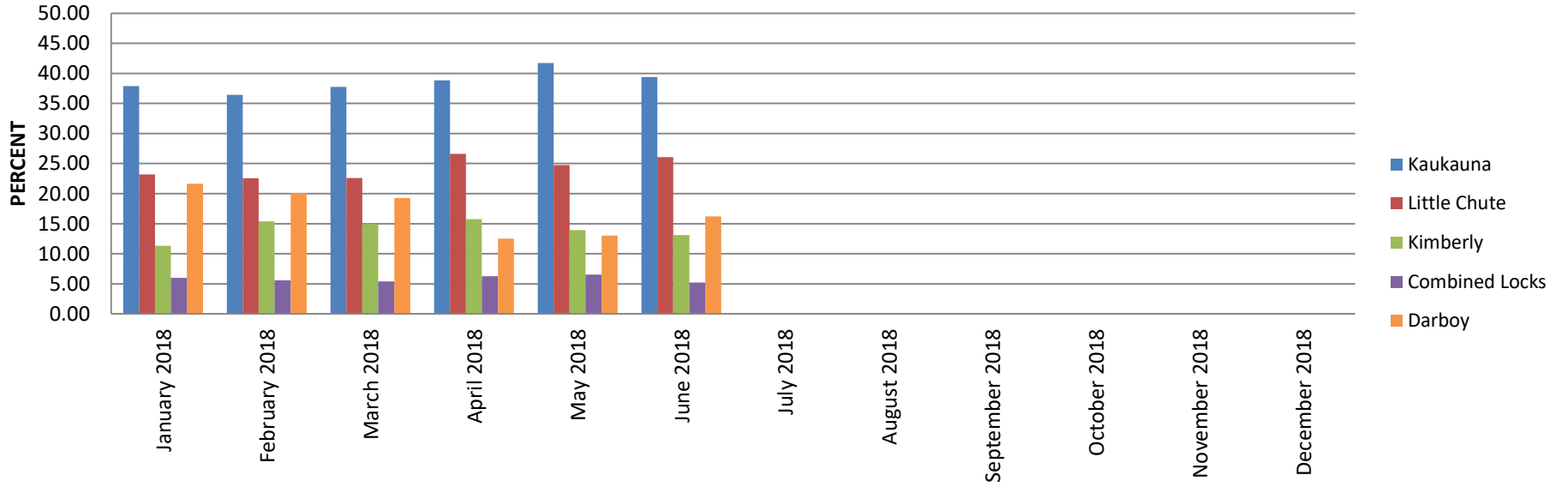
## % CONTRIBUTION BY COMMUNITY - FLOW GALLONS

	<u>Kaukauna</u>	<u>Little Chute</u>	<u>Kimberly</u>	<u>Combined Locks</u>	<u>Darboy</u>	<u>Rainfall - Inches</u>
January 2018	37.87	23.18	11.32	5.97	21.65	0.60
February 2018	36.41	22.54	15.39	5.58	20.08	0.00
March 2018	37.77	22.61	14.95	5.41	19.26	0.63
April 2018	38.85	26.62	15.77	6.25	12.51	1.02
May 2018	41.70	24.77	13.94	6.55	13.04	3.71
June 2018	39.39	26.07	13.11	5.20	16.23	3.65
July 2018						
August 2018						
September 2018						
October 2018						
November 2018						
December 2018						

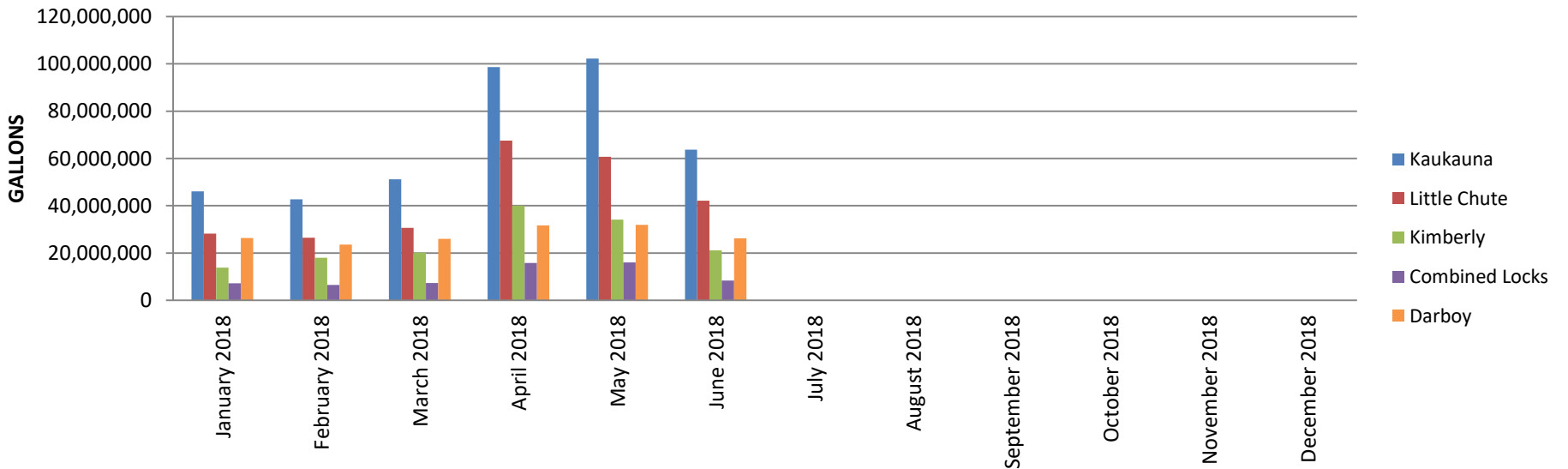
## GALLONS CONTRIBUTION BY COMMUNITY - FLOW GALLONS

