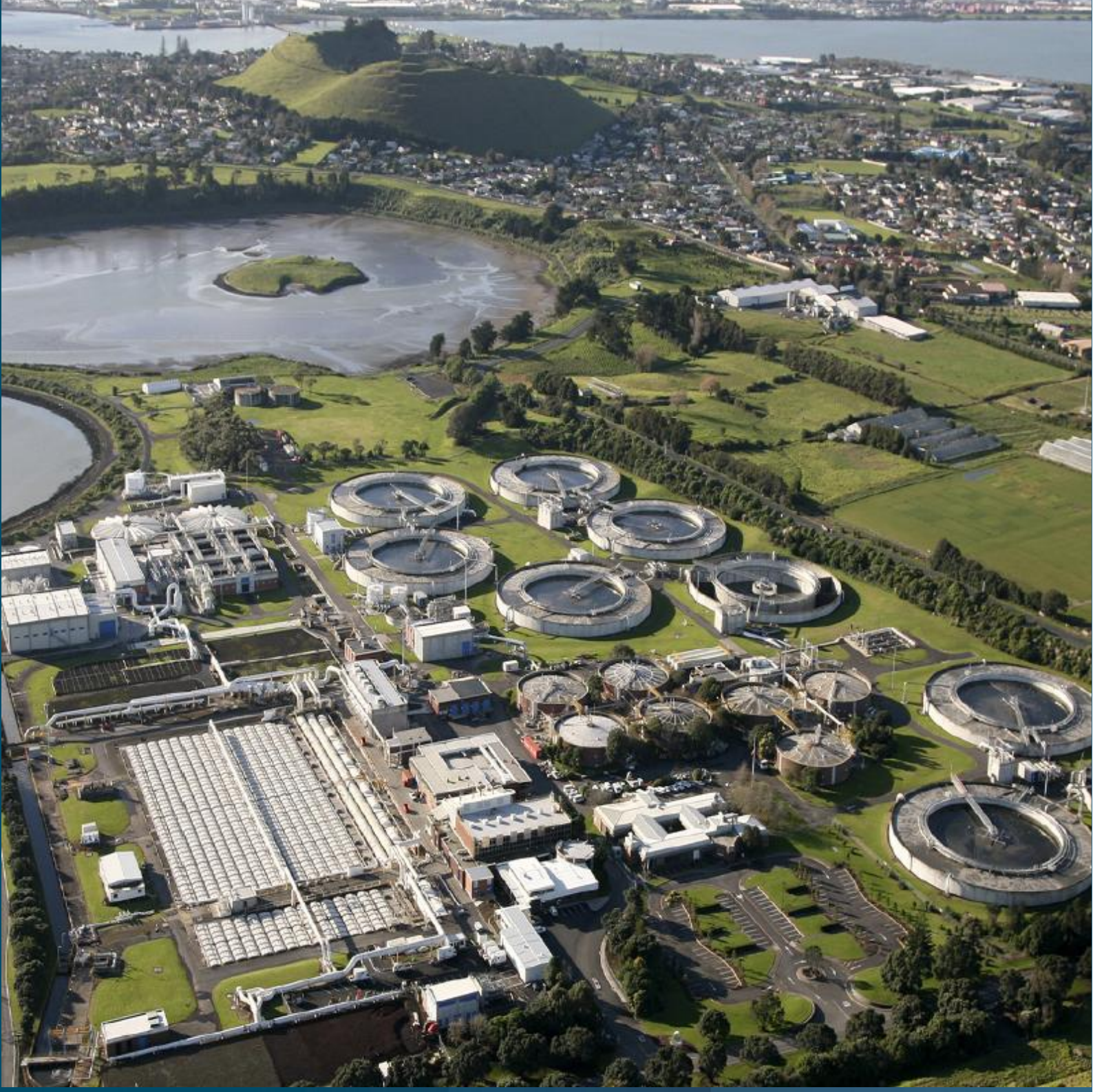


Quarterly Summary

Māngere Wastewater Treatment Plant

Reporting period: December 2025 – February 2026

Issue Date: 10 March 2026

Watercare

Executive Summary

This quarterly summary provides the consent-required monitoring data for Māngere Wastewater Treatment Plant (WWTP) for the period of December 2025 to February 2026.

Over the New Year period the roof on Digester 3 failed and the digester is currently operating at reduced capacity. Repairs are currently being planned and are scheduled to start in late March. Digester 8 continues to be out of service for upgrades. In order to closely monitor the health of the remaining digesters over this period, sampling frequency for digester health parameters has increased from every 2 days to daily.

In December 2025, a period of unsettled weather at the start of the month caused high solids carry over within the secondary treated effluent. The combination of increased flow rate and solids concentration at the UV plant resulted in reduced UV application. As a result of this event the site achieved an applied UV dose rate above 35 mWs/cm^2 for 98.65% of measurements; below the 99% requirement of Condition 25(2).

In addition, three separate incidents this quarter triggered reactive shellfish monitoring in accordance with Special Condition 25(6) of Consent 30083; two events relating to low-applied UV in non-bypass channels (December and January), and one incident that resulted in a partial bypass at the screens inlet (January). Results have been received and were all less than detection limit for both enterovirus or adenovirus on each occassion.

There were no non-compliances with Trade Waste Agreements or other contaminant issues identified through the trade waste monitoring programme that impacted on operations at Māngere WWTP, or that otherwise lead to adverse effects on the Manukau Harbour, over this quarter.

Midge control via chain dragging continued weekly over the period in accordance with the summer schedule. Weekly entomologist monitoring also continued throughout. Fluctuations have been observed in midge numbers, with sharp increases, particularly around the intertidal storage basin, during periods of warm settled weather; nonetheless, overall numbers remain low in comparison to previous years and no midge-related complaints were received.

Four odour-related complaints were received in late February, with an additional complaint received early March (outside of this quarerly period). Three separate residents from the Mangere Bridge area made the complaints alleging odour from the WWTP. Investigations found no issues or ongoing maintenance at the plant that could have contributed odour. Weekly onsite monitoring over this time also did not detect any significant changes in odour around the plant. Nonetheless, with the addresses being roughly north of the plant, and a predominant SE-SW wind direction over the period, the WWTP cannot be excluded as a potential source of the odour. Investigations are ongoing, including inspections of nearby network and transmission lines, and increased community odour scouting.

27,771 tonnes of biosolids material was placed at the Puketutu Biosolids Facility during this quarter. The total storage capacity is estimated at four million tonnes, and the facility is currently at approximately 58% of capacity.

Table of Contents

1 COMPLIANCE REPORT

M-15 final effluent quality results

Table 1-1: Quarterly final effluent quality summary in relation to requirements of Consent 30083.

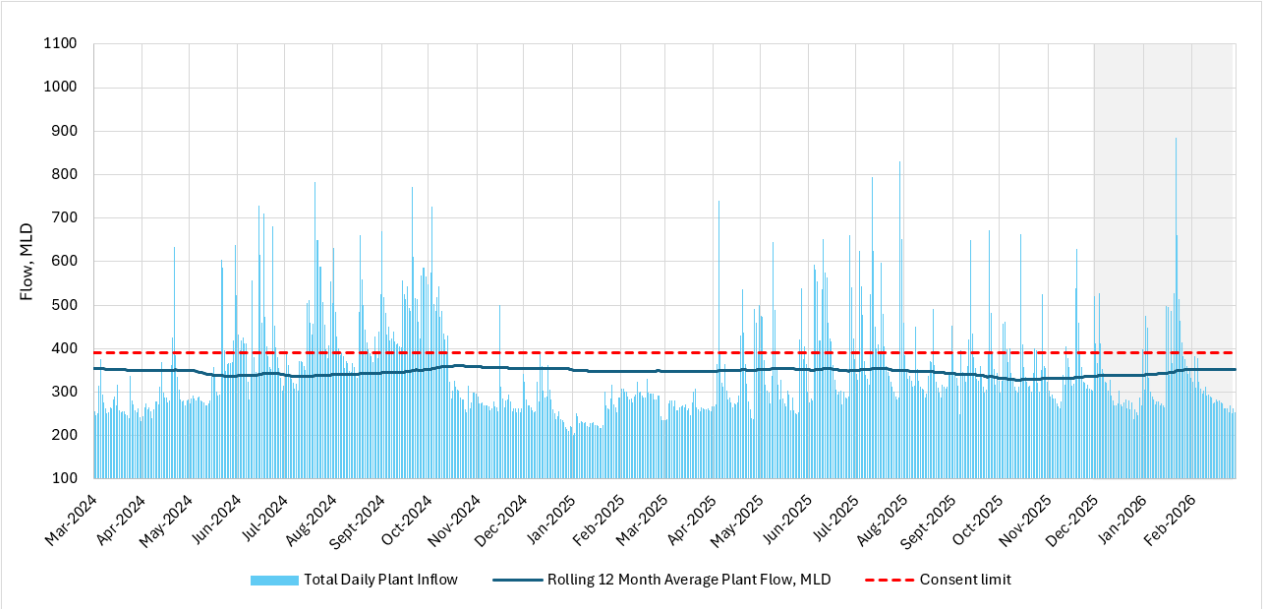
PARAMETER	DEC-25	JAN-26	FEB-26		COMPLIANCE
					MONTHLY MEAN
BOD (g/m^3)	2.1	2.5	1.5	<	15
NFR (g/m^3)	4.7	5.0	4.1	<	15
Total Petroleum Hydrocarbon (g/m^3)	0.3	0.3	0.3	<	0.5
Ammoniacal Nitrogen (g/m^3)	0.3	0.5	0.2	<	3[(a)]
Total Nitrogen (g/m^3)	7.2	6.7	6.5	<	9.5[(b)]
Reactive Phosphorus (g/m^3)	1.7	2.2	1.5	<	9
Dissolved Oxygen, %saturation	101	97	105	>	80%
					MONTHLY MAXIMUM
BOD (g/m^3)	7.7	10.0	2.4	<	50
pH	7.7	7.8	7.7	<	9
Ammoniacal Nitrogen (g/m^3)	1.2	4.5	1.7	<	6[(a)]
					MONTHLY MINIMUM
pH	7.0	7.0	7.2	>	6.5
					95%TILE OVER THREE DISCRETE MONTHS
BOD (g/m^3)	6.3			<	30
NFR (g/m^3)	8.7			<	30
					MONTHLY % UV MEASUREMENT
UV Dose Applied % Measurement	98.65	99.32	99.81	>	99.00

Notes: The low applied UV dose for December is a result of high solids carry over in the secondary treated effluent during the wet weather event of 3 and 4 December, further details of this event are provided in Section 2.

(a) Ammoniacal Nitrogen limits for the period of December-March inclusive. For April-November inclusive, the limits are 5 g/m^3 for monthly mean and 15 g/m^3 for monthly maximum.

(b) Total Nitrogen limit for the period of December-March inclusive. For April-November inclusive, the limit is 35 g/m^3.

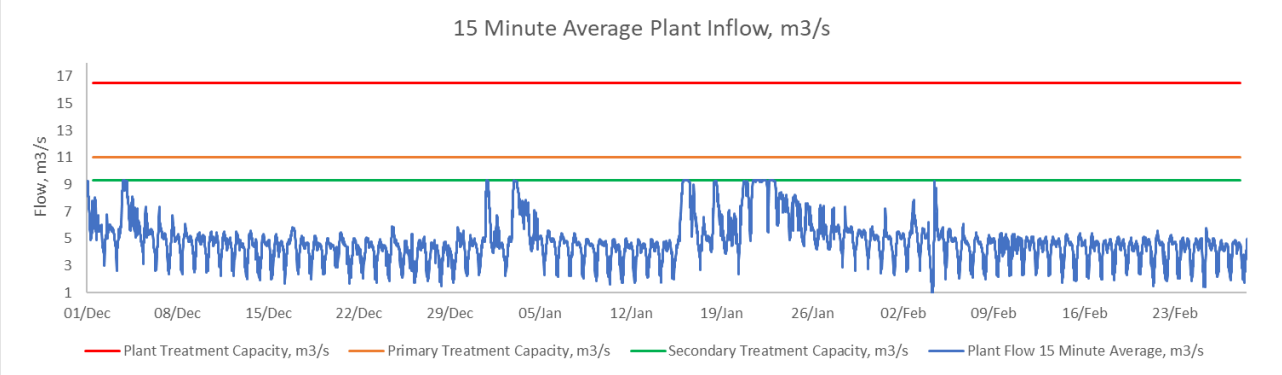
Rolling 12 months average daily plant inflow



2 OPERATIONS REPORT

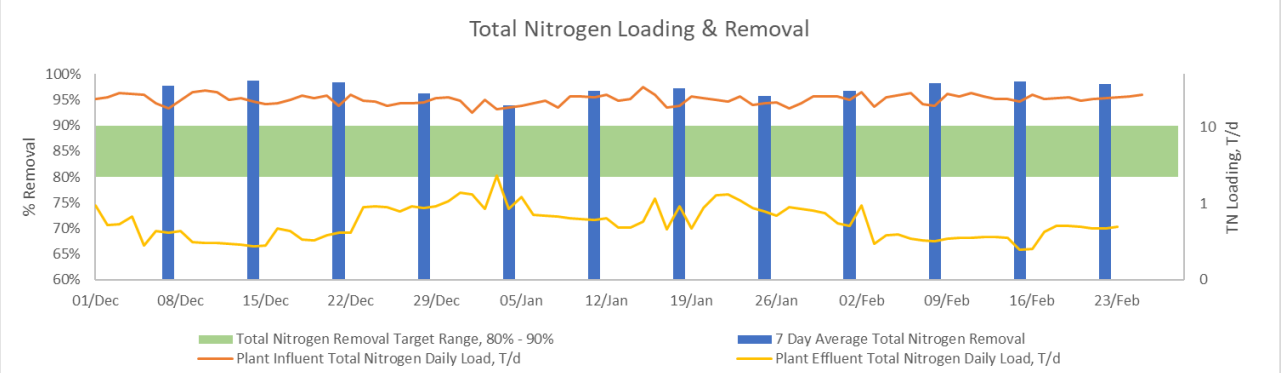
Liquid Process

15-minute interval plant flow



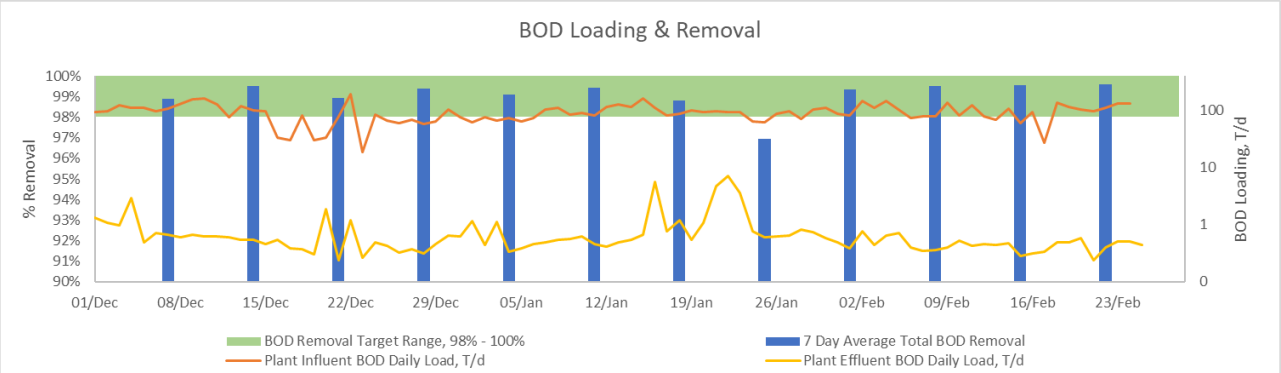
There were seven RC Filter bypass events during this quarter. Please refer to the detailed information in the high flow diversion table. Secondary Treatment Capacity set point was 9.3 m^3/s over this quarter.

