
October 2024

Community presentation

Mindarie Regional Council (MRC)

mrc.wa.gov.au

Scott Cairns, CEO
Mindarie Regional Council (MRC)

What is MRC?

What is MRC?

- We are a council
 - Unlike others, we only have one function
- We are not a business
 - Any profit (if we get it) goes into:
 - Providing service
 - Future management of site



A brief history

1981

Cities of Perth, Stirling and Shire of Wanneroo acquire 432ha of land. Part of this would become Tamala Park



A brief history

1987

Mindarie Regional Council is created to manage the landfill on behalf of those local governments

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A brief history

1990

WA Environmental Protection Authority (EPA)
approves 251ha of the site for landfill and 'associated
infrastructure'



A brief history

1991

Tamala Park landfill receives its first waste from its
member councils

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A brief history

1996

Local government restructuring adds towns of Cambridge, Victoria Park and Vincent (later City of Vincent) to MRC's *member councils*



A brief history

1999

The Shire of Wanneroo becomes the *City* of Wanneroo and the City of Joondalup.



A brief history

2008

The amount of waste arriving at Tamala Park peaks at approximately 350,000 tonnes per year - it has been decreasing ever since



A brief history

2024

Approximately 8.8 million cubic metres of household waste has been disposed of at Tamala Park since 1991

1.2 million cubic metres still remains



How do decisions get made at MRC?

MRC Council

MRC CEO

Corporate Services

- Administration
- Asset Management
- Customer Service
- Financial Services
- Information Technology

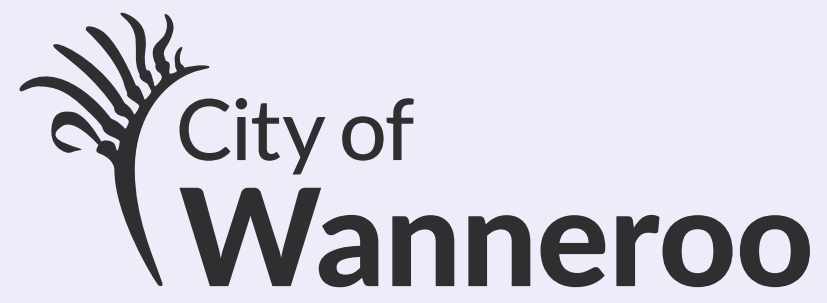
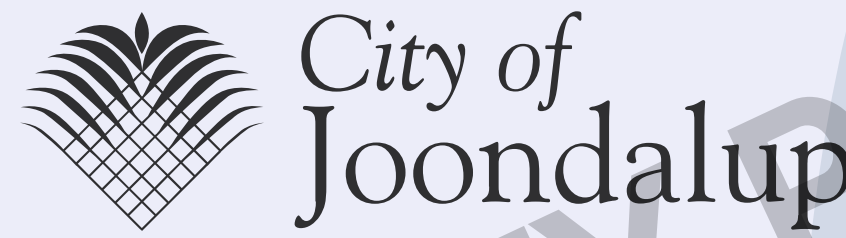
Operations

- Building Maintenance
- Environmental Management
- Landfill Management
- Plant & Equipment Hire
- Waste Management