	<u>Kaukauna</u>	<u>Little Chute</u>	<u>Kimberly</u>	<u>Combined Locks</u>	<u>Darboy</u>
January 2018	46,099,140	28,215,000	13,781,000	7,268,000	26,355,000
February 2018	42,761,360	26,468,000	18,068,000	6,547,000	23,585,000
March 2018	51,131,810	30,606,000	20,240,000	7,321,000	26,073,000
April 2018	98,618,990	67,582,000	40,021,000	15,865,000	31,749,000
May 2018	102,220,860	60,725,000	34,166,000	16,054,000	31,969,000
June 2018	63,660,910	42,128,000	21,184,000	8,401,000	26,232,000
July 2018					
August 2018					
September 2018					
October 2018					
November 2018					
December 2018					

**% CONTRIBUTION BY COMMUNITY - FLOW GALLONS**



**GALLONS CONTRIBUTION BY COMMUNITY - FLOW GALLONS**



# HEART OF THE VALLEY METROPOLITAN SEWERAGE DISTRICT

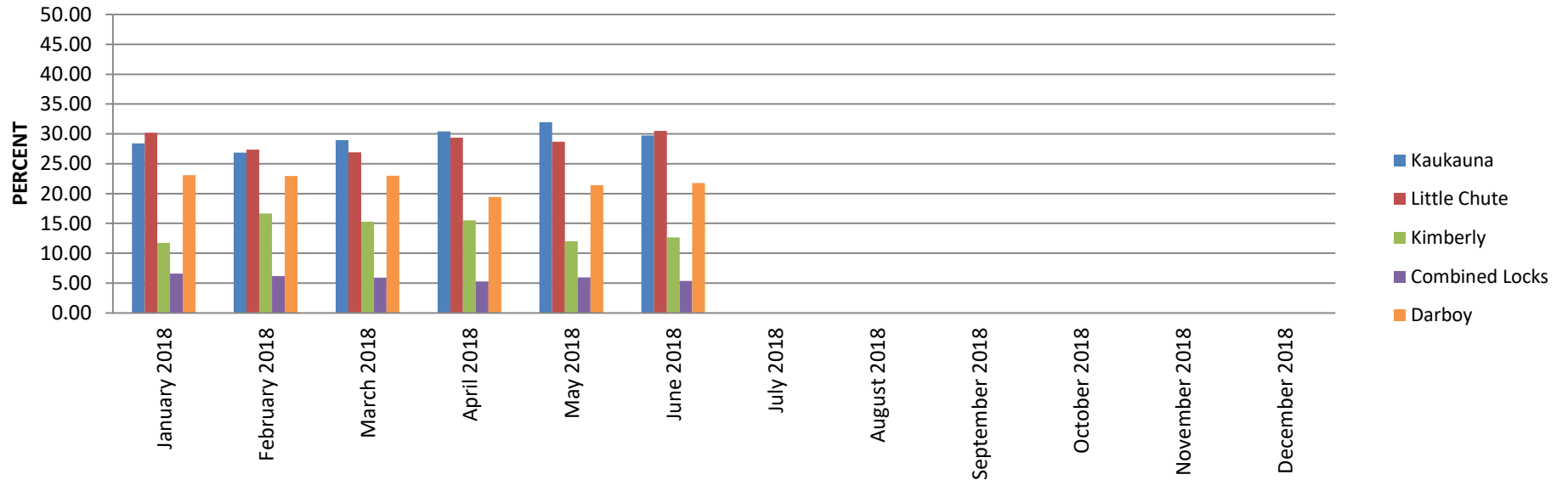
## % CONTRIBUTION BY COMMUNITY - B.O.D. POUNDS

	<u>Kaukauna</u>	<u>Little Chute</u>	<u>Kimberly</u>	<u>Combined Locks</u>	<u>Darboy</u>
January 2018	28.42	30.18	11.73	6.60	23.07
February 2018	26.85	27.36	16.67	6.19	22.93
March 2018	28.94	26.89	15.29	5.90	22.98
April 2018	30.40	29.35	15.53	5.29	19.42
May 2018	31.97	28.68	12.00	5.94	21.41
June 2018	29.73	30.49	12.63	5.38	21.77
July 2018					
August 2018					
September 2018					
October 2018					
November 2018					
December 2018					