Total Nitrogen removal and loading



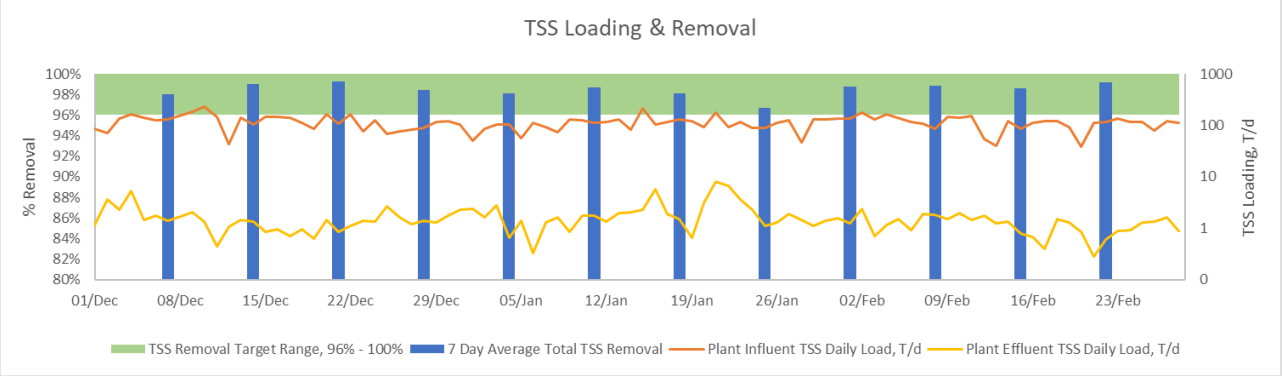
Please note logarithmic scale on secondary vertical axis (Loading, T/d).

BOD removal and loading



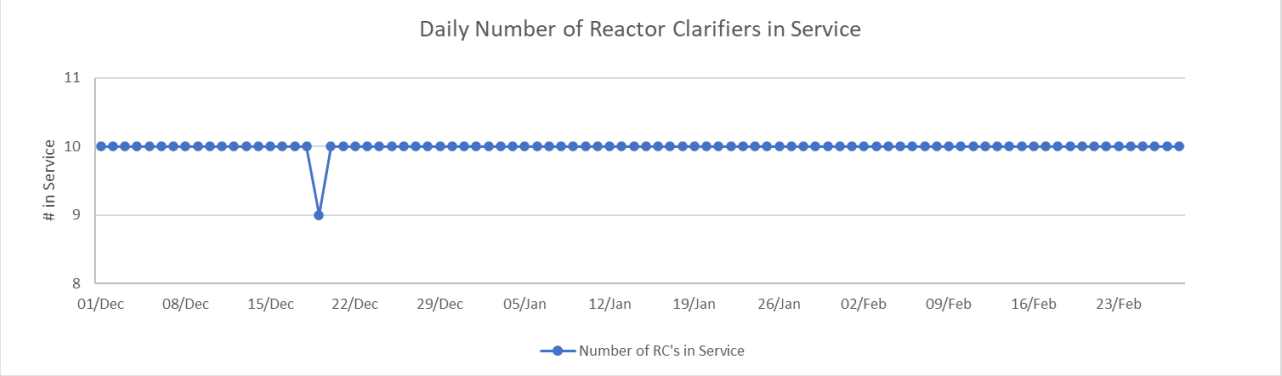
Please note logarithmic scale on secondary vertical axis (Loading, T/d). A bypass event over the week of 19 January resulted in a 7-day average BOD removal rate lower than target range.

TSS removal and loading



Please note logarithmic scale on secondary vertical axis (Loading, T/d).

Number of Reactor Clarifiers in service



Reactor-Clarifier has been out of service for overhaul since November 2025. RC10 was briefly taken out of service on 19 December for minor repairs.

UV based virus monitoring

Monitoring of enterovirus in shellfish samples is required in accordance with Special Condition 25(6) of Consent 30083 if one of the following conditions are triggered:

- Two consecutive exceedances of 80 cfu/100 mL for enterococci indicator bacteria (i.e., when no high flow diversion is occurring), measured twice daily in the UV effluent;
- Maximum UV dose is being applied to high flow diversion flows (> 9 m^3/s) in accordance with required levels, but the applied UV dose is less than 35 mWs/cm^2 for more than 2 hours in non-high flow diversion channels; or
- In the event that effluent from the WWTP has not been subjected to the appropriate UV dose.

Three such incidents occurred throughout this quarterly reporting period; these are explained in Table 2-1.

Table 2-1: Shellfish sampling triggered by Special Condition 25(6) for this quarterly reporting period.

Date of Event	Trigger for shellfish collection/ Cause of event	Day Two Shellfish Sampling results	Week Two Shellfish Sampling results
3-Dec-25	UV applied dose rate at the Mangere WWTP was below the consent limit of 35 mWs/cm2 for greater than 2 hours between approximately 8pm on 3 December and 4am on 4 December. This was due to a combination of solids carry over during a secondary bypass event and UV Channel #5 being out of service for maintenance, restricting the number of treatment channels available. The low dose rate impacted all channels at the UV plant (bypass and non-bypass).	16 Dec 2025 (Lab Ref: 251217-135) Enterovirus: all <1.0 pfu/10g ww Adenovirus: all <4.0 MPN/100g ww	N/A
16-Jan-26	UV applied dose rate at the Mangere WWTP was below the consent limit of 35 mWs/cm2 for greater than 2 hours between approximately 1 and 6am on 16 January. This was due to a combination of solids carry over during a secondary bypass event and UV Channel #2 being out of service, restricting the number of treatment channels available. The low dose rate impacted all channels at the UV plant (bypass and non-bypass).	21 Jan 2026 (Lab Ref: 260121-111) Enterovirus: all <1.0 pfu/10g ww Adenovirus: all <4.0 MPN/100g ww	N/A
22-Jan-26	A valve issue on the hydraulic line for the inlet penstocks to the screens resulted in an emergency plant bypass of approximately 396.56 m^3 of untreated influent intermittently between approximately 11:48 am and 3:17pm. The bypass volume is directed to an underground bypass channel that flows toward the final effluent channel. There was approximately 2,599 m3 of treated final effluent within the bypass channel at the time and bypass return pumps were operating continuously during this period to transfer volume from the bypass channel back to the inlet screens. It is considered unlikely that any bypassed influent made it into the final effluent channel or was discharged to the harbour.	24 Jan 2026 (Lab Ref: 260124-057) Enterovirus: all <1.0 pfu/10g ww Adenovirus: all <4.0 MPN/100g ww	N/A

Temporary warning signage was placed at the seven locations, as indicated on Figure 2-1 below, following notification of each incident. The signs remained in place until the test results were received confirming no virus was detected in the shellfish samples. In addition, a warning flag was posted on the Safeswim website, as per Figure 2-2.

Figure 2-1: Example and locations of shellfish warning signage put out in response to plant UV incidents (yellow dots); the red dot indicates the permanent signage near the discharge.

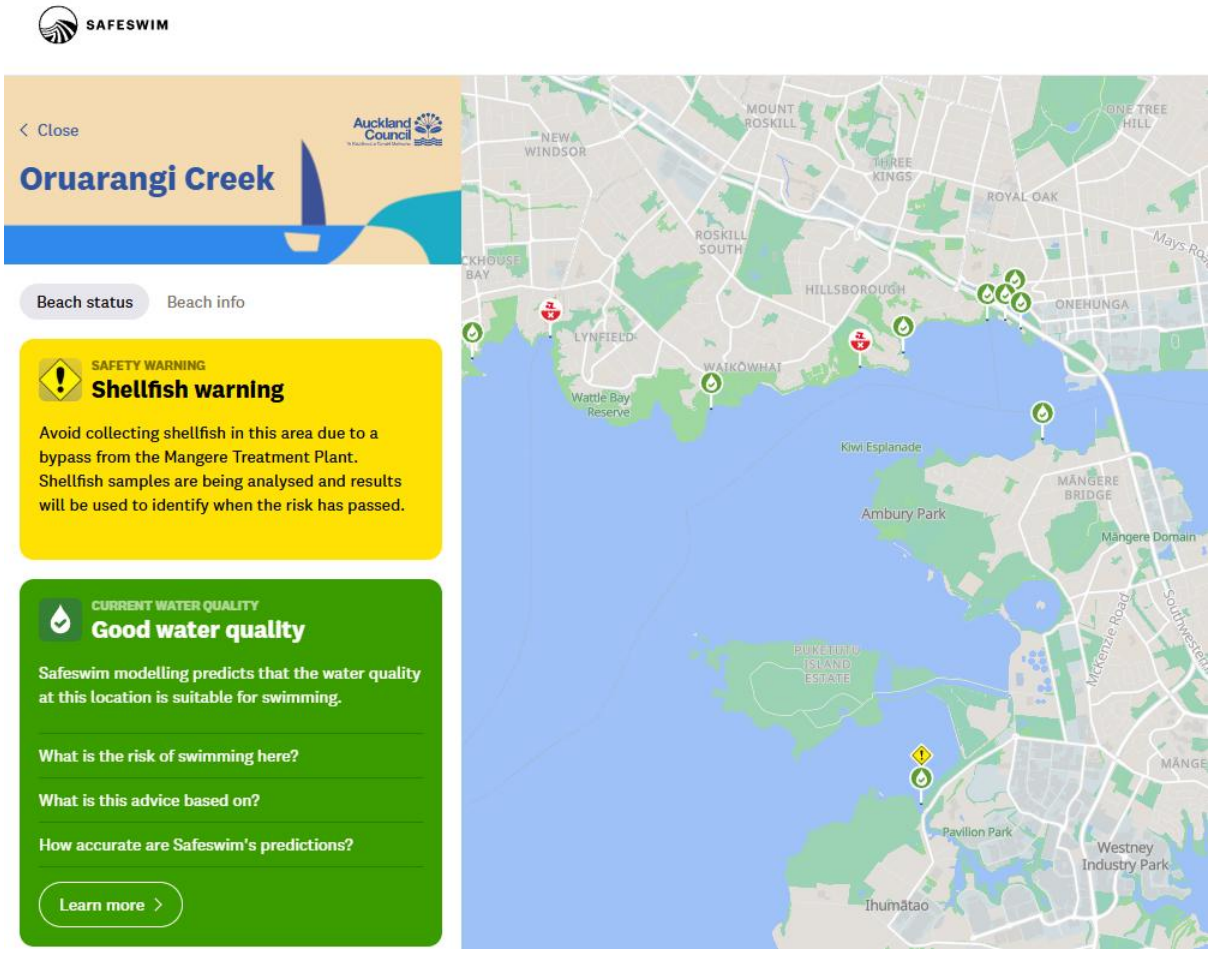


Figure 2-2: Example screenshot from the Safeswim website displaying the shellfish warning message.

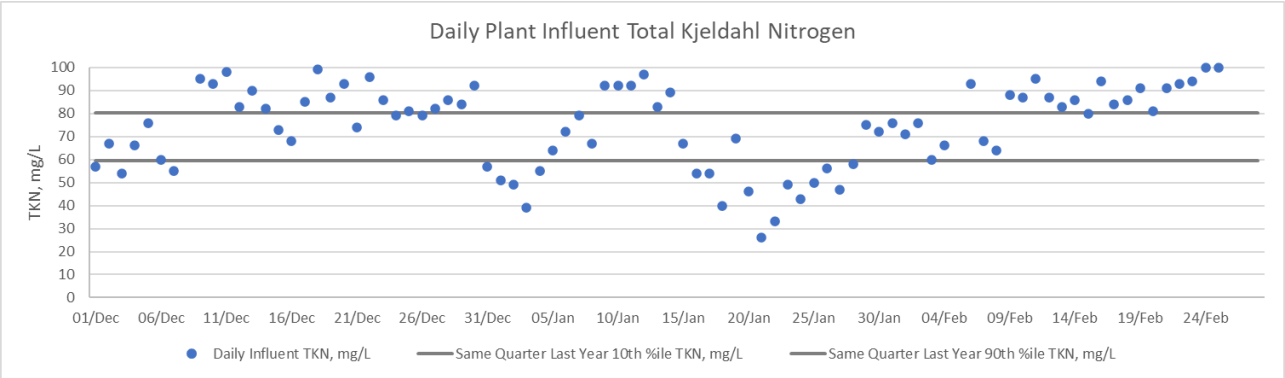
RC Filter High Flow Diversion event summary