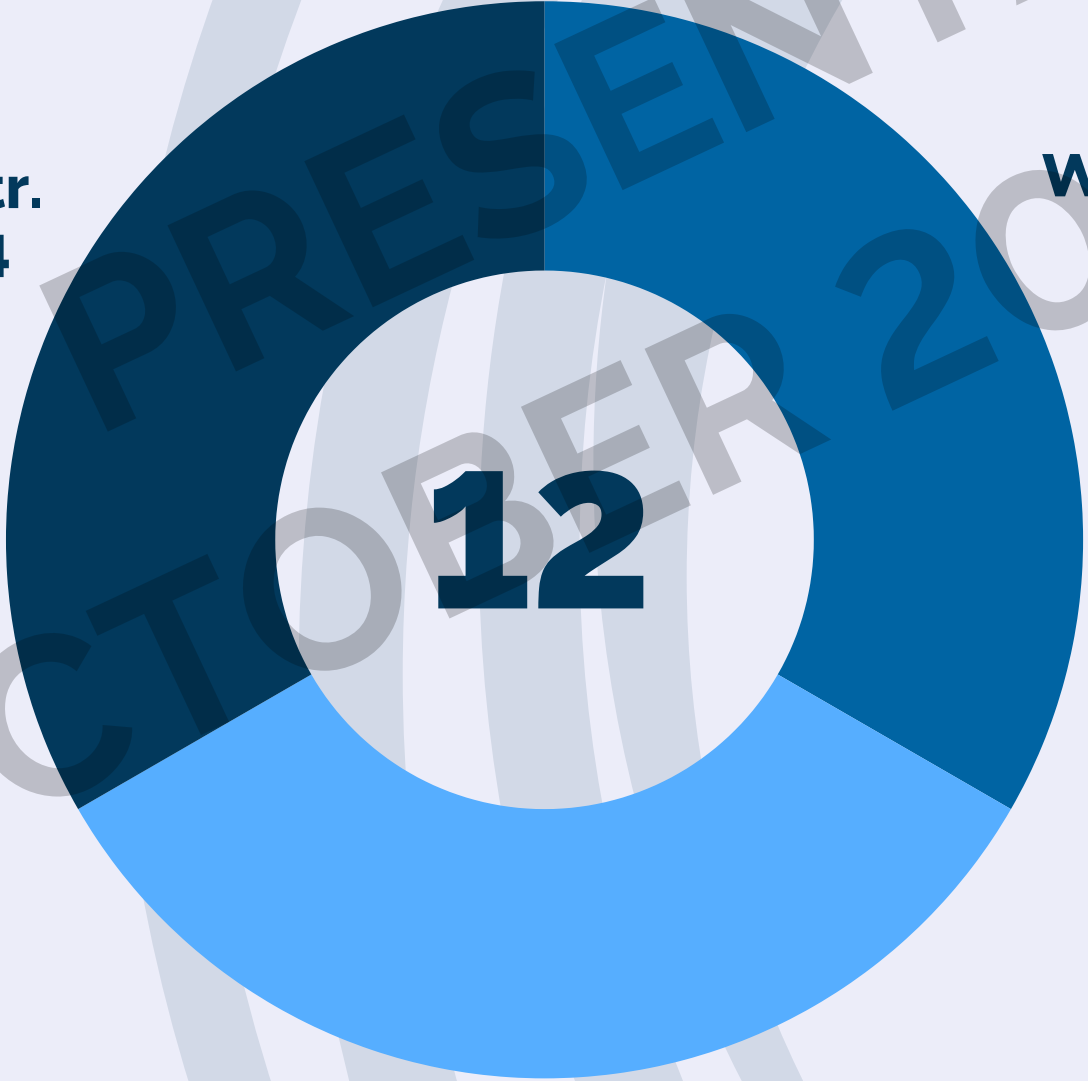
Office of the CEO

- Communications
- Governance
- Human Resources
- Projects and Procurement
- Records Management
- Strategic Planning
- Work Health and Safety