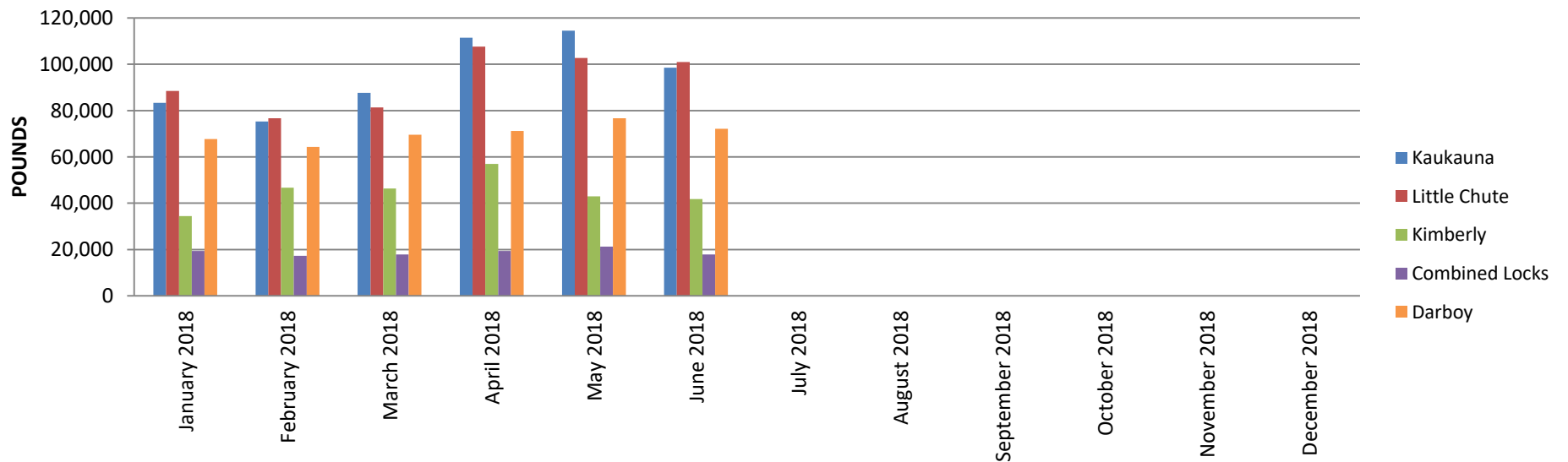
## POUNDS CONTRIBUTION BY COMMUNITY - B.O.D. POUNDS

	<u>Kaukauna</u>	<u>Little Chute</u>	<u>Kimberly</u>	<u>Combined Locks</u>	<u>Darboy</u>
January 2018	83,358	88,512	34,420	19,362	67,661
February 2018	75,247	76,661	46,699	17,352	64,259
March 2018	87,606	81,400	46,292	17,857	69,552
April 2018	111,405	107,553	56,921	19,377	71,170
May 2018	114,432	102,670	42,942	21,259	76,640
June 2018	98,473	100,978	41,828	17,830	72,107
July 2018					
August 2018					
September 2018					
October 2018					
November 2018					
December 2018					

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



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





# HEART OF THE VALLEY METROPOLITAN SEWERAGE DISTRICT

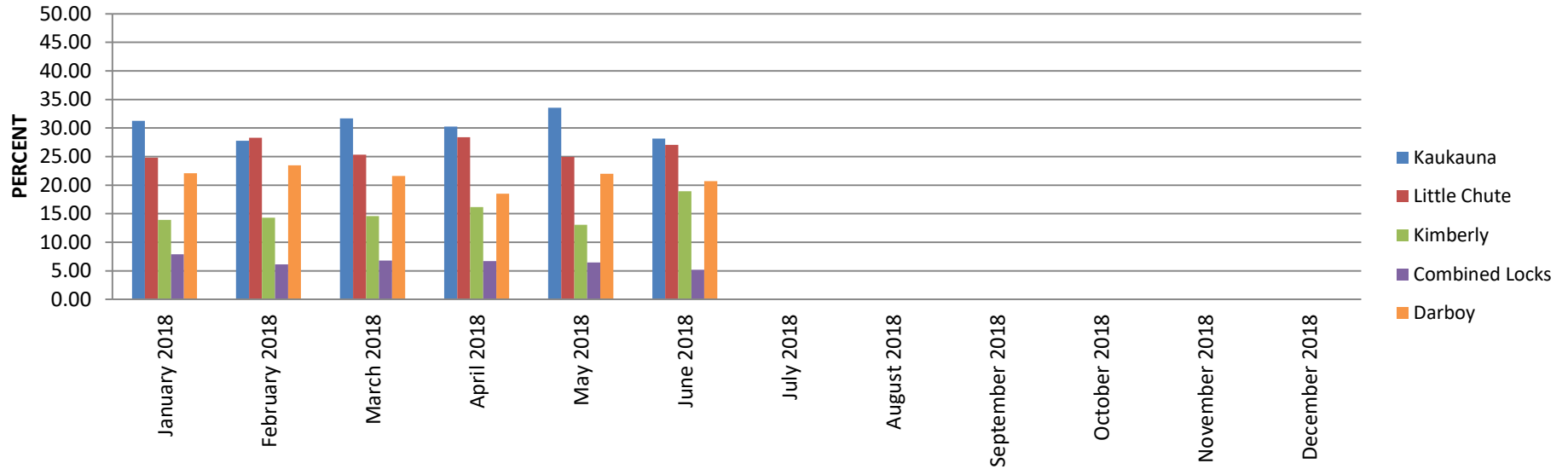
## % CONTRIBUTION BY COMMUNITY -TOTAL SUSPENDED SOLIDS POUNDS