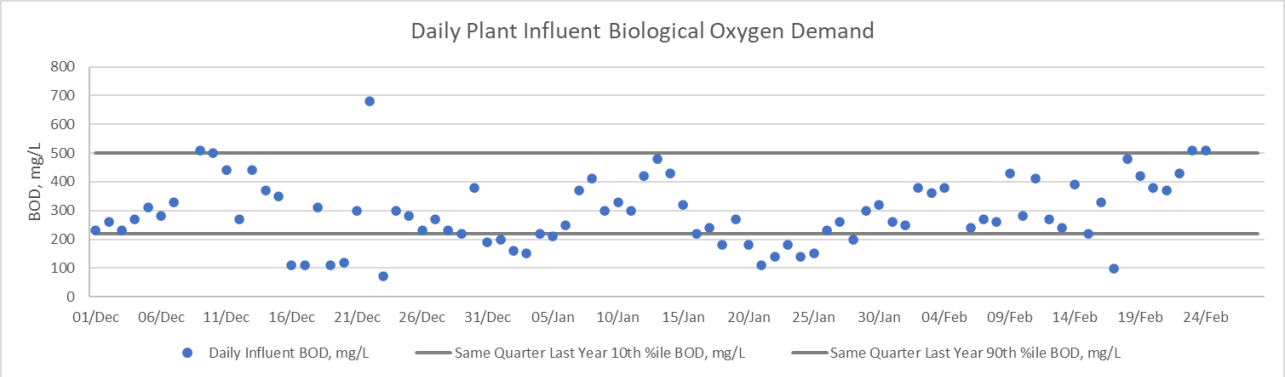
Event Number	Start Date & Time	End Date & Time	Duration	Diverted Volume (m^3)	Secondary treated volume above 9m^3/s (m^3)
#2024-12	14/06/2024 4:33	15/06/2024 8:23	27 hrs 50 mins	162,264	Data not available*
#2024-13	16/06/2024 23:36	17/06/2024 19:01	19 hrs 25 mins	92,356	Data not available*
#2024-14	23/06/2024 6:18	24/06/2024 2:29	18 hrs 11 mins	98,975	Data not available*
#2025-01	20/07/2024 1:53	21/07/2024 14:35	1 d 12 hrs 42 mins	55,118	Data not available*
#2025-02	17/08/2024 19:17	18/08/2024 0:10	4hrs 54 mins	19,872	Data not available*
#2025-03	1/09/2024 4:24	1/09/2024 16:37	12hrs 17 mins	83,052	4,773
#2025-04	20/09/2024 14:39	21/09/2024 0:35	9 hrs 54 mins	58,334	47,431
#2025-05	3/10/2024 1:39	3/10/2024 15:30	13 hrs 54 mins	66,096	21,690
#2025-06	15/11/2024 14:35	15/11/2024 21:35	7 hrs	49,233	13,374
#2025-07	4/04/2025 9:06	5/04/2025 2:31	12 hrs 52 mins	87,460	32,087
#2025-08	19/04/2025 3:43	19/04/2025 17:24	12 hrs 9 mins	113,349	16,283
#2025-09	28/04/2025 3:42	28/04/2025 12:20	2 hrs 32 mins	13,055	1,398
#2025-10	30/04/2025 11:13	30/04/2025 12:08	35 mins	2,632	1,406
#2025-11	2/05/2025 15:05	2/05/2025 19:08	3 hrs 17 mins	15,217	4,527
#2025-12	9/05/2025 16:47	10/05/2025 16:53	18 hrs 5 mins	151,573	20,225
#2025-13	27/05/2025 8:24	27/05/2025 14:48	6 hrs 24 mins	36,498	21,989
#2025-14	29/05/2025 23:18	30/05/2025 2:03	2 hrs 48 mins	4,951	4,552
#2025-15	5/06/2025 22:23	6/06/2025 13:41	15 hrs 24 mins	91,585	61,405
#2025-16	9/06/2025 10:05	9/06/2025 15:05	5 hrs	15,133	13,320
#2025-17	10/06/2025 20:53	11/06/2025 21:59	1 day 1 hr 5 mins	205,387	58,992
#2025-18	12/06/2025 9:43	12/06/2025 19:01	9 hrs 18 mins	58,763	4,626
#2025-19	27/06/2025 11:06	28/06/2025 19:30	24 hrs 24 mins	189,565	13,984
#2026-01	3/07/2025 17:00	4/07/2025 13:54	21 hrs 6 mins	136,046	14,455
#2026-02	5/07/2025 0:00	5/07/2025 15:17	15 hrs 17 mins	10,903	5,133
#2026-03	11/07/2025 14:15	12/07/2025 21:03	1 d 7 hrs 12 mins	258,196	124,158
#2026-04	17/07/2025 10:28	17/07/2025 21:00	10 hrs 33 mins	79,571	41,842
#2026-05	29/07/2025 14:28	30/07/2025 16:00	1 d 2 hrs 24 mins	201,295	173,984
#2026-06	19/08/2025 10:12	19/08/2025 10:18	6 mins	411	312
#2026-07	12/09/2025 6:11	12/09/2025 21:19	13 hrs 15 mins	95,427	14,058
#2026-08	24/09/2025 10:03	24/09/2025 23:47	11 hrs 58 mins	76,053	12,924
#2026-09	14/10/2025 9:56	14/10/2025 23:38	12 hrs 42 mins	99,177	15,545
#2026-10	24/10/2025 4:05	24/10/2025 4:18	13 mins	1,010	265
#2026-11	28/10/2025 11:13	28/10/2025 15:38	3 hrs 3 mins	13,330	3,733
#2026-12	18/11/2025 22:51	19/11/2025 21:44	19 hrs 56 mins	171,480	21,528
#2026-13	30/11/2025 18:16	1/12/2025 1:38	6 hrs 10 mins	52,285	6,660
#2026-14	3/12/2025 18:48	4/12/2025 1:31	2 hrs 54 mins	16,194	3,132
#2026-15	31/12/2025 20:57	31/12/2025 21:23	26 mins	1,932	468
#2026-16	2/01/2026 22:47	3/01/2026 4:06	5 hrs 19 mins	31,830	5,742
#2026-17	16/01/2026 0:25	16/01/2026 12:26	11 hrs 17 mins	75,031	12,181
#2026-18	18/01/2026 10:09	18/01/2026 13:54	1 hr 58 mins	8,517	2,124
#2026-19	20/01/2026 16:51	20/01/2026 21:09	1 hr 50 mins	8,401	1,980
#2026-20	21/01/2026 9:45	23/01/2026 2:45	35 hrs 43 mins	385,667	38,574

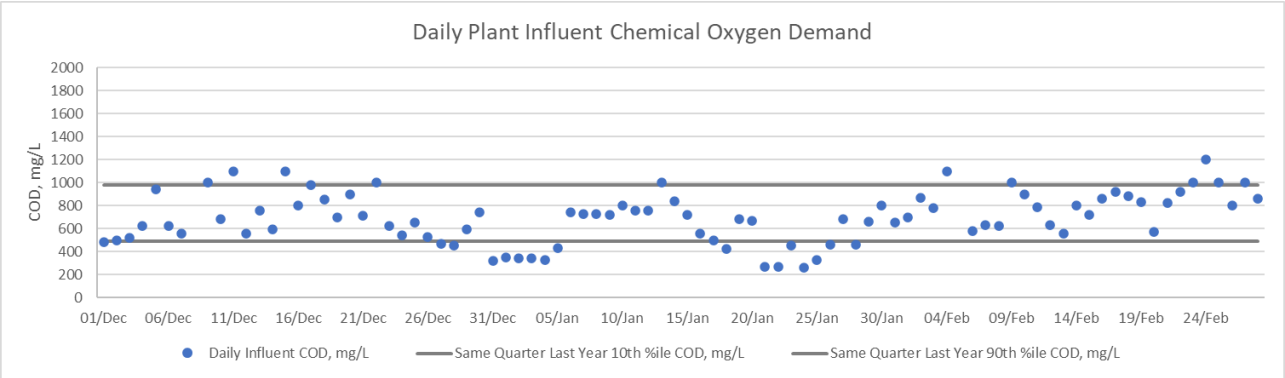
Note: High Flow Diversion event number convention follows the financial year, rather than calendar year. Grey shaded are the events from this quarter.

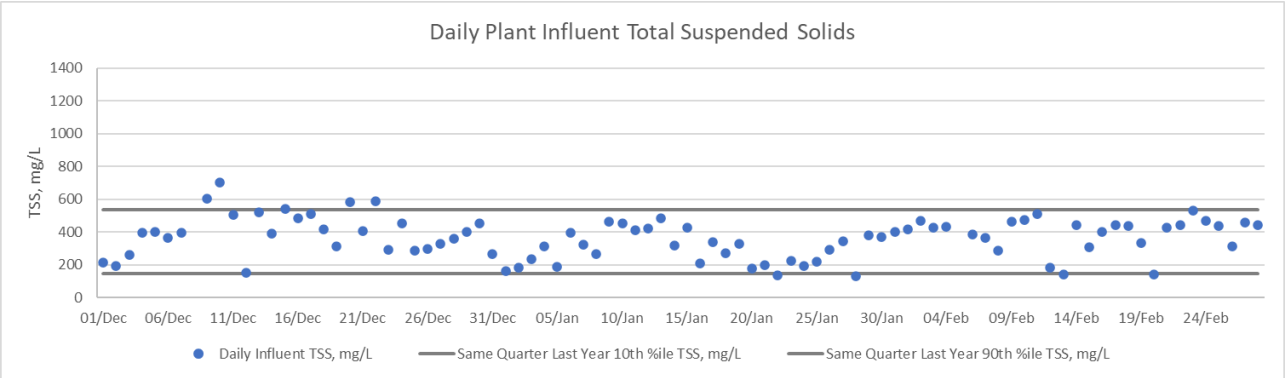
*Volume treated through secondary treatment above the required 9m^3/s started being reported from September 2024.

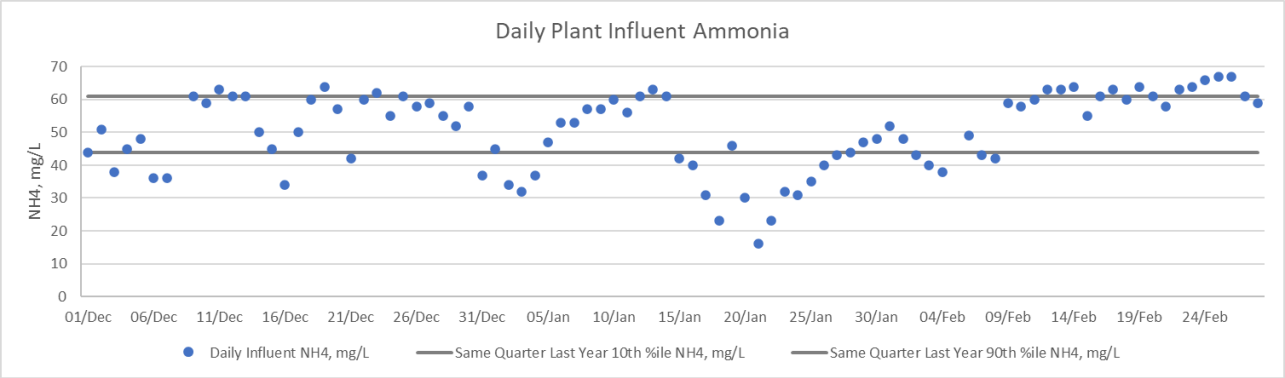
Influent chemistry monitoring

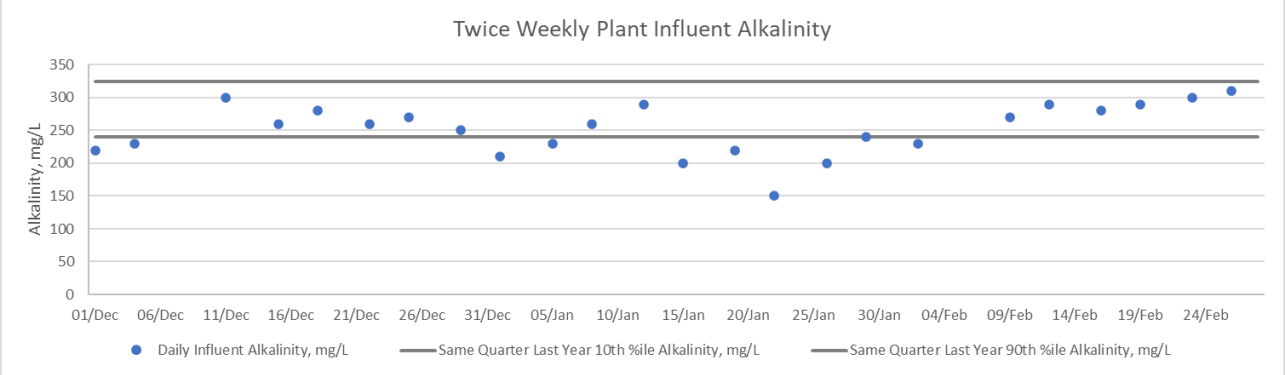


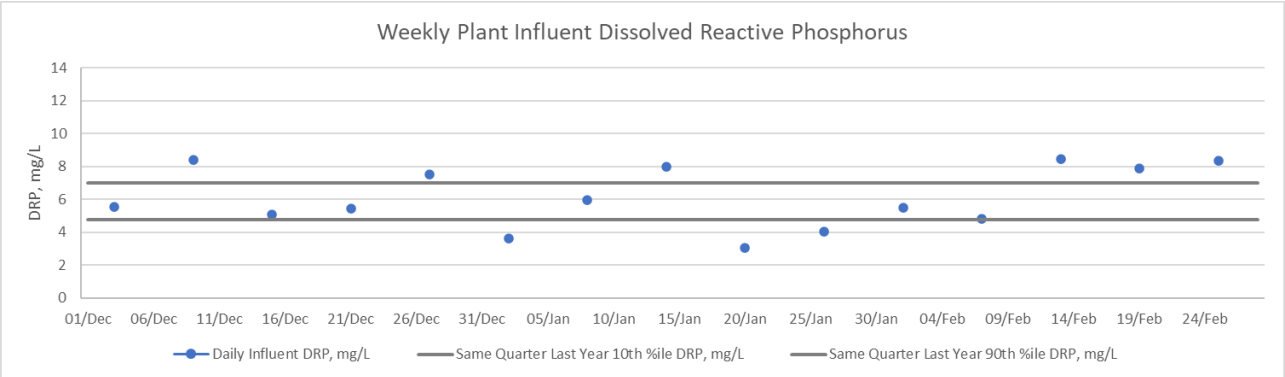






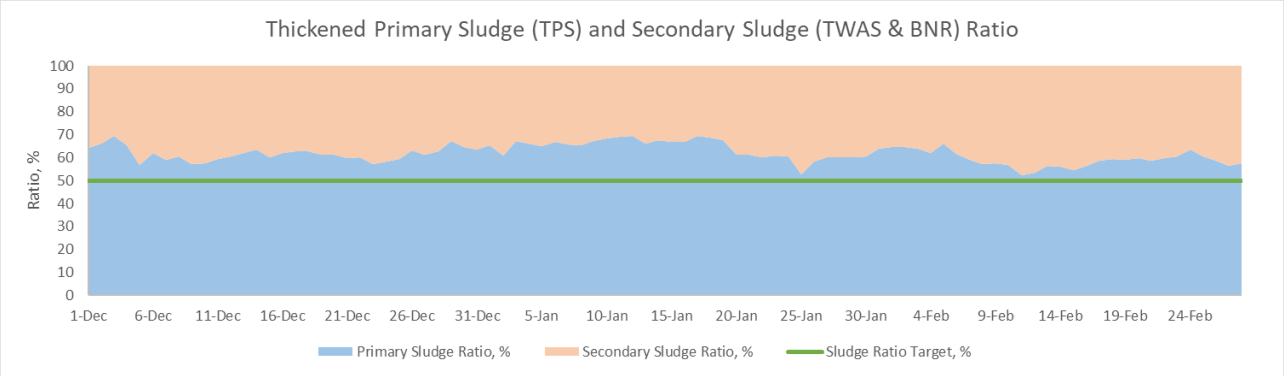

Daily Plant Influent Ammonia
NH4, mg/L
70
60
50
40
30
20
10
0
01/Dec
06/Dec
11/Dec
16/Dec
21/Dec
26/Dec
31/Dec
05/Jan
10/Jan
15/Jan
20/Jan
25/Jan
30/Jan
04/Feb
09/Feb
14/Feb
19/Feb
24/Feb
Daily Influent NH4, mg/L
Same Quarter Last Year 10th %ile NH4, mg/L
Same Quarter Last Year 90th %ile NH4, mg/L


Twice Weekly Plant Influent Alkalinity
Alkalinity, mg/L
350
300
250
200
150
100
50
0
01/Dec
06/Dec
11/Dec
16/Dec
21/Dec
26/Dec
31/Dec
05/Jan
10/Jan
15/Jan
20/Jan
25/Jan
30/Jan
04/Feb
09/Feb
14/Feb
19/Feb
24/Feb
Daily Influent Alkalinity, mg/L
Same Quarter Last Year 10th %ile Alkalinity, mg/L
Same Quarter Last Year 90th %ile Alkalinity, mg/L