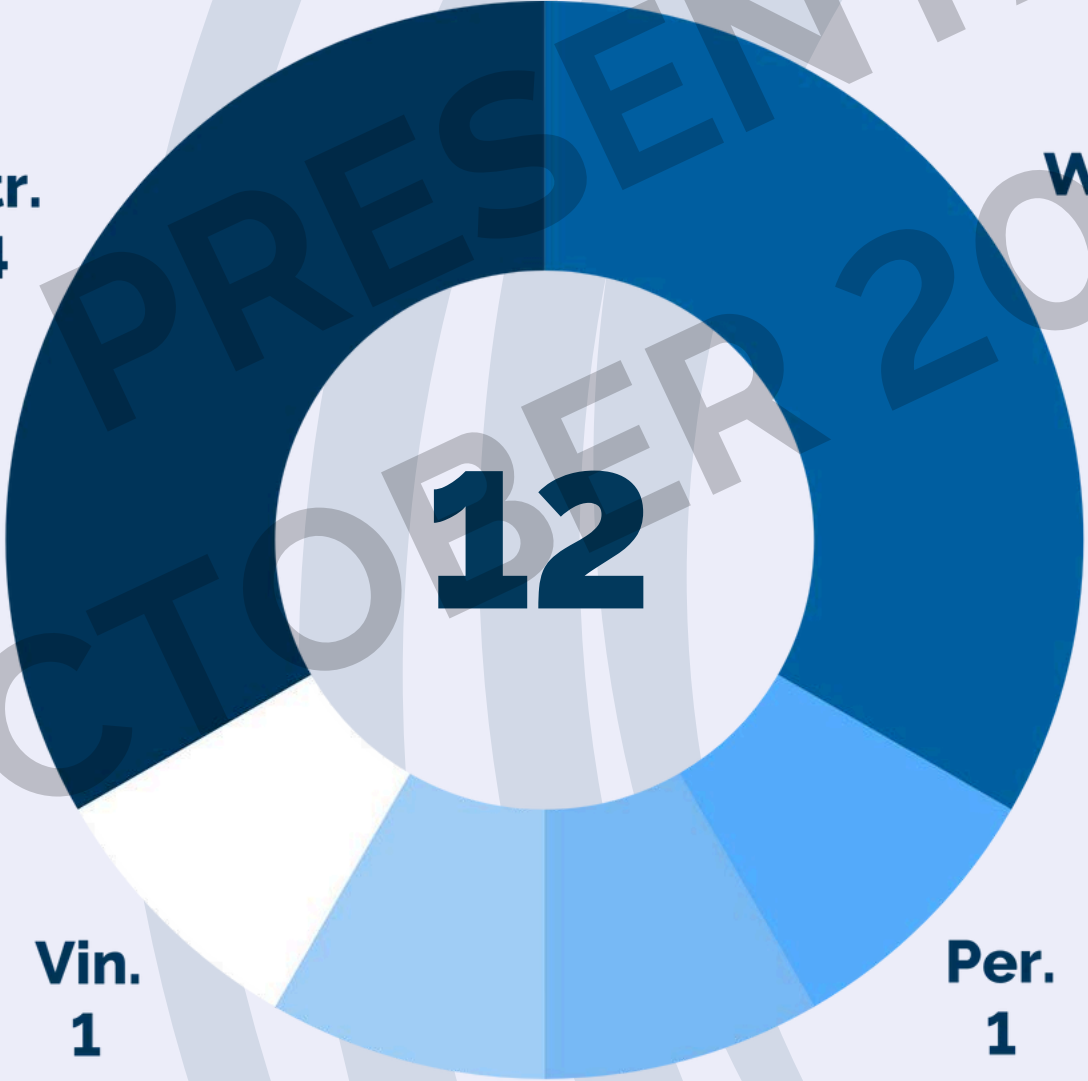
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