	<u>Kaukauna</u>	<u>Little Chute</u>	<u>Kimberly</u>	<u>Combined Locks</u>	<u>Darboy</u>
January 2018	31.24	24.81	13.94	7.91	22.10
February 2018	27.78	28.30	14.32	6.15	23.45
March 2018	31.67	25.34	14.58	6.82	21.59
April 2018	30.25	28.41	16.15	6.69	18.50
May 2018	33.55	24.96	13.05	6.47	21.97
June 2018	28.17	27.07	18.93	5.16	20.68
July 2018					
August 2018					
September 2018					
October 2018					
November 2018					
December 2018					

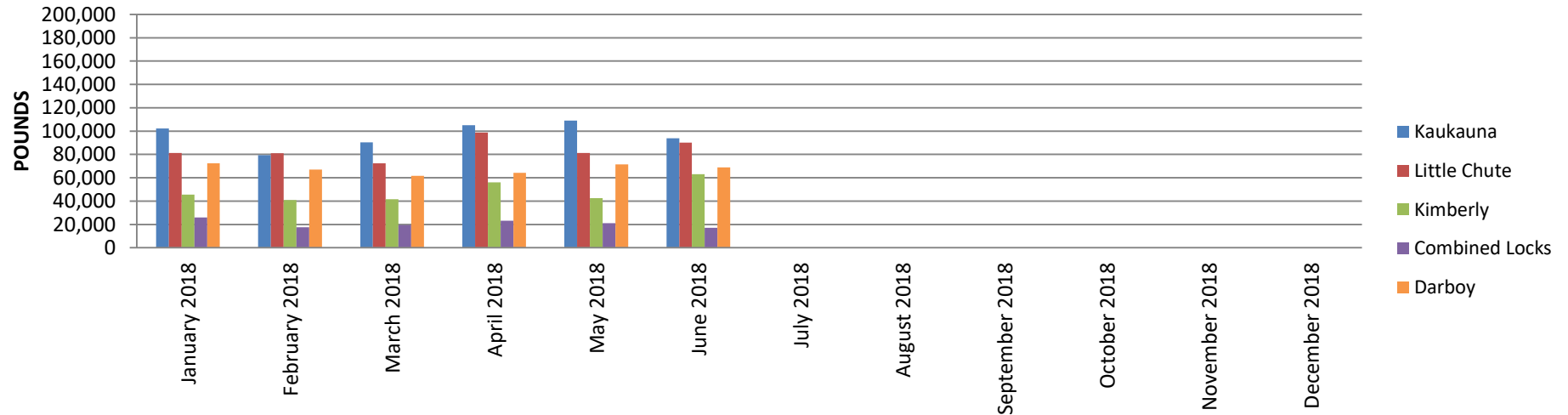
## POUNDS CONTRIBUTION BY COMMUNITY - TOTAL SUSPENDED SOLIDS POUNDS

	<u>Kaukauna</u>	<u>Little Chute</u>	<u>Kimberly</u>	<u>Combined Locks</u>	<u>Darboy</u>
January 2018	102,297	81,227	45,639	25,895	72,372
February 2018	79,448	80,940	40,972	17,598	67,074
March 2018	90,343	72,301	41,602	19,470	61,582
April 2018	105,064	98,675	56,092	23,255	64,262
May 2018	109,090	81,176	42,441	21,055	71,429
June 2018	93,869	90,208	63,100	17,186	68,913
July 2018					
August 2018					
September 2018					
October 2018					
November 2018					
December 2018					