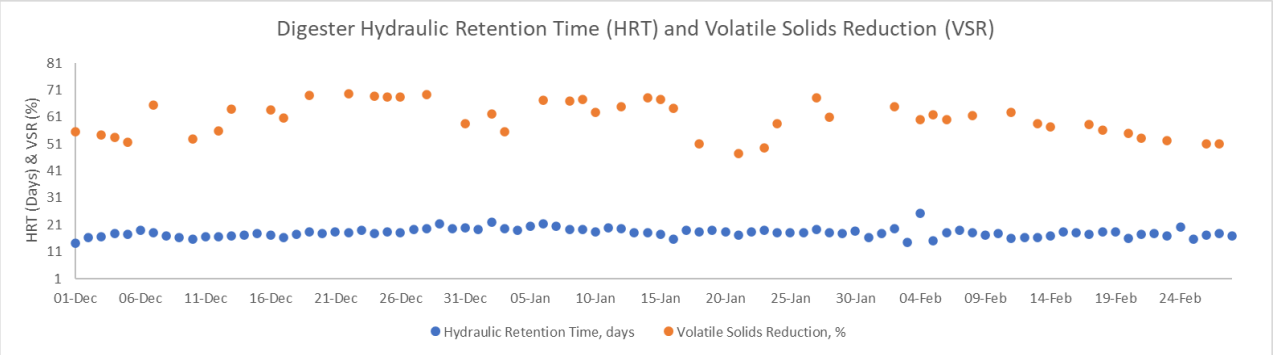

Weekly Plant Influent Dissolved Reactive Phosphorus
DRP, mg/L
14
12
10
8
6
4
2
0
01/Dec
06/Dec
11/Dec
16/Dec
21/Dec
26/Dec
31/Dec
05/Jan
10/Jan
15/Jan
20/Jan
25/Jan
30/Jan
04/Feb
09/Feb
14/Feb
19/Feb
24/Feb
Daily Influent DRP, mg/L
Same Quarter Last Year 10th %ile DRP, mg/L
Same Quarter Last Year 90th %ile DRP, mg/L

Solids Process

Primary and Secondary sludge ratio

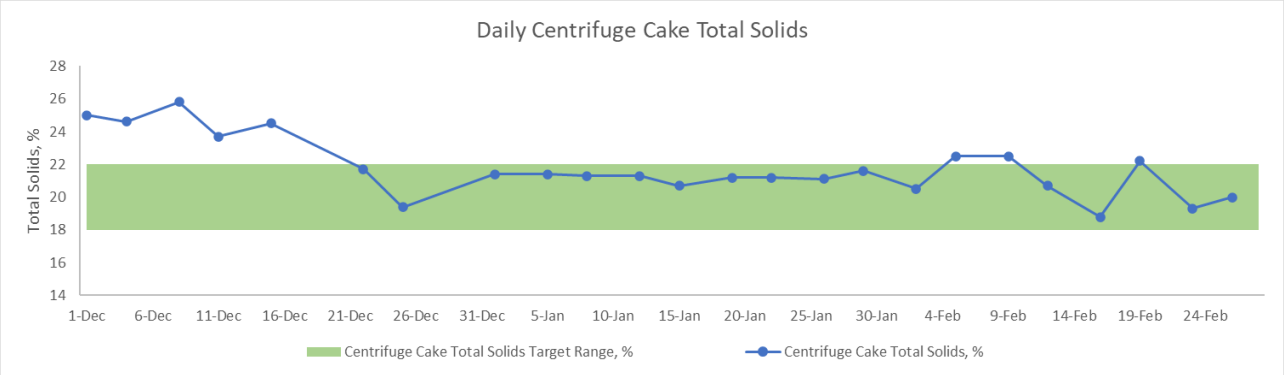


Digester performance



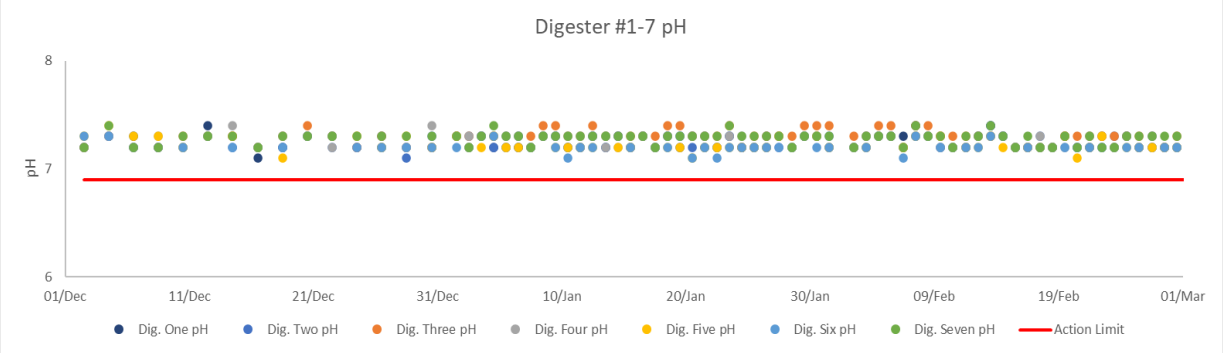
Average HRT in this quarter is 18 days.

Dewatering performance

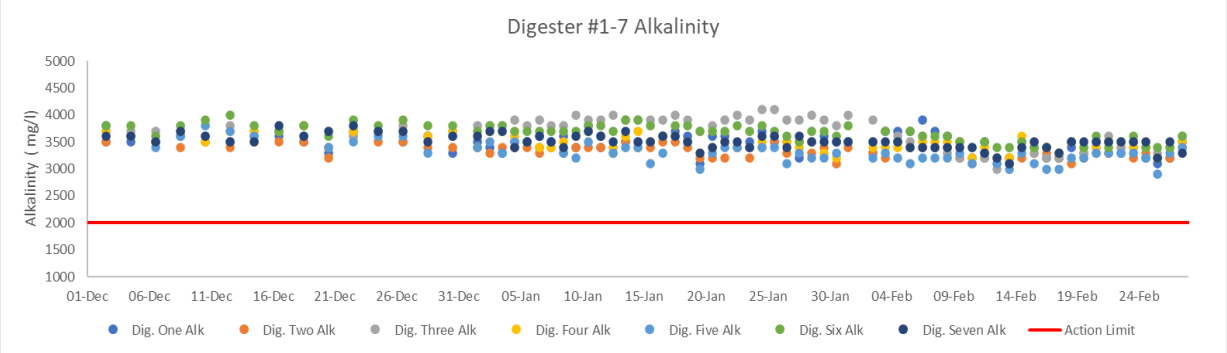


Centrifuge cake total solids percentage was within or exceeding the target range for the quarter.

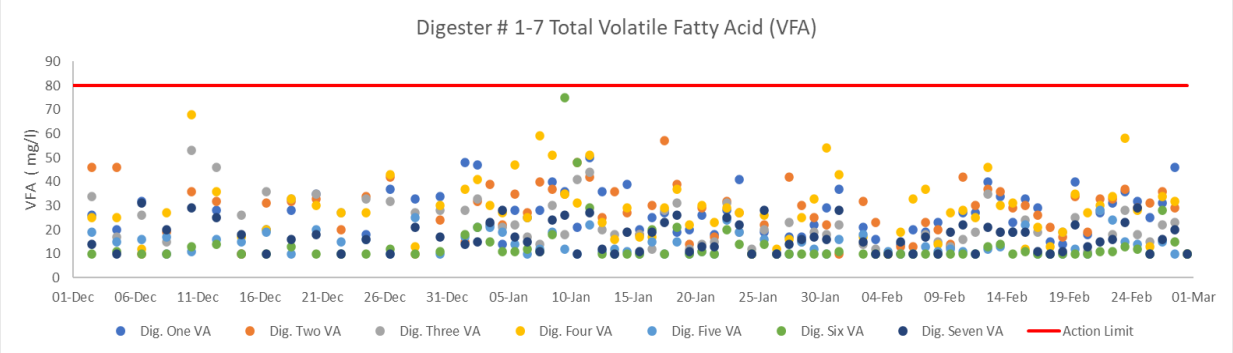
Digester Health Indicators



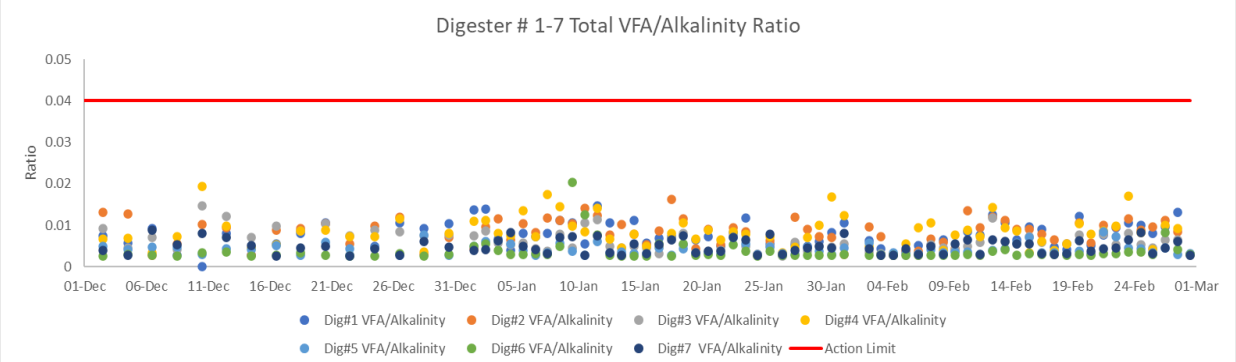
Normal operating range for digester pH is 6.9 - 7.4. The Mangere Digester Monitoring and Adjustment Management Plan Action Limit for pH is < 6.9. Sample frequency increased to daily following Digester 3 issues in January.



Normal operating range for digester alkalinity is 3,000 - 4,200 mg/L. The Mangere Digester Monitoring and Adjustment Management Plan Action Limit for alkalinity is < 2,000 mg/L.

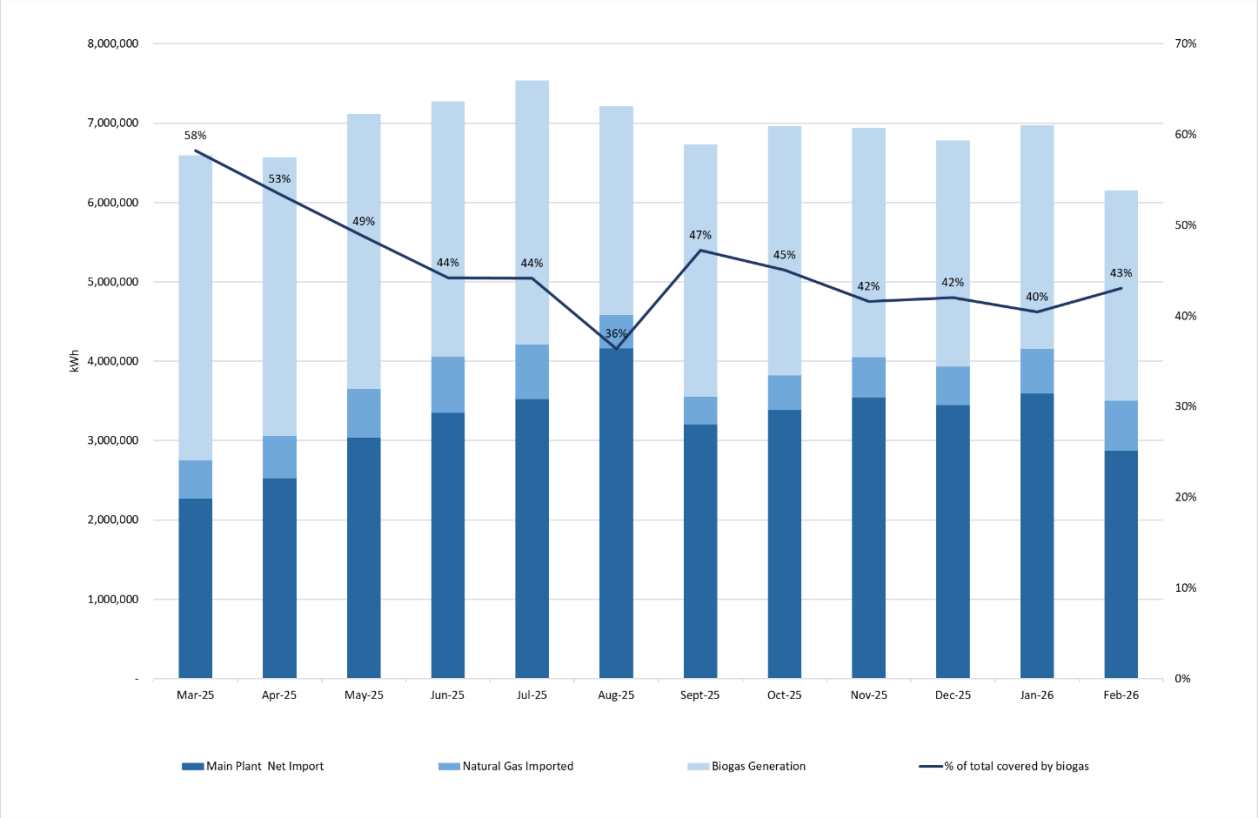


Normal operating range for digester VFA is 10 - 60 mg/L. The Mangere Digester Monitoring and Adjustment Management Plan Action Limit for VFA is > 100 mg/L; however, a more conservative limit of 80 mg/L is applied by site operations.



A VFA/Alkalinity ratio of 0.04 is applied by site operations as requiring further investigation/action.

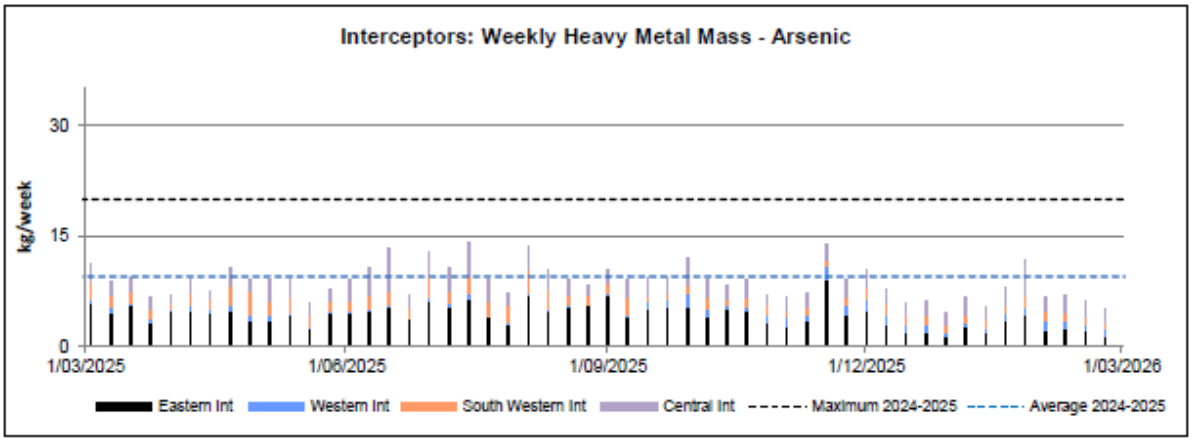
Imported Energy vs Biogas Generated Energy