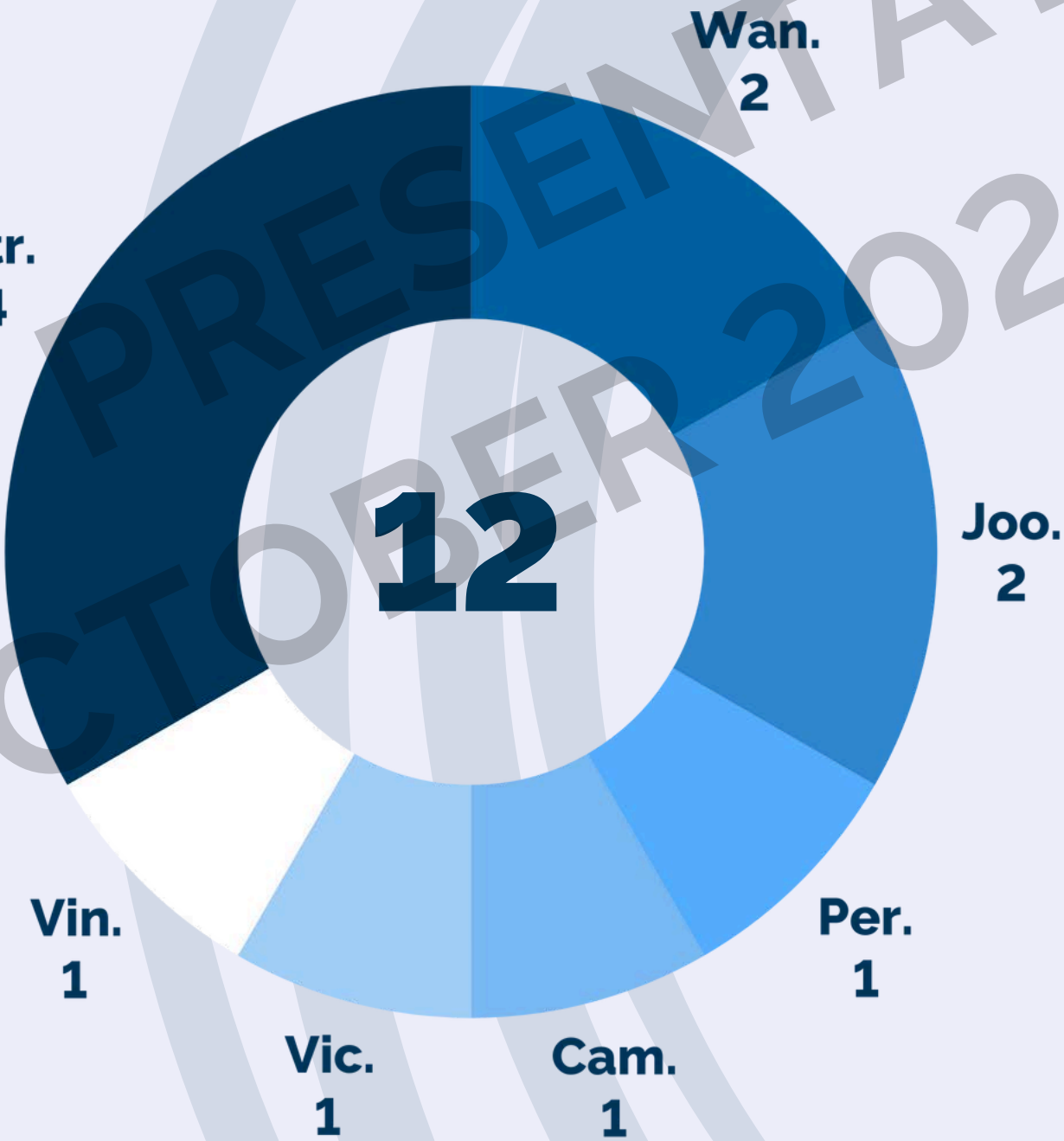
1987