## % CONTRIBUTION BY COMMUNITY -TOTAL SUSPENDED SOLIDS POUNDS



## POUNDS CONTRIBUTION BY COMMUNITY - TOTAL SUSPENDED SOLIDS POUNDS



# HEART OF THE VALLEY METROPOLITAN SEWERAGE DISTRICT

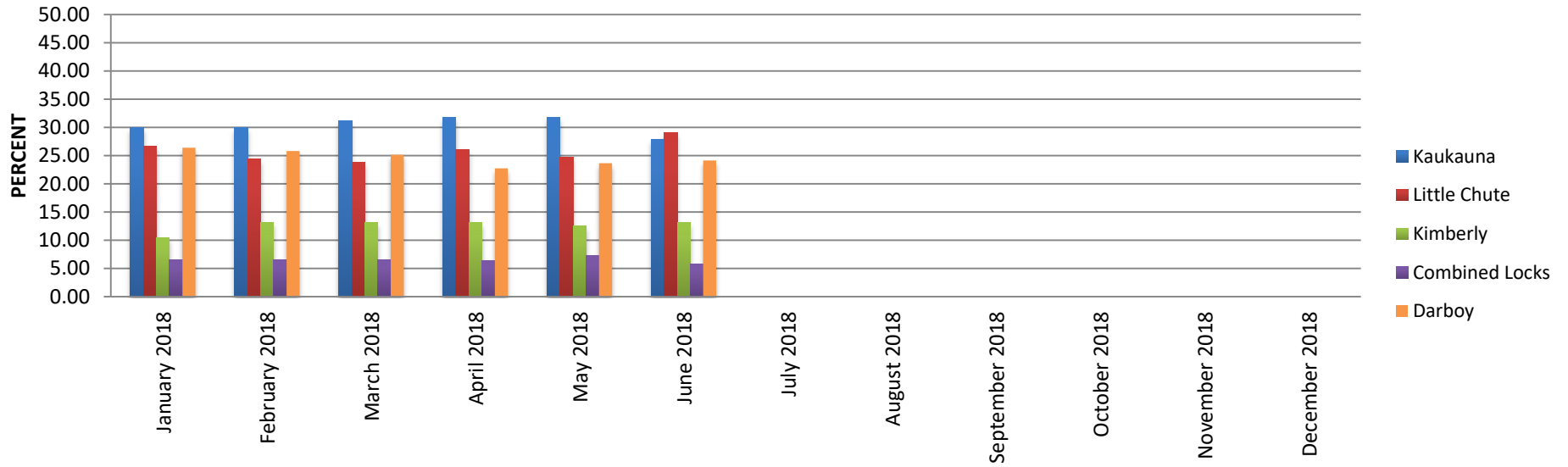
## % CONTRIBUTION BY COMMUNITY - PHOSPHORUS POUNDS

	<u>Kaukauna</u>	<u>Little Chute</u>	<u>Kimberly</u>	<u>Combined Locks</u>	<u>Darboy</u>
January 2018	29.96	26.61	10.44	6.60	26.40
February 2018	29.98	24.42	13.22	6.58	25.80
March 2018	31.22	23.87	13.16	6.59	25.16
April 2018	31.70	26.02	13.19	6.36	22.73
May 2018	31.84	24.70	12.59	7.24	23.63
June 2018	27.89	29.06	13.08	5.83	24.13
July 2018					
August 2018					
September 2018					
October 2018					
November 2018					
December 2018					

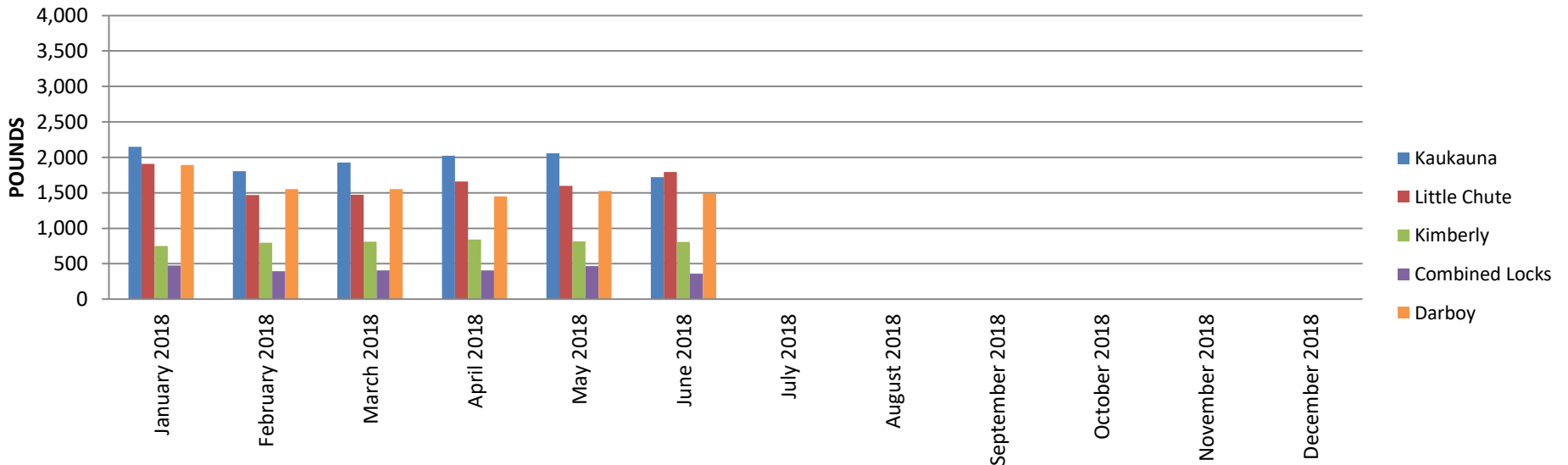
## POUNDS CONTRIBUTION BY COMMUNITY - PHOSPHORUS POUNDS

	<u>Kaukauna</u>	<u>Little Chute</u>	<u>Kimberly</u>	<u>Combined Locks</u>	<u>Darboy</u>
January 2018	2,150	1,910	749	474	1,895
February 2018	1,805	1,470	796	396	1,553
March 2018	1,927	1,474	812	407	1,553
April 2018	2,021	1,659	841	406	1,449
May 2018	2,058	1,597	814	468	1,527
June 2018	1,722	1,794	808	360	1,490
July 2018					
August 2018					
September 2018					
October 2018					
November 2018					
December 2018					