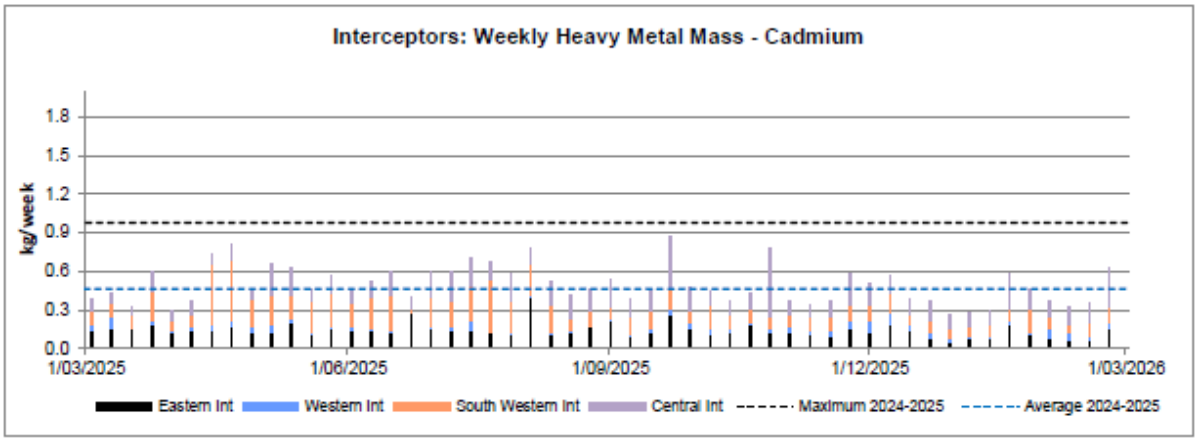


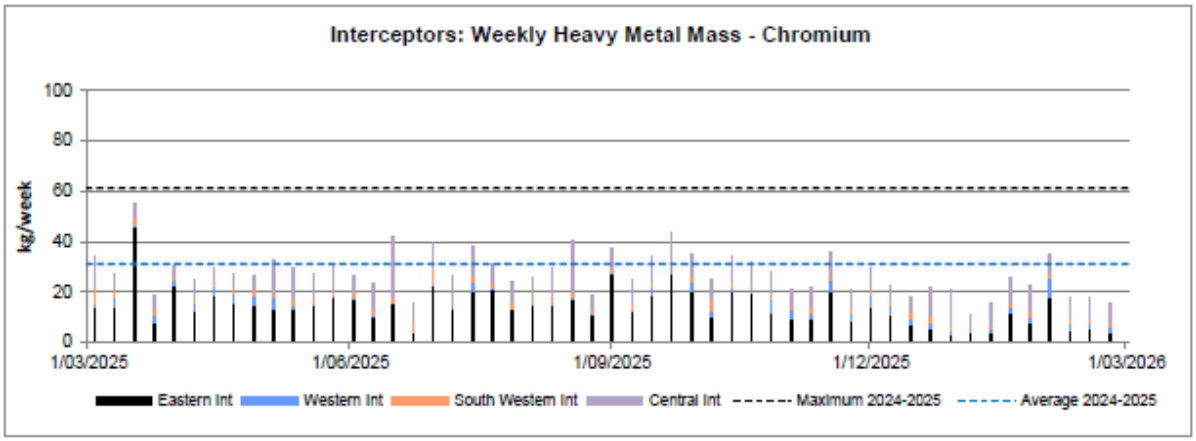
Comment: Recent reductions in biogas generation is linked to engine shutdowns for scheduled maintenance.

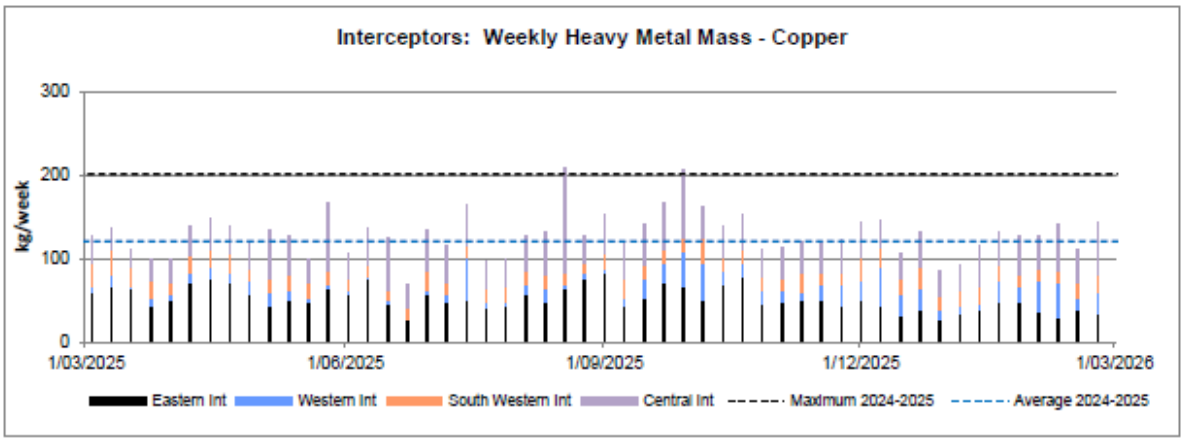
3 INFLUENT & BIOSOLIDS MONITORING

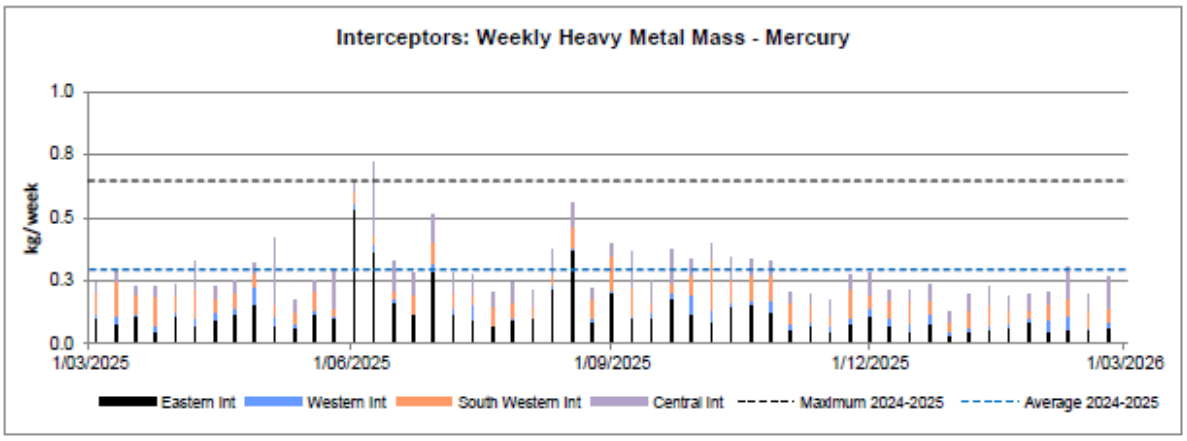
Heavy Metals – Interceptors

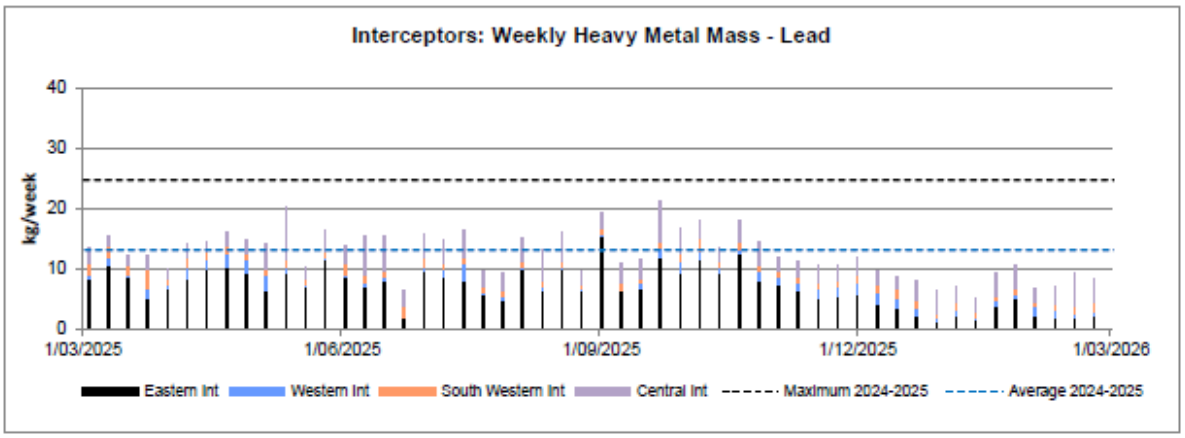


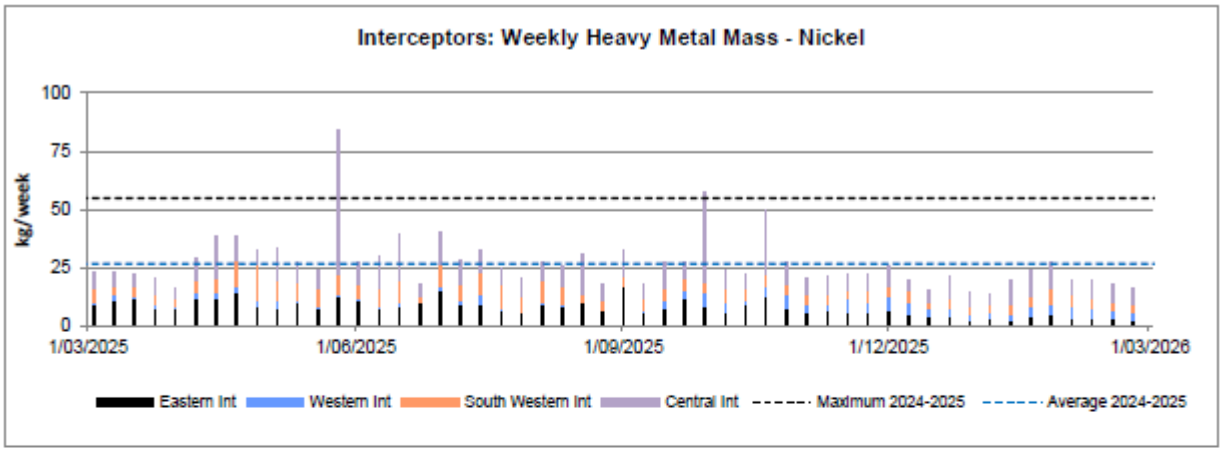


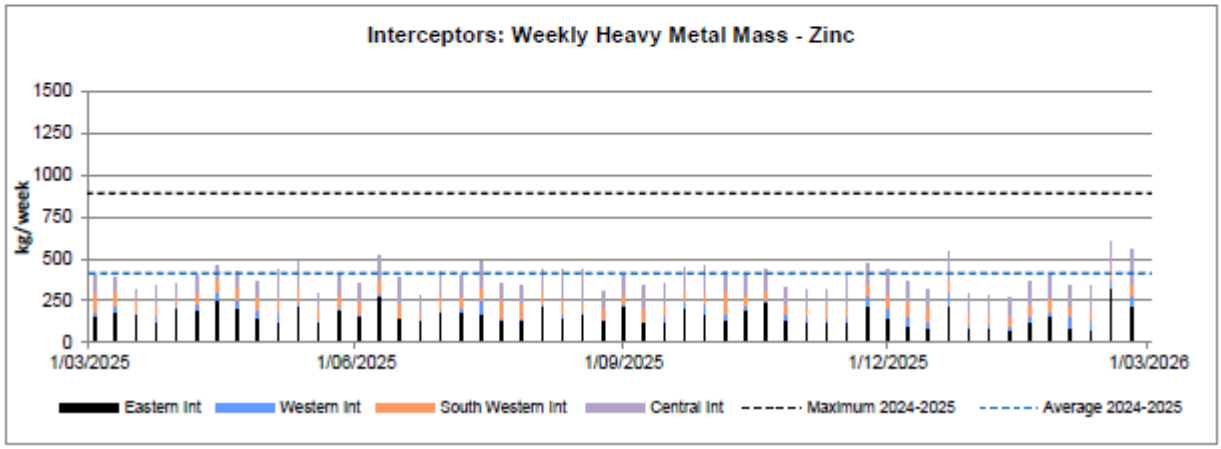



Interceptors: Weekly Heavy Metal Mass - Copper
kg/week
300
200
100
0
1/03/2025
1/06/2025
1/09/2025
1/12/2025
1/03/2026
Eastern Int
Western Int
South Western Int
Central Int
Maximum 2024-2025
Average 2024-2025

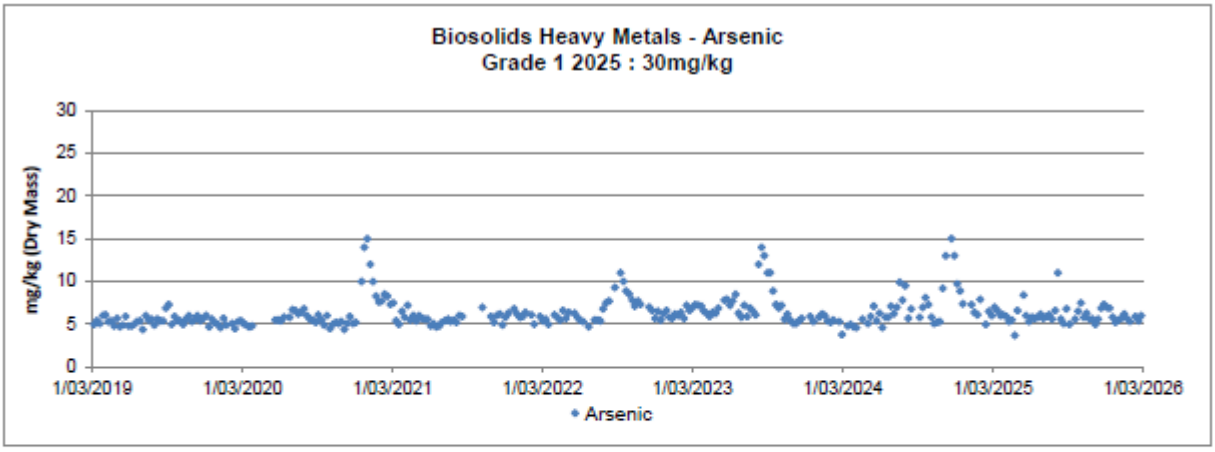

Interceptors: Weekly Heavy Metal Mass - Mercury
kg/week
1.0
0.8
0.5
0.3
0.0
1/03/2025
1/06/2025
1/09/2025
1/12/2025
1/03/2026
Eastern Int
Western Int
South Western Int
Central Int
Maximum 2024-2025
Average 2024-2025

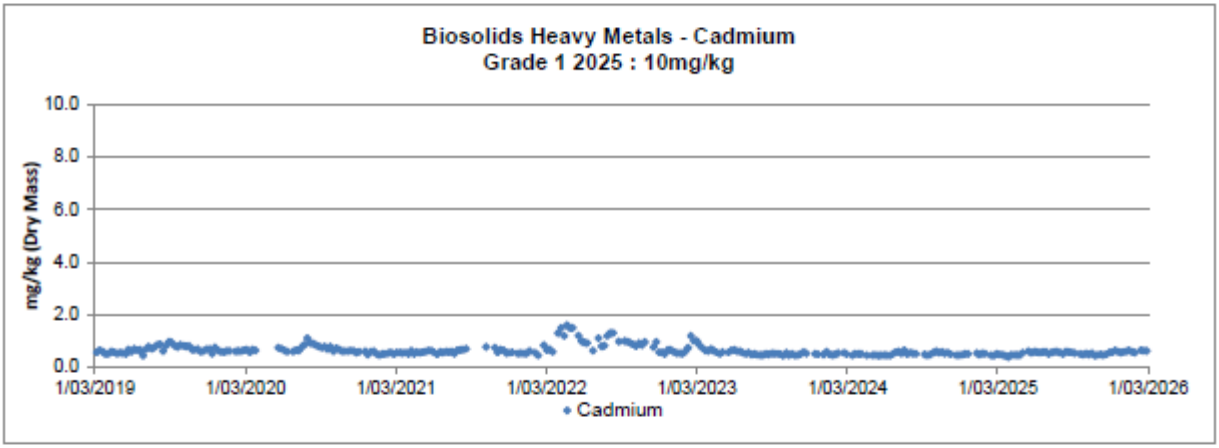

Interceptors: Weekly Heavy Metal Mass - Lead
kg/week
40
30
20
10
0
1/03/2025
1/06/2025
1/09/2025
1/12/2025
1/03/2026
Eastern Int
Western Int
South Western Int
Central Int
Maximum 2024-2025
Average 2024-2025