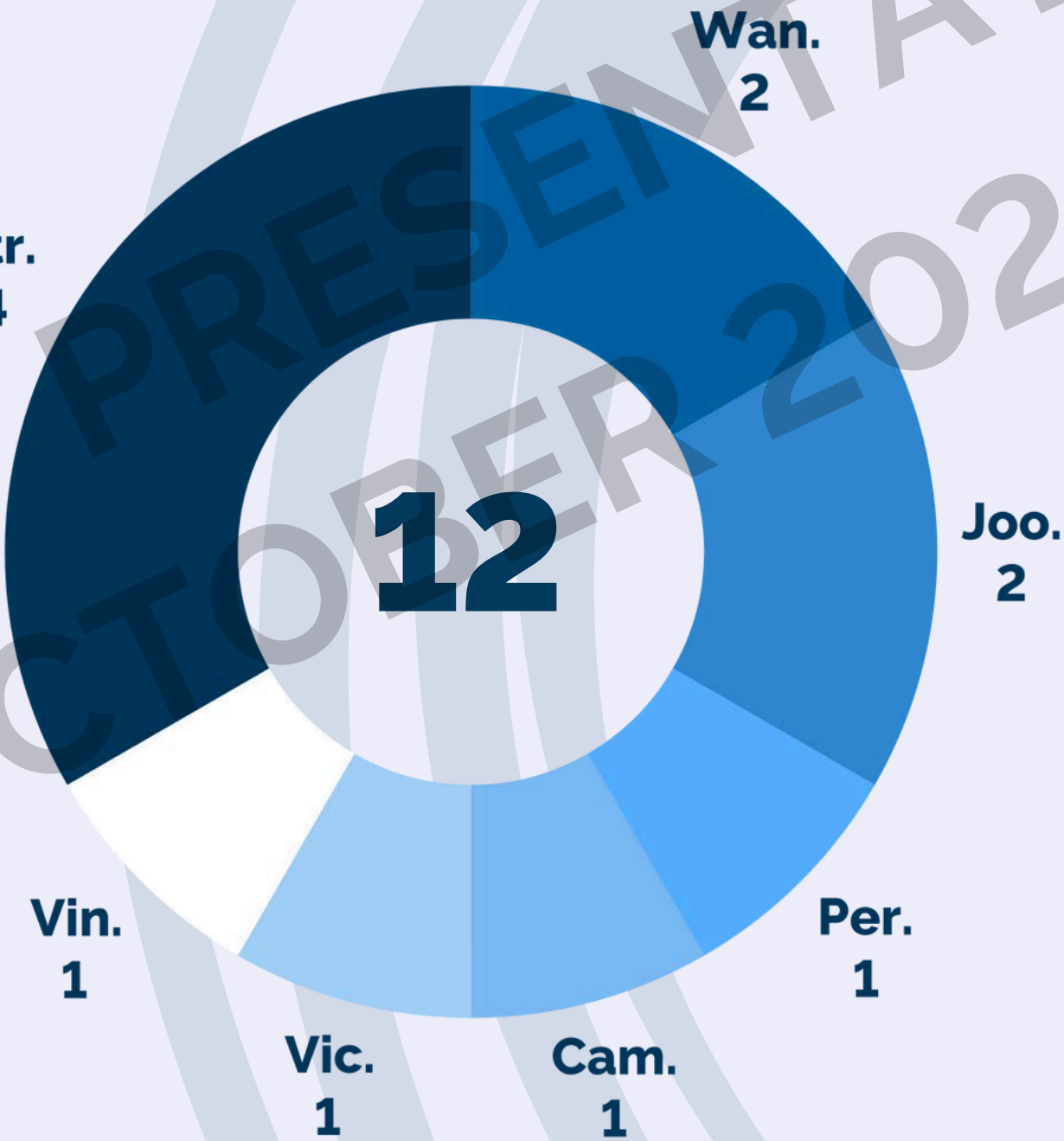
1996



1999



2024



What is Tamala Park?

What is Tamala Park?

- Waste Disposal Facility
 - One of the largest in Western Australia
- Landfill accepts 'putrescible' and 'inert' waste
 - No liquids or near-liquids in the landfill
- Operates (almost) every day



How does the landfill work?

How does the landfill work?*

- Accept waste from all seven member councils
 - This is household waste (red bin)
 - No yellow bin or green bin waste
- Open to member councils 6AM - 6PM
- 200,000 tonnes per year
 - Down from aprox. 350,000 in 2008

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★ Describes 2024 Tamala Park landfill operations



How does the landfill work?



**294,140* red bins
emptied each week
across MRC member councils**

*or red bin equivalents based upon number of dwellings and weekly collections across MRC member council areas

58,827*

* red bins/red bin equivalents collected from member councils each day (weekly total averaged across five days)

How does the landfill work?



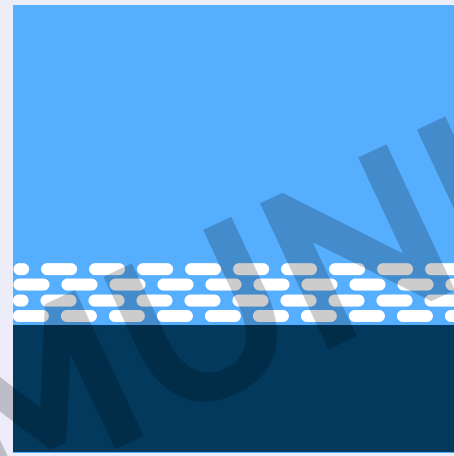
How does the landfill work?



Fresh waste
is
compacted



Fresh waste
is treated for
odour...



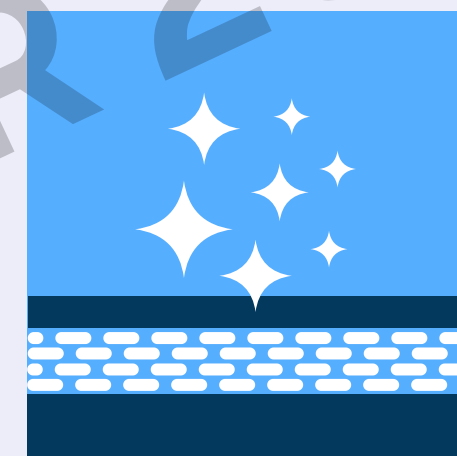
...covered
with
limestone



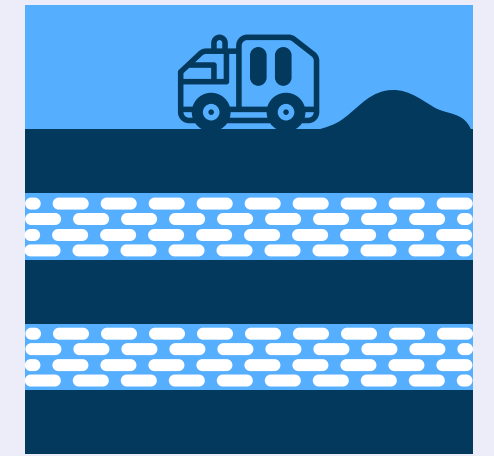
More waste
goes on top...