## % CONTRIBUTION BY COMMUNITY - PHOSPHORUS POUNDS



## POUNDS CONTRIBUTION BY COMMUNITY - PHOSPHORUS POUNDS



# HEART OF THE VALLEY METROPOLITAN SEWERAGE DISTRICT

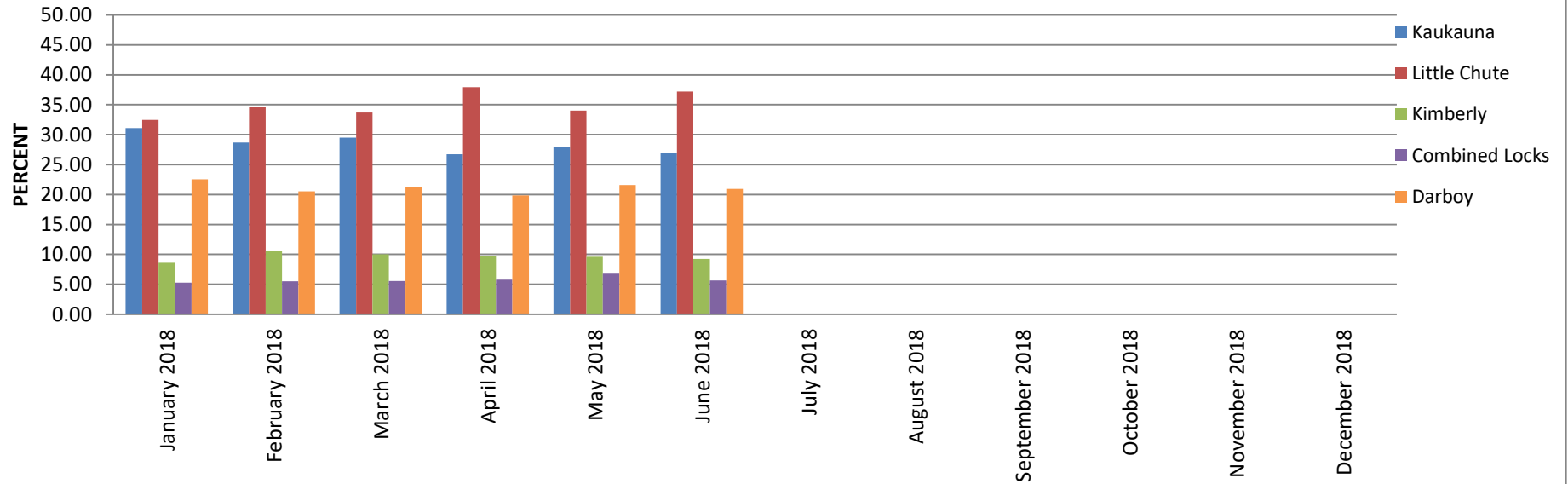
## % CONTRIBUTION BY COMMUNITY - AMMONIA POUNDS

	<u>Kaukauna</u>	<u>Little Chute</u>	<u>Kimberly</u>	<u>Combined Locks</u>	<u>Darboy</u>
January 2018	31.10	32.48	8.61	5.26	22.55
February 2018	28.69	34.71	10.57	5.49	20.54
March 2018	29.51	33.70	10.03	5.56	21.20
April 2018	26.73	37.94	9.69	5.78	19.86
May 2018	27.95	34.00	9.58	6.91	21.56
June 2018	26.98	37.22	9.23	5.64	20.93
July 2018					
August 2018					
September 2018					
October 2018					
November 2018					
December 2018					

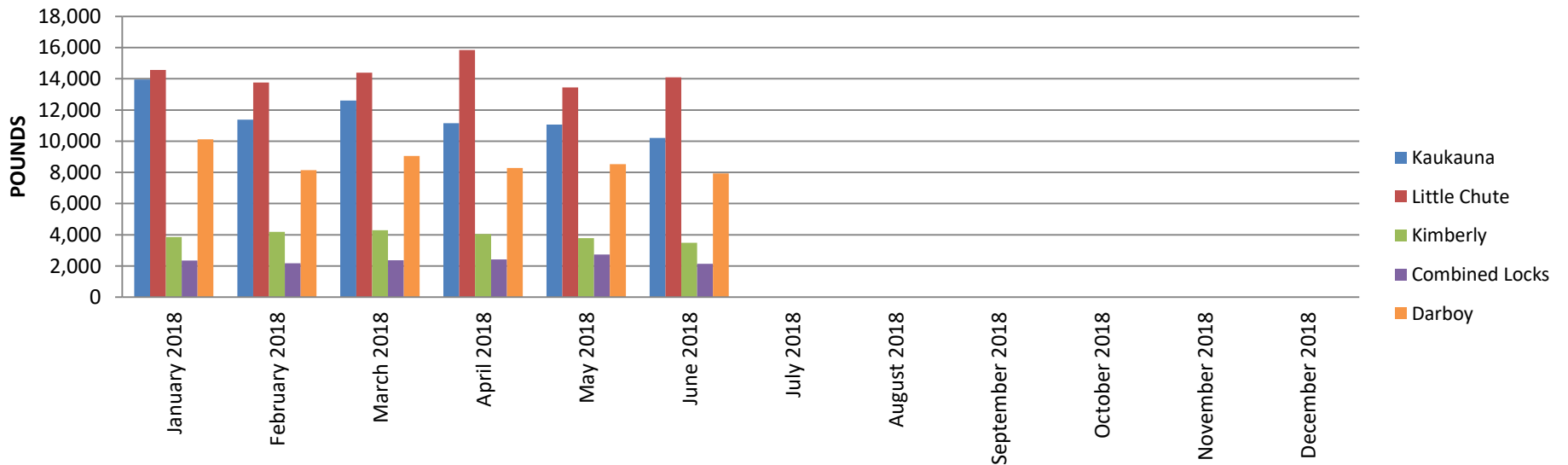
## POUNDS CONTRIBUTION BY COMMUNITY - AMMONIA POUNDS