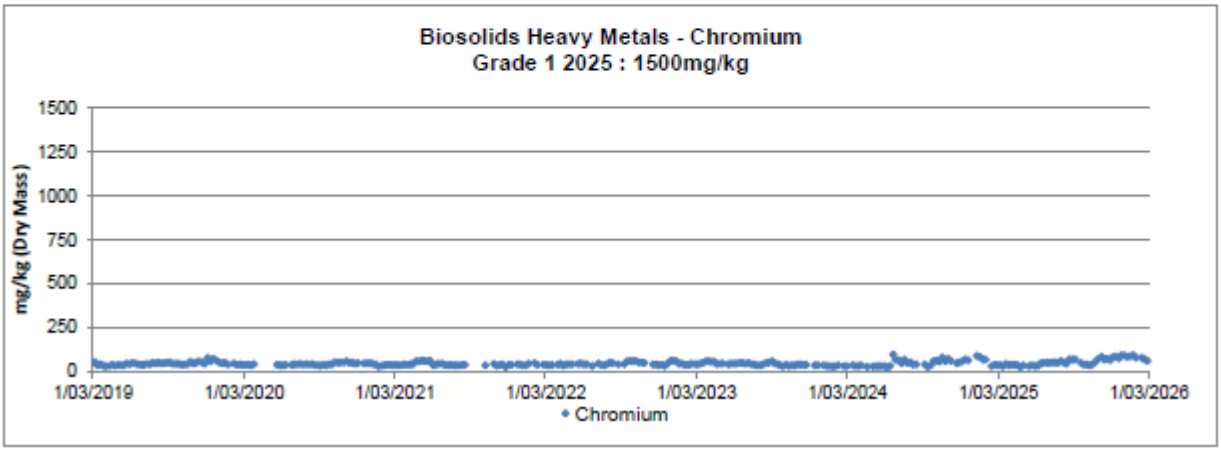

Interceptors: Weekly Heavy Metal Mass - Nickel
kg/week
100
75
50
25
0
1/03/2025
1/06/2025
1/09/2025
1/12/2025
1/03/2026
Eastern Int
Western Int
South Western Int
Central Int
Maximum 2024-2025
Average 2024-2025

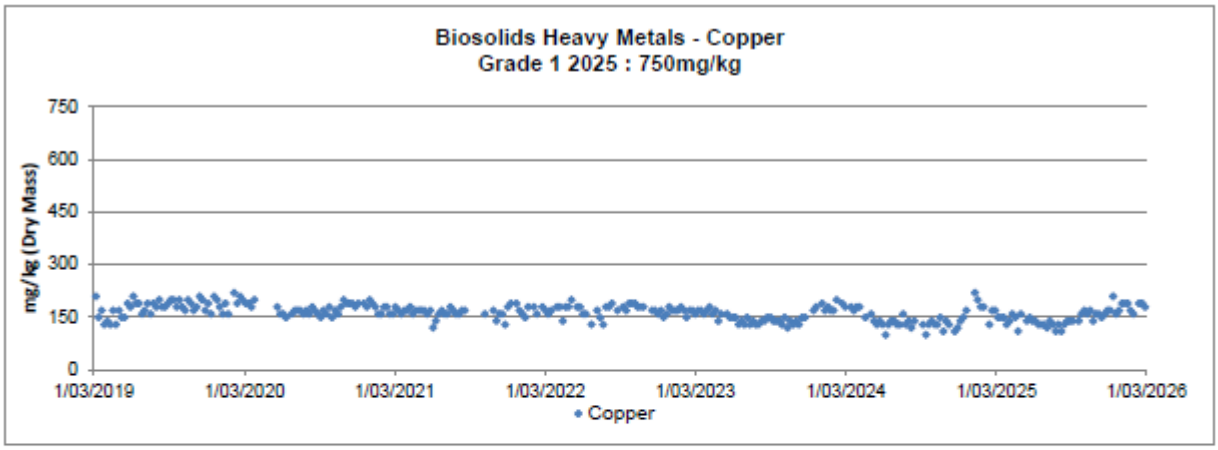

Interceptors: Weekly Heavy Metal Mass - Zinc
kg/week
1500
1250
1000
750
500
250
0
1/03/2025
1/06/2025
1/09/2025
1/12/2025
1/03/2026
Eastern Int
Western Int
South Western Int
Central Int
Maximum 2024-2025
Average 2024-2025

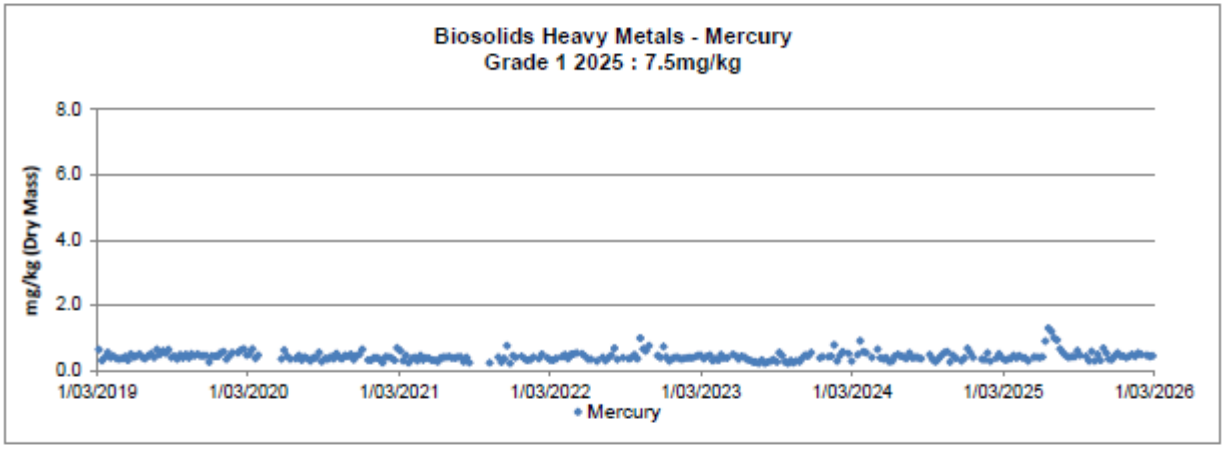
Heavy Metals – Long-term trend in Biosolids

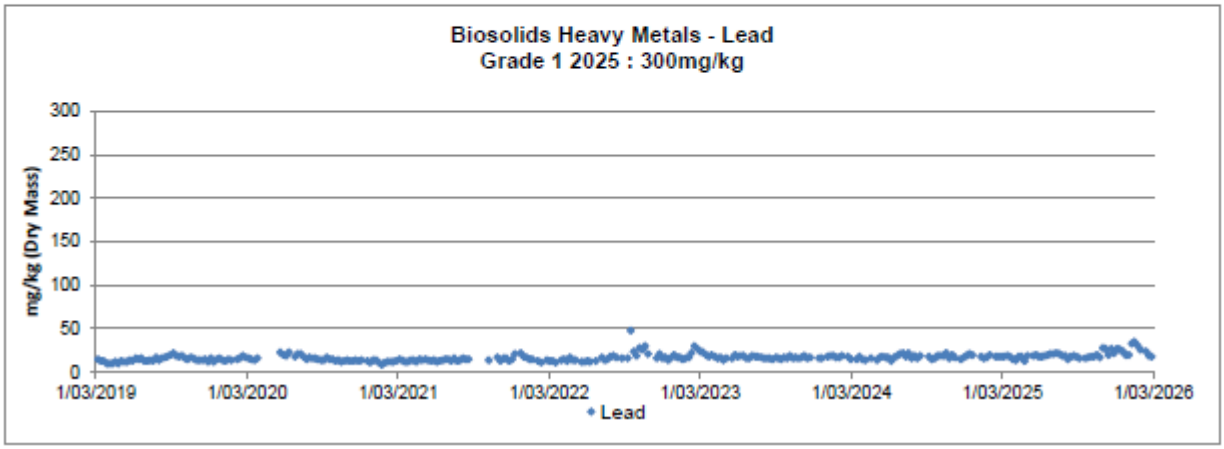


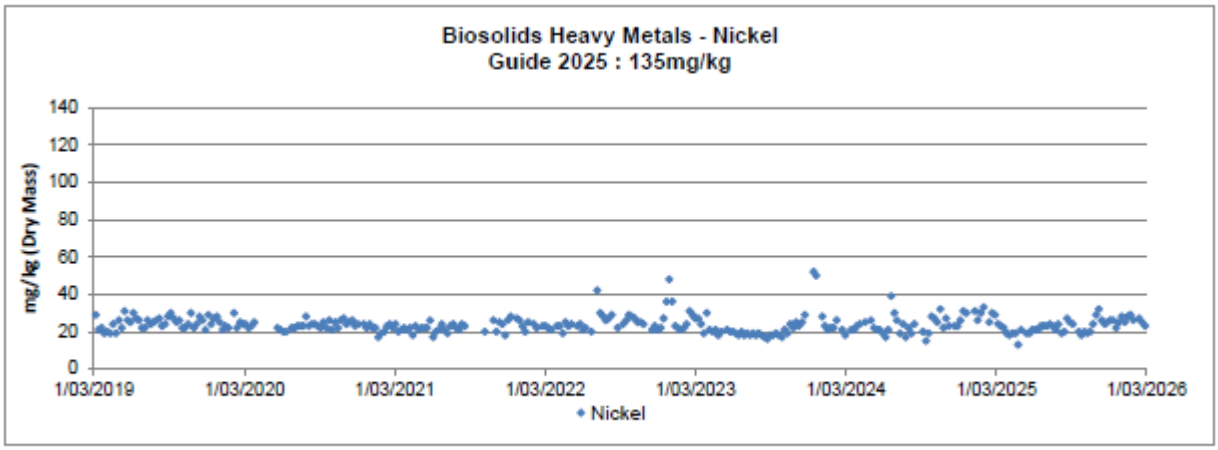


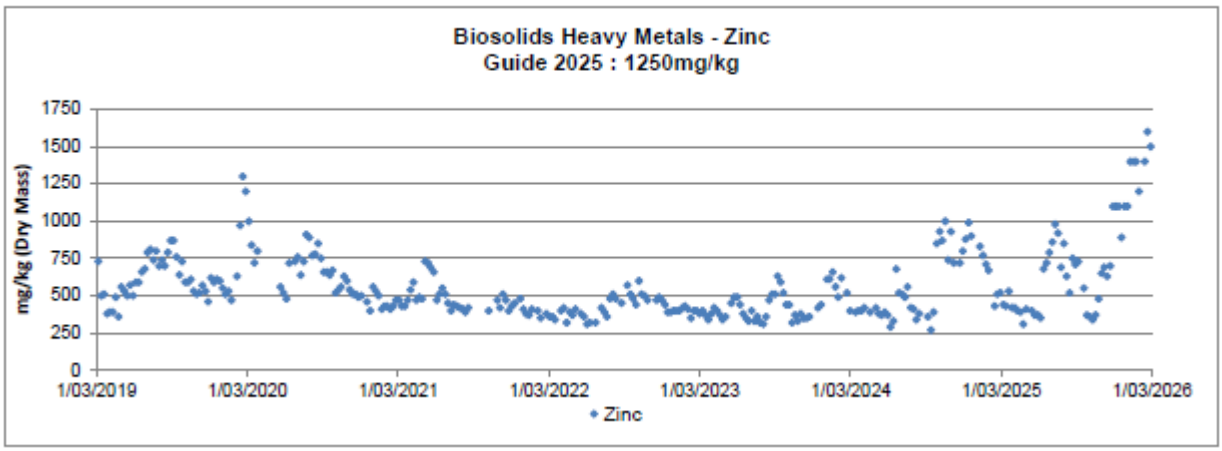



Biosolids Heavy Metals - Copper
Grade 1 2025 : 750mg/kg
mg/kg (Dry Mass)
750
600
450
300
150
0
1/03/2019
1/03/2020
1/03/2021
1/03/2022
1/03/2023
1/03/2024
1/03/2025
1/03/2026
Copper


Biosolids Heavy Metals - Mercury
Grade 1 2025 : 7.5mg/kg
mg/kg (Dry Mass)
8.0
6.0
4.0
2.0
0.0
1/03/2019
1/03/2020
1/03/2021
1/03/2022
1/03/2023
1/03/2024
1/03/2025
1/03/2026
Mercury


Biosolids Heavy Metals - Lead
Grade 1 2025 : 300mg/kg
mg/kg (Dry Mass)
300
250
200
150
100
50
0
1/03/2019
1/03/2020
1/03/2021
1/03/2022
1/03/2023
1/03/2024
1/03/2025
1/03/2026
Lead


Biosolids Heavy Metals - Nickel
Guide 2025 : 135mg/kg
mg/kg (Dry Mass)
140
120
100
80
60
40
20
0
1/03/2019
1/03/2020
1/03/2021
1/03/2022
1/03/2023
1/03/2024
1/03/2025
1/03/2026
Nickel


Biosolids Heavy Metals - Zinc
Guide 2025 : 1250mg/kg
mg/kg (Dry Mass)
1750
1500
1250
1000
750
500
250
0
1/03/2019
1/03/2020
1/03/2021
1/03/2022
1/03/2023
1/03/2024
1/03/2025
1/03/2026
Zinc