...compacted

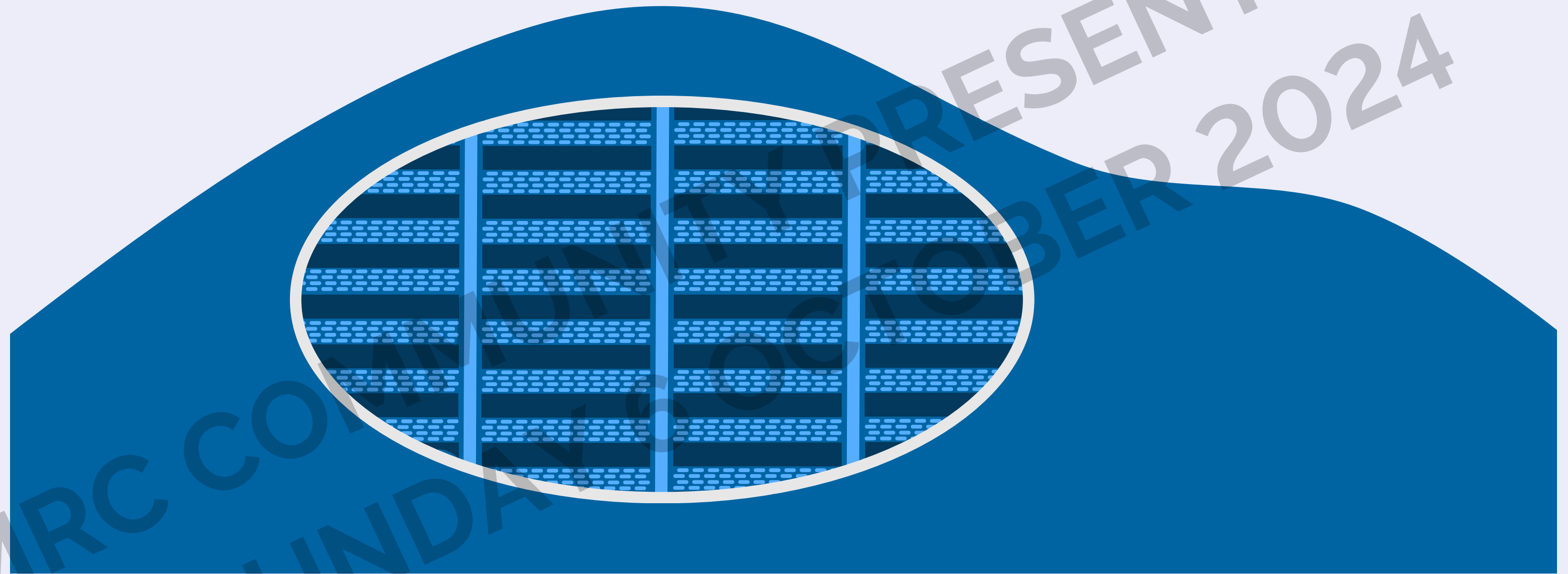


...treated



...and the
process
repeats

How does the landfill work?



How does the landfill work?