	<u>Kaukauna</u>	<u>Little Chute</u>	<u>Kimberly</u>	<u>Combined Locks</u>	<u>Darboy</u>
January 2018	13,947	14,563	3,860	2,358	10,111
February 2018	11,375	13,761	4,191	2,176	8,142
March 2018	12,606	14,396	4,286	2,373	9,054
April 2018	11,159	15,835	4,044	2,413	8,291
May 2018	11,061	13,452	3,793	2,734	8,530
June 2018	10,214	14,092	3,496	2,137	7,925
July 2018					
August 2018					
September 2018					
October 2018					
November 2018					
December 2018					

## % CONTRIBUTION BY COMMUNITY - AMMONIA POUNDS



## POUNDS CONTRIBUTION BY COMMUNITY - AMMONIA POUNDS



# HEART OF THE VALLEY METROPOLITAN SEWERAGE DISTRICT

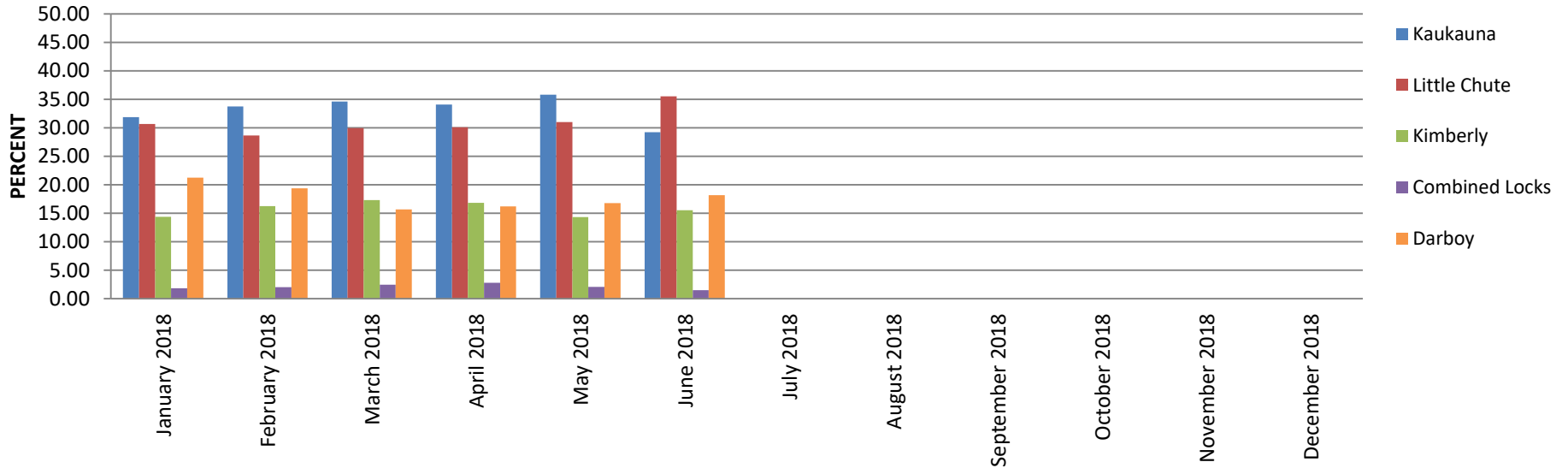
## % CONTRIBUTION BY COMMUNITY - CHLORIDE POUNDS

	<u>Kaukauna</u>	<u>Little Chute</u>	<u>Kimberly</u>	<u>Combined Locks</u>	<u>Darboy</u>
January 2018	31.85	30.69	14.39	1.82	21.26
February 2018	33.73	28.65	16.24	2.03	19.36
March 2018	34.62	29.96	17.30	2.45	15.66
April 2018	34.09	30.08	16.81	2.81	16.21
May 2018	35.79	31.00	14.35	2.07	16.79
June 2018	29.25	35.52	15.54	1.49	18.20
July 2018					
August 2018					
September 2018					
October 2018					
November 2018					
December 2018					