4 MIDGE CONTROL REPORT

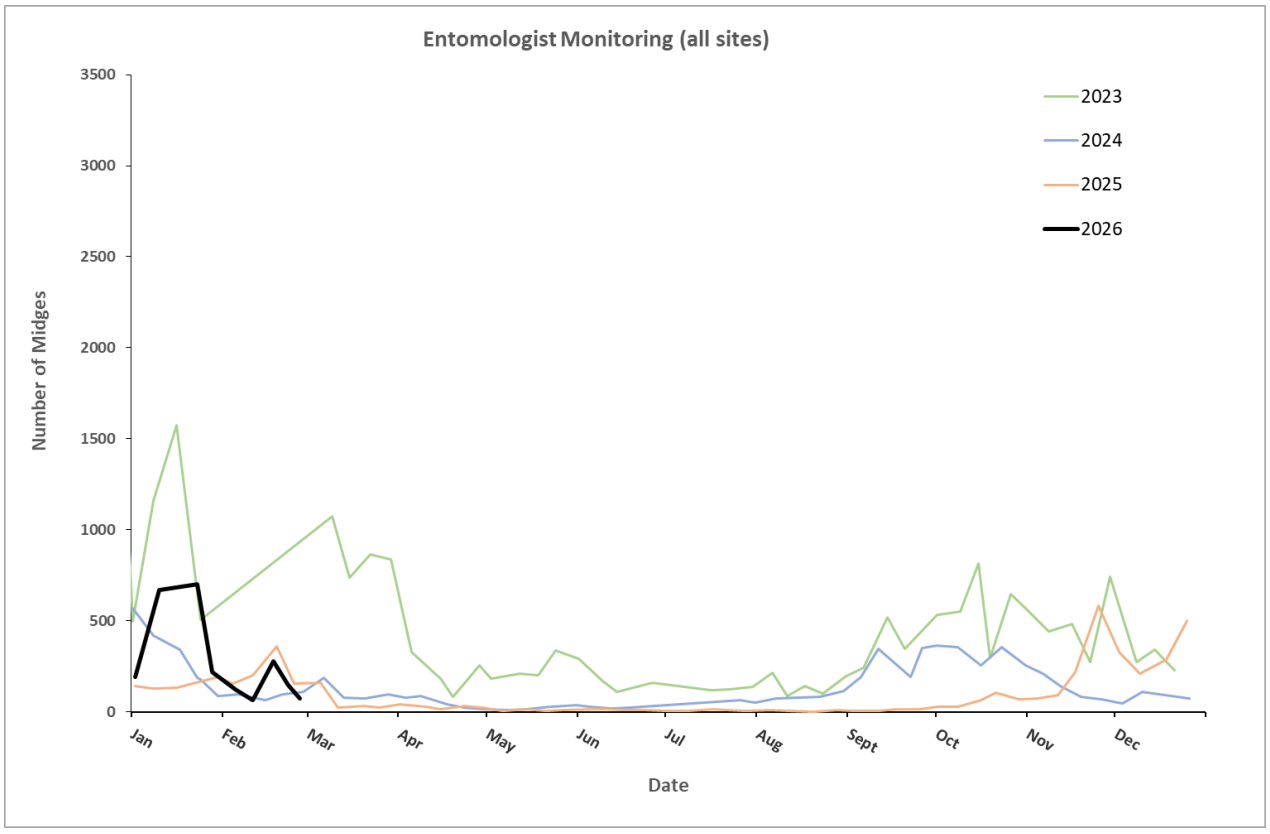
Situation

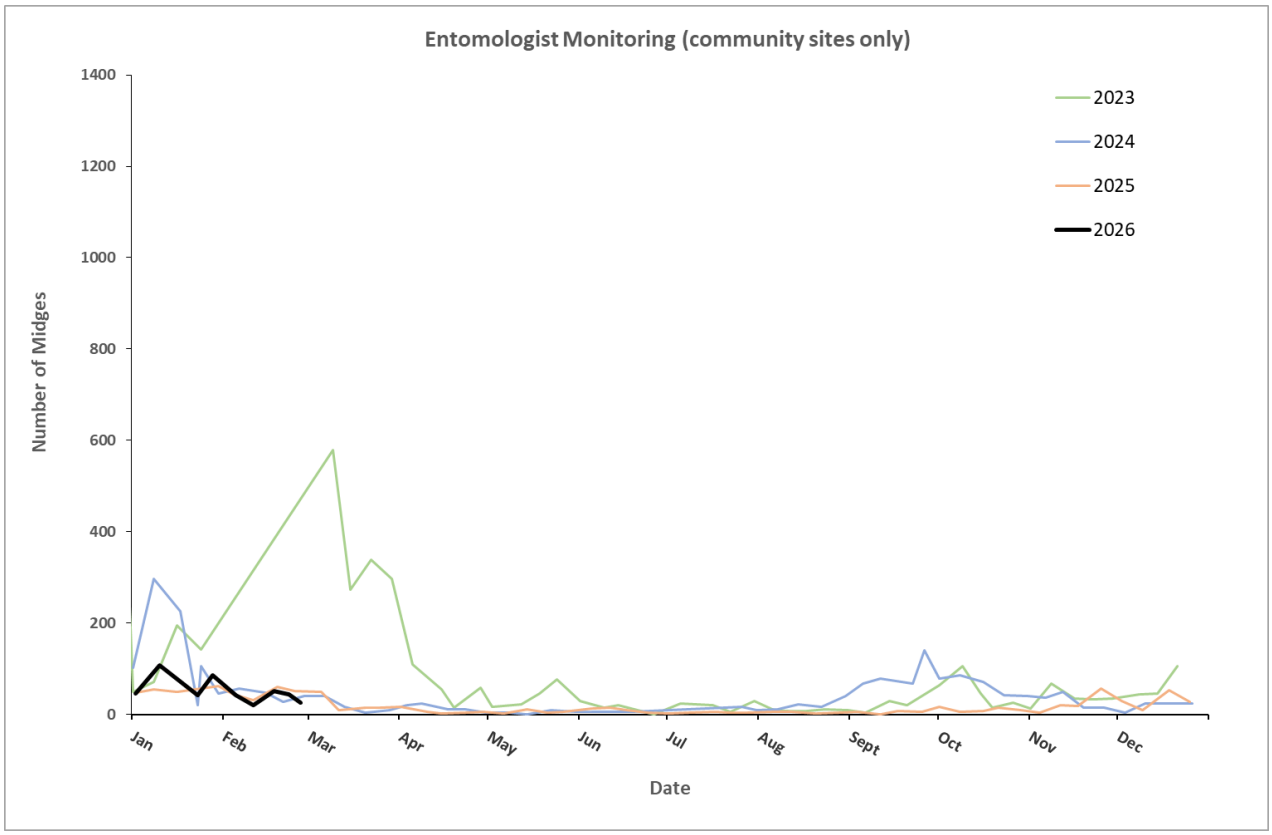
- The net monitoring done by an entomologist has been the most reliable source for accurate midge counts over the past few years. The numbers for the current quarter are generally lower than in previous years. The current regimen of midge control appears to be working well.
- The Audit Group has approved for monitoring via emergence traps to be discontinued. This is subject to the current treatment working well as demonstrated by the entomologist monitoring, light trap monitoring and complaint recording. If these monitoring methods demonstrate an ongoing midge nuisance issue in the future, then the Audit Group may request the emergence trap monitoring to be reinstated.
- Light trap monitoring was paused for a period in 2024 while emergence and light traps efficacy was being discussed and was resumed from October 2024.
- Midge numbers have fluctuated throughout the quarter, with sharp increases, particularly around the intertidal storage basin, during periods of warm settled weather followed by reductions following weather events. Nonetheless, overall numbers remain low in comparison to previous years.

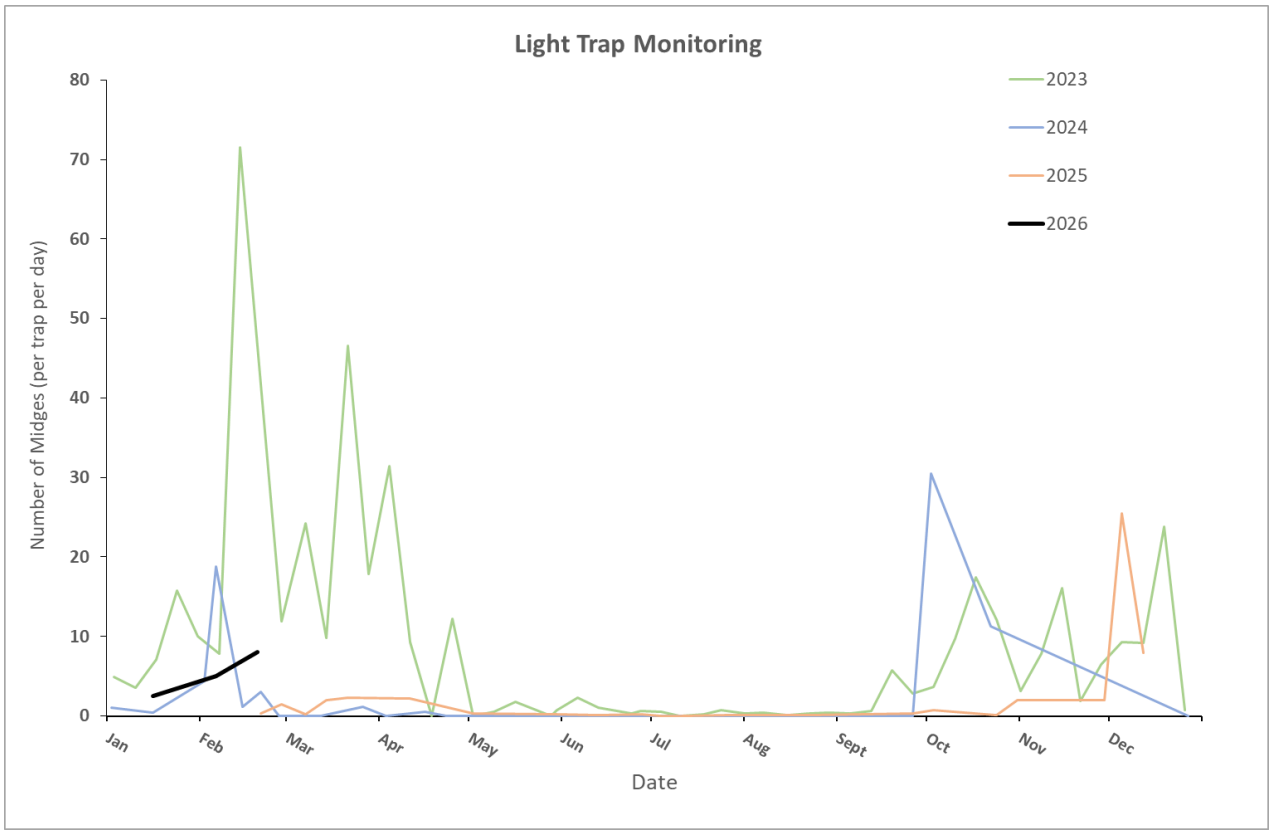
Treatment Schedule

Chain Dragging:	September – March:	Weekly
	April – August:	Fortnightly (to be increased to weekly if required).
Contact Insecticide:	August – April:	Every 3 weeks (to be increased to fortnightly if required).

Results




Entomologist Monitoring (community sites only)
Number of Midges
1400
1200
1000
800
600
400
200
0
2023
2024
2025
2026
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sept
Oct
Nov
Dec
Date


Light Trap Monitoring
Number of Midges (per trap per day)
80
70
60
50
40
30
20
10
0
2023
2024
2025
2026
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sept
Oct
Nov
Dec
Date

5 ODOUR REPORT

Weekly walkover odour offensiveness scores (inside Māngere WWTP)

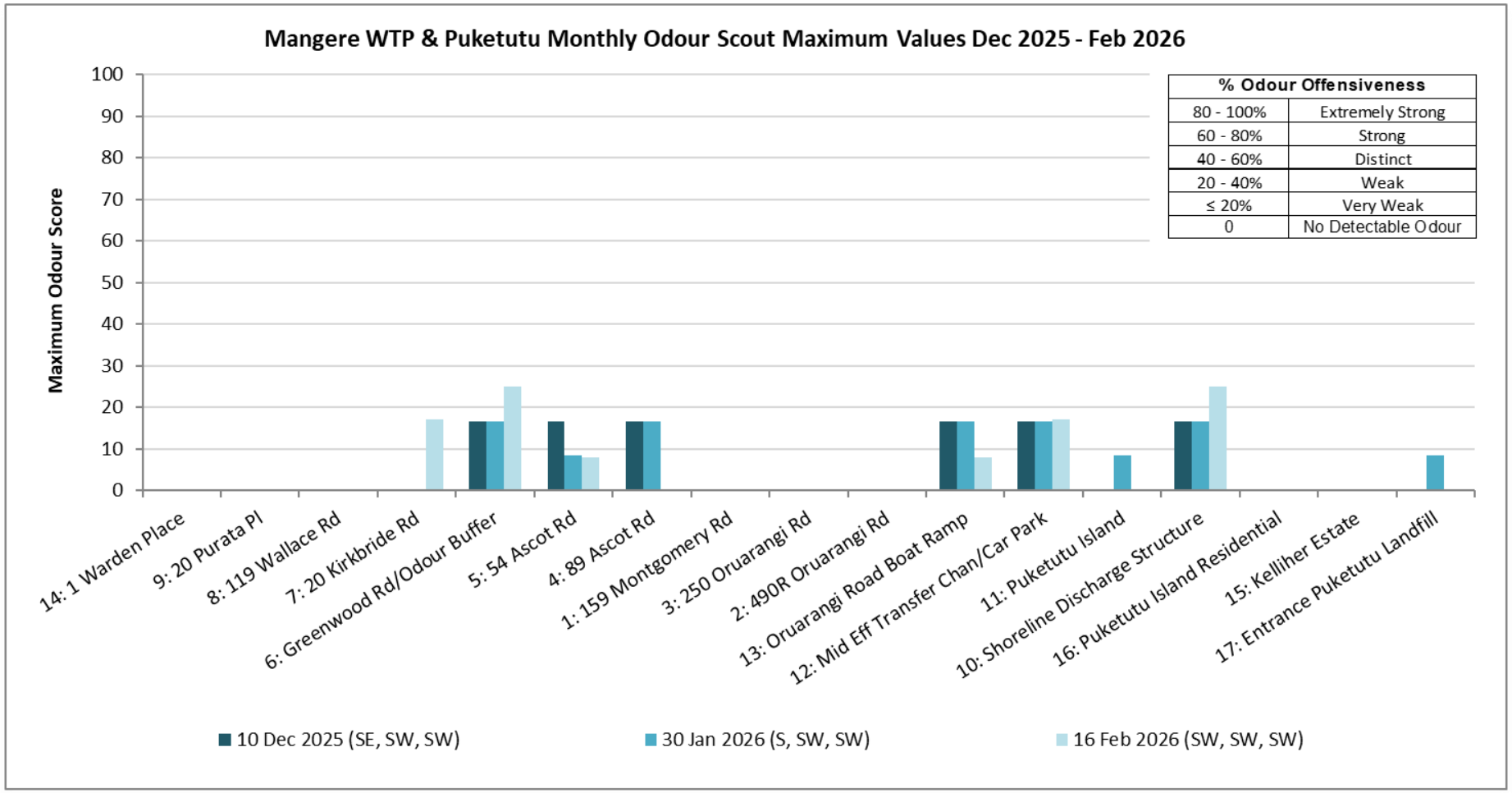
Location	5 Dec 25	12 Dec 25	19 Dec 25	8 Jan 26	16 Jan 26	23 Jan 26	29 Jan 26	5 Feb 26	12 Feb 26	20 Feb 26	23 Feb 26	Avg. quarter
Digester Area	8	8	17	8	17	17	17	17	8	17	17	14
DAF's/DSFT	8	8	8	17	17	17	17	8	8	8	8	11
GTB Biofilter	8	0	17	8	4	17	17	17	17	8	8	11
GBT Biofilter	8	8	8	8	17	4	4	17	8	8	4	9
CPB Biofilters	17	17	17	8	17	17	17	17	17	17	17	16
ASU Biofilters	8	8	17	17	8	17	17	17	8	8	17	13
BST Biofilters	17	4	8	8	17	8	8	8	4	4	17	9
GT/GBT Building (old)	0	0	0	13	17	0	0	0	8	0	17	5
GT/GBT Building (new)	13	17	0	8	17	0	0	8	8	17	0	8
Centrif. ASU/Biosol. Bldg.	17	4	17	4	4	17	17	8	17	17	17	13
Blended Sludge Tank	0	0	0	4	0	17	17	4	0	0	0	4
EF3	17	25	17	17	4	17	17	0	4	8	8	12
EF4	8	17	4	17	8	8	8	8	8	4	17	10
EF5	0	0	0	N/A	4	4	4	0	17	8	4	4
Splitter Box Biofilter 1	8	17	17	17	17	17	17	17	17	17	25	17
Splitter Box Biofilter 2	8	8	17	17	17	17	17	17	17	8	17	14
Splitter Box Biofilter 3	17	25	17	38	N/A	N/A	N/A	0	0	0	0	9
Splitter Box Biofilter 4	8	8	17	8	8	17	17	17	8	8	8	11
IPS2	8	8	17	4	4	4	4	8	17	17	8	9
Primary (PSTs)	8	17	17	17	8	17	17	8	17	17	0	13
Screens Building	38	25	17	38	38	38	38	17	17	25	8	27
Tertiary (Filter & UV Plant)	8	17	4	17	17	17	17	4	0	17	17	12
RC1, RC2, RC4	8	17	8	8	17	8	8	17	4	8	17	11
RC3, RC5, RC6	8	17	17	17	17	8	8	17	8	8	8	12
RC7, RC8, RC9	N/A	17	8	8	N/A	8	8	17	17	17	17	11

Notes:

N/A = Location not accessible due to ongoing construction or maintenance.