West

East

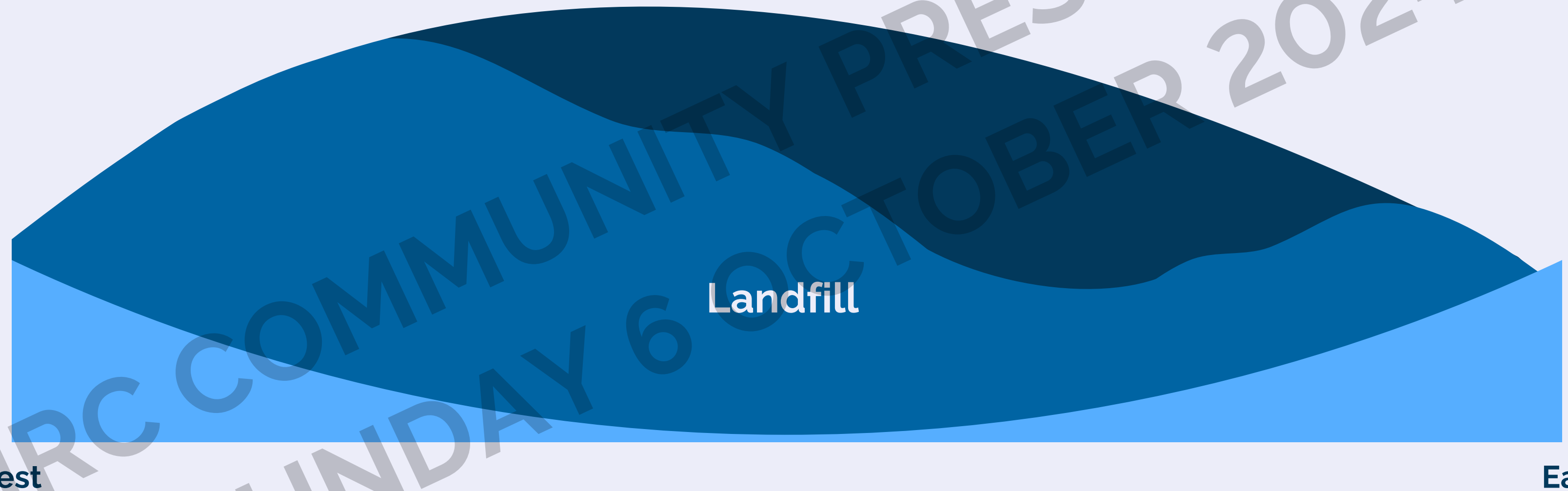
How does the landfill work?



How does the landfill work?



How does the landfill work?



How does the landfill work?



West

East

Why does the landfill smell more than it used to?

A note on landfills...

- Landfills are 'living' systems
- They have momentum
- Changes take time
 - Seeing the effects takes longer
- Every landfill is different



A note on smells...

- Three types of smell



A note on smells...

- Three types of smell
 - Odours **on the surface** (fresh waste)



A note on smells...

- Three types of smell
 - Odours **on the surface** (fresh waste)
 - Odours **in the landfill** (decomposing waste)



A note on smells...

- Three types of smell
 - Odours **on the surface** (fresh waste)
 - Odours **in the landfill** (decomposing waste)
 - Odours from **leachate**



A note on smells...

- **Leachate**

- Rainwater percolates down from the top of the landfill
- Picks up waste residue as it goes
- Sometimes gets trapped in 'lenses'
- Usually managed through evaporation



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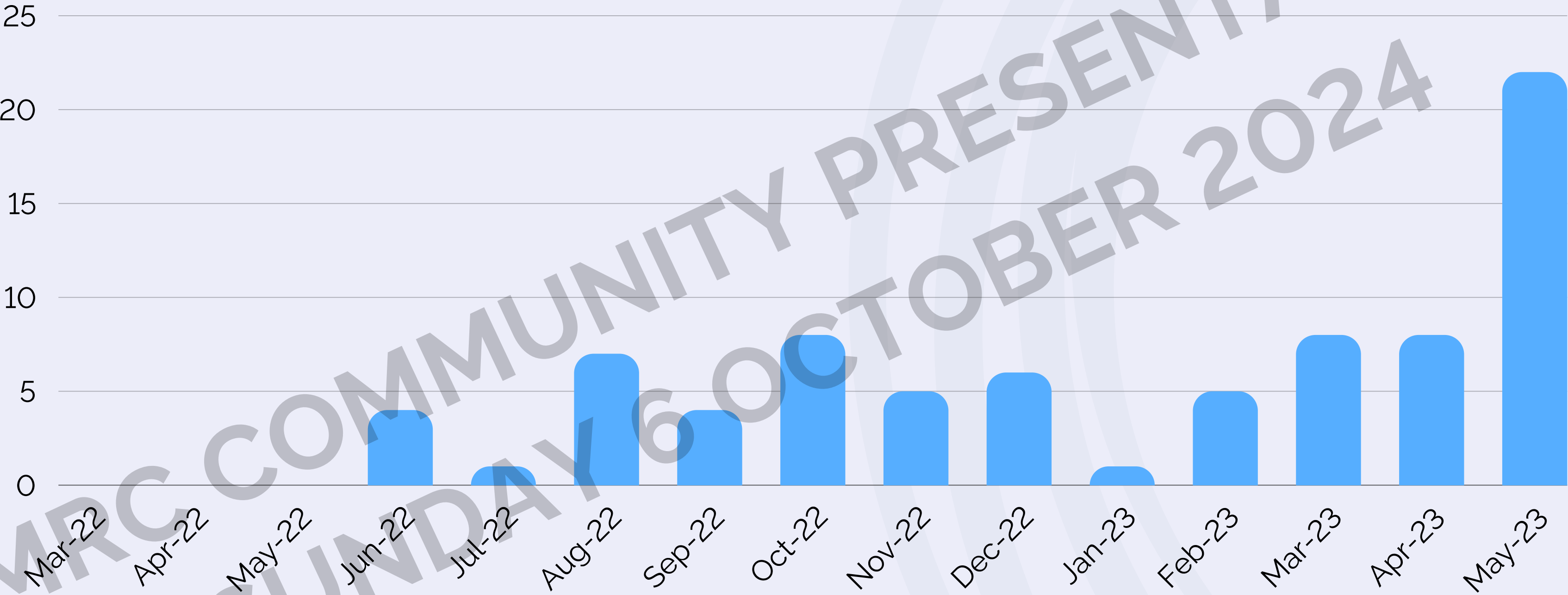
January-May 2023