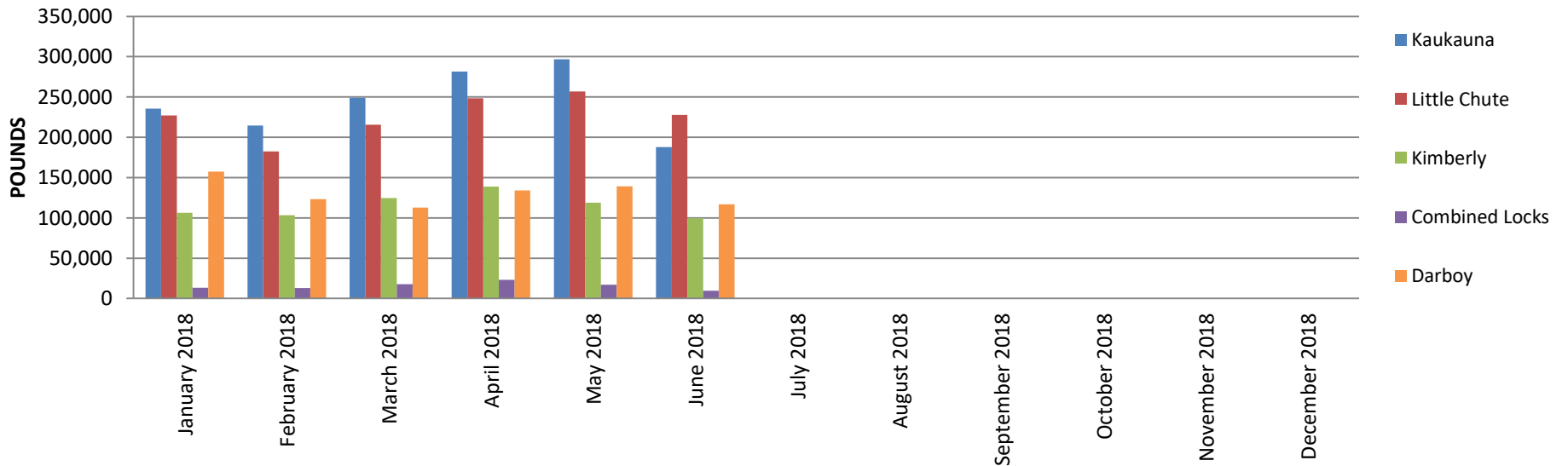
## POUNDS CONTRIBUTION BY COMMUNITY - CHLORIDE POUNDS

	<u>Kaukauna</u>	<u>Little Chute</u>	<u>Kimberly</u>	<u>Combined Locks</u>	<u>Darboy</u>
January 2018	235,615	226,992	106,418	13,443	157,237
February 2018	214,675	182,327	103,385	12,914	123,204
March 2018	249,175	215,698	124,537	17,668	112,756
April 2018	281,686	248,544	138,915	23,201	133,966
May 2018	296,681	256,956	118,993	17,174	139,138
June 2018	187,710	227,900	99,728	9,568	116,752
July 2018					
August 2018					
September 2018					
October 2018					
November 2018					
December 2018					

## % CONTRIBUTION BY COMMUNITY - CHLORIDE POUNDS



## POUNDS CONTRIBUTION BY COMMUNITY - CHLORIDE POUNDS





**DISTRICT DIRECTOR:**

Brian M. Helminger

**SERVING:**

Combined Locks  
 Kaukauna  
 Kimberly  
 Little Chute  
 Darboy S.D.

**COMMISSIONERS:**

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

**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:** June**Year:** 2018

## Gallons of Final Effluent Purchased (Billing)

<u>Date</u>	<u>Gallons</u>	<u>Date</u>	<u>Gallons</u>
6/1/2018	3,724,000	6/21/2018	3,478,000
6/2/2018	2,903,000	6/22/2018	3,581,000
6/3/2018	2,777,000	6/23/2018	3,097,000
6/4/2018	2,841,000	6/24/2018	3,083,000
6/5/2018	3,044,000	6/25/2018	2,991,000
6/6/2018	3,240,000	6/26/2018	3,015,000
6/7/2018	2,950,000	6/27/2018	3,167,000
6/8/2018	2,644,000	6/28/2018	3,202,000
6/9/2018	2,848,000	6/29/2018	3,175,000
6/10/2018	2,949,000	6/30/2018	3,476,000
6/11/2018	2,950,000		
6/12/2018	3,610,000		
6/13/2018	3,911,000		
6/14/2018	3,929,000		
6/15/2018	3,023,000		
6/16/2018	2,880,000		
6/17/2018	2,960,000		
6/18/2018	2,400,000		
6/19/2018	2,844,000		
6/20/2018	2,992,000		
		<b>Total:</b>	<b>93,684,000</b>

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

**Attn:** Account # N2310E

## **MONTHLY BILLING**

**Month:** June

**Year:** 2018

**GALLONS PURCHASED:** 93,684,000

**BILLING RATE:** \$0.1532146 PER 1000 GALLONS

**TOTAL AMOUNT DUE: \$14,353.76**

**Heart of the Valley  
Metropolitan Sewerage District**

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

**2018**

**Final Effluent Sent to Fox Energy Facility**

**Gallons: 398,914,000**

**Charge Per 1000 Gallons: \$0.1532146 Per 1000 Gallons**

**Sale of Final Effluent (Revenue Collected): \$61,119.45**