Key - Odour offensiveness score		
Extremely Strong	80 - 100	
Strong	60 - 80	
Distinct	40 - 60	
Weak	20 - 40	
Very Weak	≤ 20	

Monthly walkover results (WWTP, Puketutu Island, and surrounding areas)



Notes:

- Three odour runs are completed per monitoring day (am, midday, pm). Maximum offensiveness score is the most distinct odour detected across the three runs.
- Odour scout locations on x-axis listed clockwise from northern-most position, as per Figure 5-1 below.

Monthly walkover map

Figure 5-1: Monthly Community Odour Scouting Locations.

6 CUSTOMER FEEDBACK REPORT

Via	Type	Date / Time	Address	Feedback	Follow up/ Additional Comments
Auckland Council	Odour	27 February 2026 7:00 am	Ambury Road, Mangere Bridge (see Figure 6-1)	Via Auckland Council Complaints: "*Significant odour was being emitted from the Mangere Wastewater Treatment Plant*"	Comments: Complaint initially lodged with Auckland Council, reporting odour from the WWTP on 27/02, received by Watercare 3/03. Customer was phoned and described the odour as obvious sewage type odour and rated it a 9/10. The odour persisted for about an hour. They said they experience faint odour from time to time but that on this occasion it was particularly strong. No further odour have been noticed since 27 Feb. The southern networks team investigated the network in the area on 3 March but found all manholes etc to be flowing as normal. They noted no odour at the time. Wind data: Variable, average of ~4km/h (light air) from midnight through to 8am, then picking up to ~9km/h (light breeze). Direction was dominant NE @ 5am, switching SE to 7am, then S/SW for remainder of day. Conclusion: No maintenance occurred at the plant that could have contributed to odour, no incidents or other known issues occurred at this time. Ongoing issues with Digester 3 are known, but weekly onsite monitoring since January has not identified a change in odour around the plant, and community monitoring, consistently undertaken during S-SW winds over the last two months, has also not detected odours within the Māngere Bridge area. Nonetheless, with the address being roughly north/northwest of the plant, the plant cannot be excluded as a potential source.
Faults	Odour	27 February 2026 9:00 am	Waiana Ave, Mangere Bridge (see Figure 6-1)	I just had a customer that lives at Waiana Ave complaining about a strong sewerage smell coming from the Mangere Wastewater Treatment plant.	Comment: The customer was called at approximately 1:30pm on 27/02, they said the odour was present around 8-10am this morning and that it was a strong foul/sewage odour that hung around; rated it a 7 or 8/10. They weren't home when called but did not think the odour had persisted longer than 10am. They said it is the second time they have noticed it recently. The Southern Networks team inspected the surrounding wastewater network; no issues or odours were identified. Wind data: Wind records from Mangere Bridge are light (between 1.9-7.4km/h) in the hours prior to the complaint. Direction was variable; predominantly W/SW until around 4am, then switching NE until around 5am, then switching SE-SW from 6am onward. Conclusion: As above, with the address being roughly north/northwest of the plant, the plant cannot be excluded as a potential source.

Faults	Odour	24 February 2026 10:27 pm 27 February 2026 11:09 pm 3 March 2026 10:26 pm (outside of this reporting period).	Pikitea Road, Mangere Bridge (see Figure 6-1)	*"Smell of sewage plant is unbearable at this time from our street. Can this be registered as an official compliant".*	Comments: Complaint received by Envcare 4/03. Customer was called, they advised the smell has been on and off for roughly 10 days. Customer advised he had logged earlier complaints that were not followed up. Described the odour as pungent/sewer odour, rated 8 or 9 out of 10. The odour is present in the evenings but not at other times of the day. It gets drawn into the house through the ventilation and persists. Followed up with Faults team, who sent through the previous two complaints from 24/02 and 27/02. The southern networks team investigated the network in the area on 6/03 but found all manholes etc to be flowing as normal; no odour was noted at the property during the inspection. The Western Interceptor transmission line around this area was also inspected; whilst no odours or issues were noted, manhole seals were replaced as a precaution. Wind data 24/02: Dominant SSW from ~11am, switching S around 9pm. Average of ~18km/h (gentle breeze). Wind data 27/02: Dominant S-SSW direction from 3pm through to 11pm, average of 15km/h (gentle breeze). Wind data 3/03: Dominant Southerly direction from 8pm (SSW prior), average of 20km/h (moderate breeze). Conclusion: As above, with the address being roughly north/northwest of the plant, the plant cannot be excluded as a potential source.

Figure 6-1: Locations of the odour complaints from February / March in relation to the WWTP.

In response to these complaints, local network lines in the direct vicinity of each property were inspected following each complaint, and the manholes of the Western Interceptor within this area were also inspected to investigate potential odour-causing issues. Whilst no obvious odours or issues were identified during these inspections, as a precaution, manhole seals on the Western Interceptor were replaced. Recent flow diversions as part of the Central Interceptor Project have significantly reduced the flow through the Western Interceptor. Additional community odour scouting has also been undertaken over the weeks of 2 and 9 March in attempt to validate the odour and identify the source(s). Due to time constraints, monitoring methodology was a reduced version of the standard monthly community monitoring, focussing on at least one upwind and three downwind locations (as per the locations in Figure 5-1), with a minimum of two runs on each day (am and pm). Areas around each of the complaint addresses were also visited on multiple occasions. Field sheets from this additional monitoring have been saved electronically; as of the time of issuance of this report, no odours have been detected downwind of the plant that could be associated with plant operations.

7 PUKETUTU ISLAND REPORT

Placement of biosolids

27,771 tonnes of biosolids material was placed at the Puketutu Biosolids Facility during this quarter. Since the commencement of operations on 1 December 2014, Watercare has placed 2,346,500 tonnes of combined biosolids and cover/construction material. The total storage capacity is estimated at four million tonnes; therefore, the facility is currently at approximately 58% of capacity.

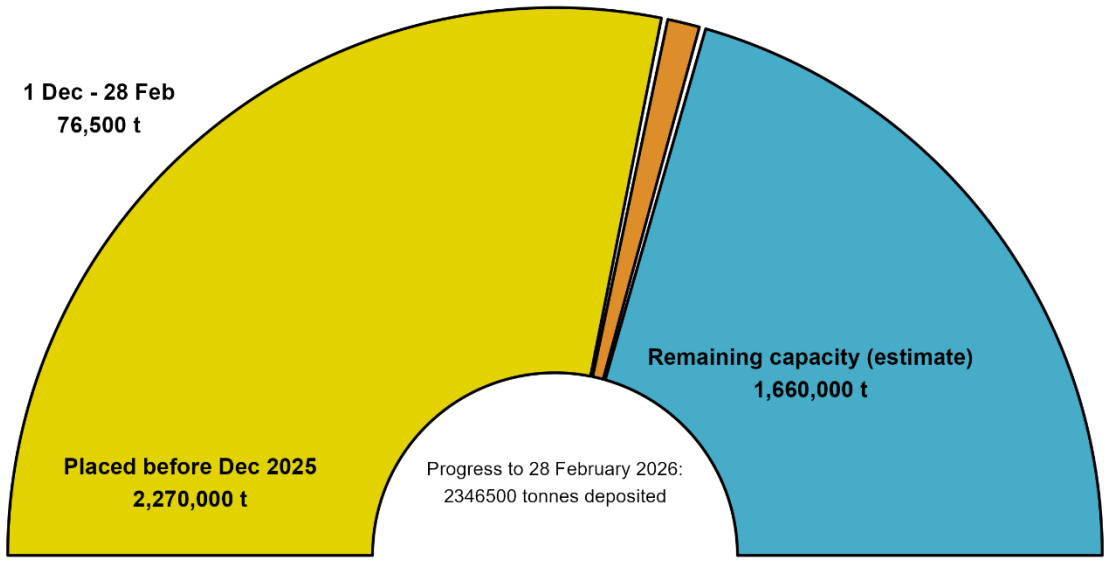


Figure 7-1: Material placement (biosolids and cover/construction) at Puketutu Biosolids Facility to date.

Biosolids truck movements were down the previous quarter, impacted by closures over the holiday period and the shorter month in February. Cover and construction material deliveries to the site have been high over prior quarters to faciltate road and cell wall construction. Currently, Biosolids are deposited along the phase 5 embankment; this location doesn't allow the installation of long cells and forces the construction of multiple smaller cells. This led to an increase in the number of cell walls to be built and subsequently more material required to be brought to the island.

Other matters

- No complaints were received at the Puketutu Biosolids Facility during the monitoring period.

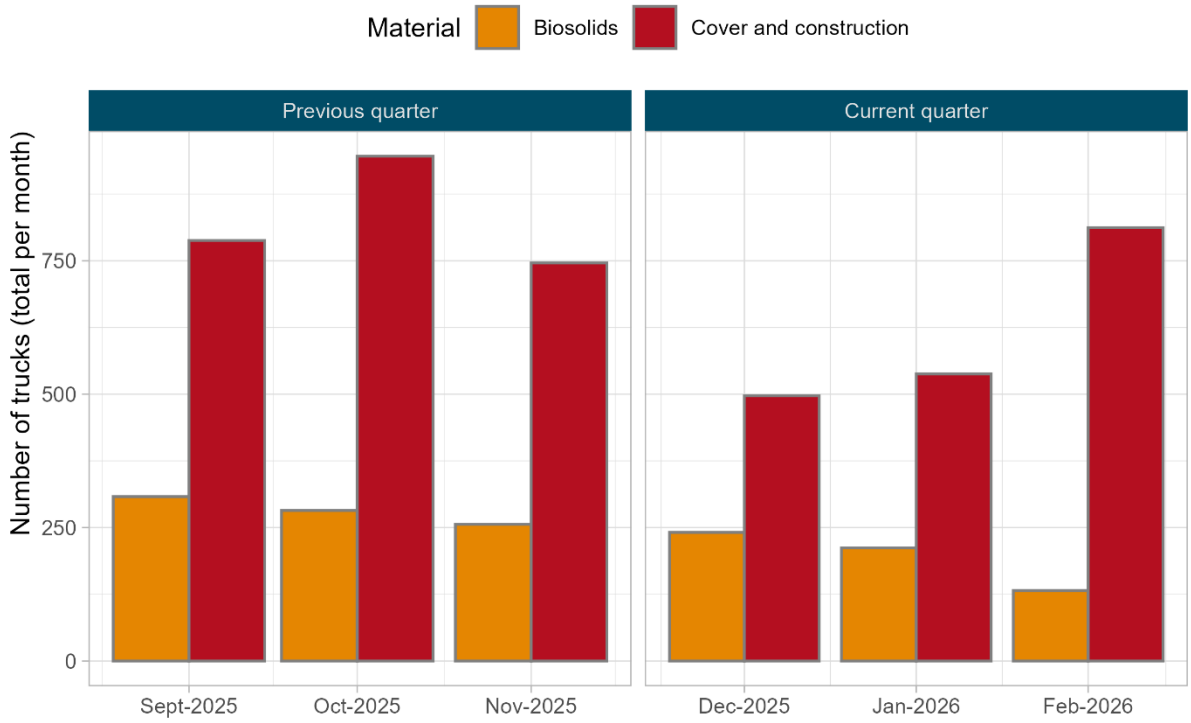


Figure 7-2: Monthly truck deliveries to Puketutu Biosolids Facility

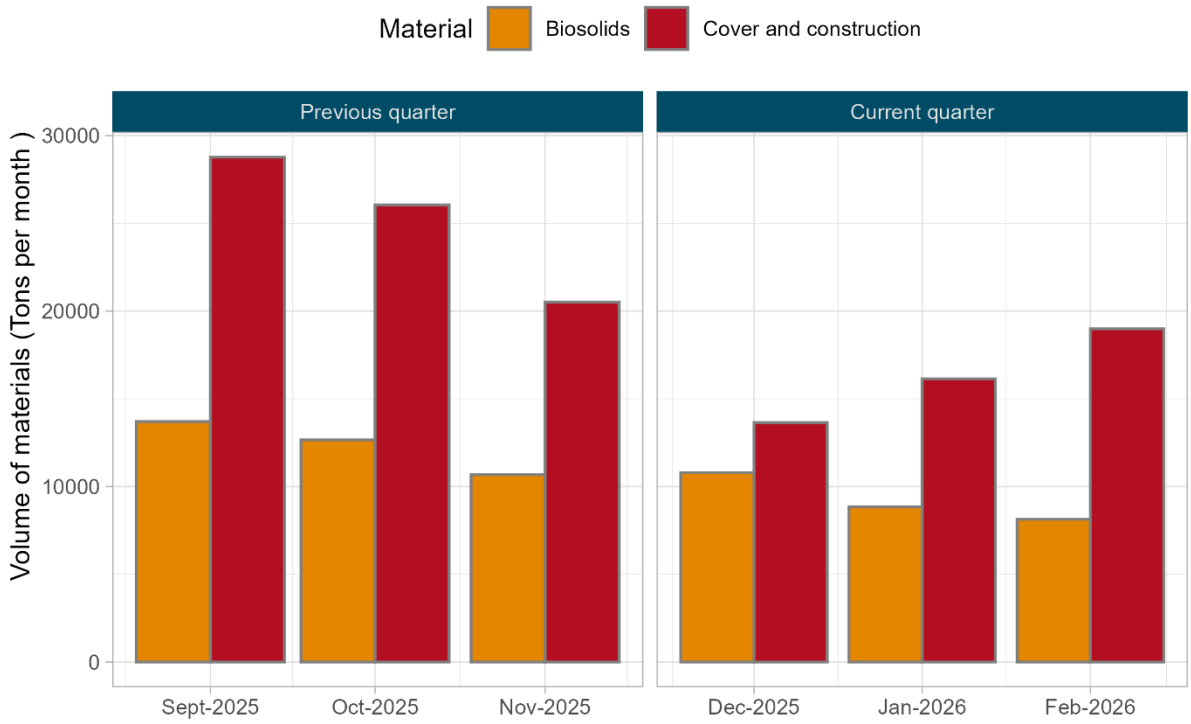


Figure 7-3: Monthly tonnages received at Puketutu Biosolids Facility