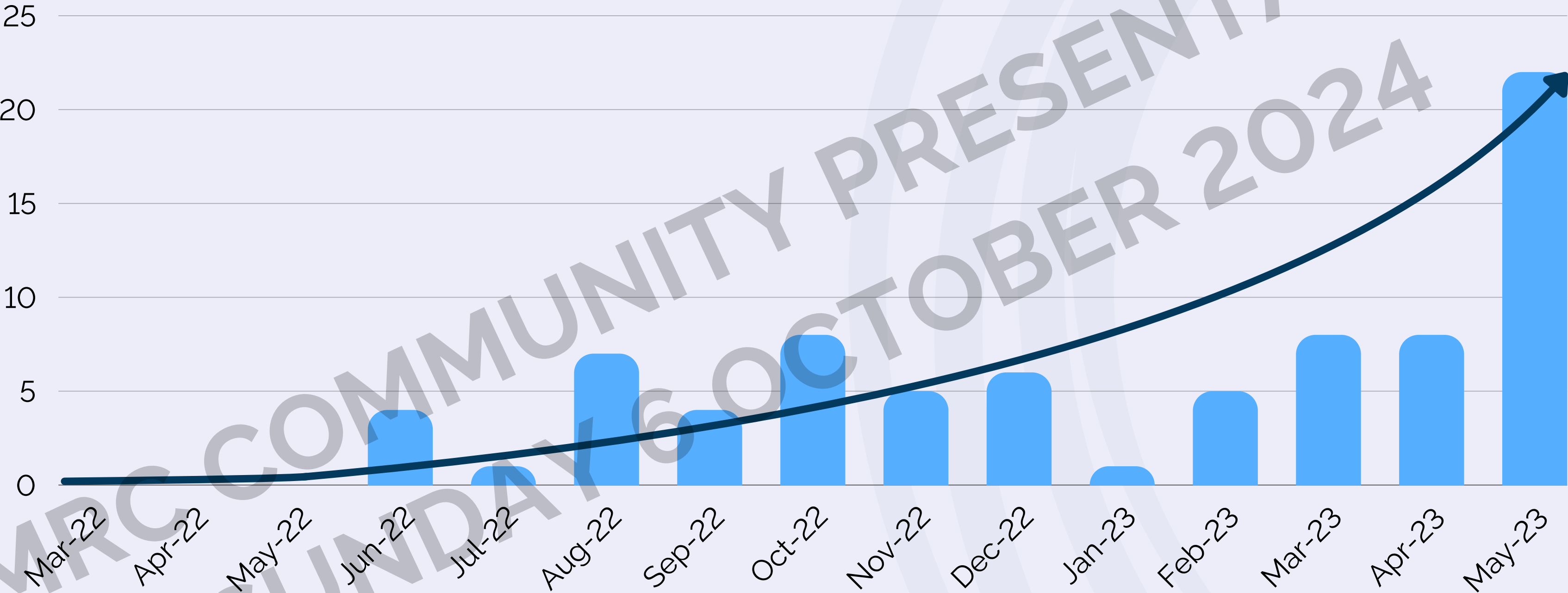
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Timeline: January-May 2023



Timeline: January-May 2023



Timeline: January-May 2023

- Investigated:
 - Landfill 'crown' becoming exposed to wind
 - Smells **on the surface** being carried more easily and more often
- This was in addition to existing (less odorous) smells from leachate

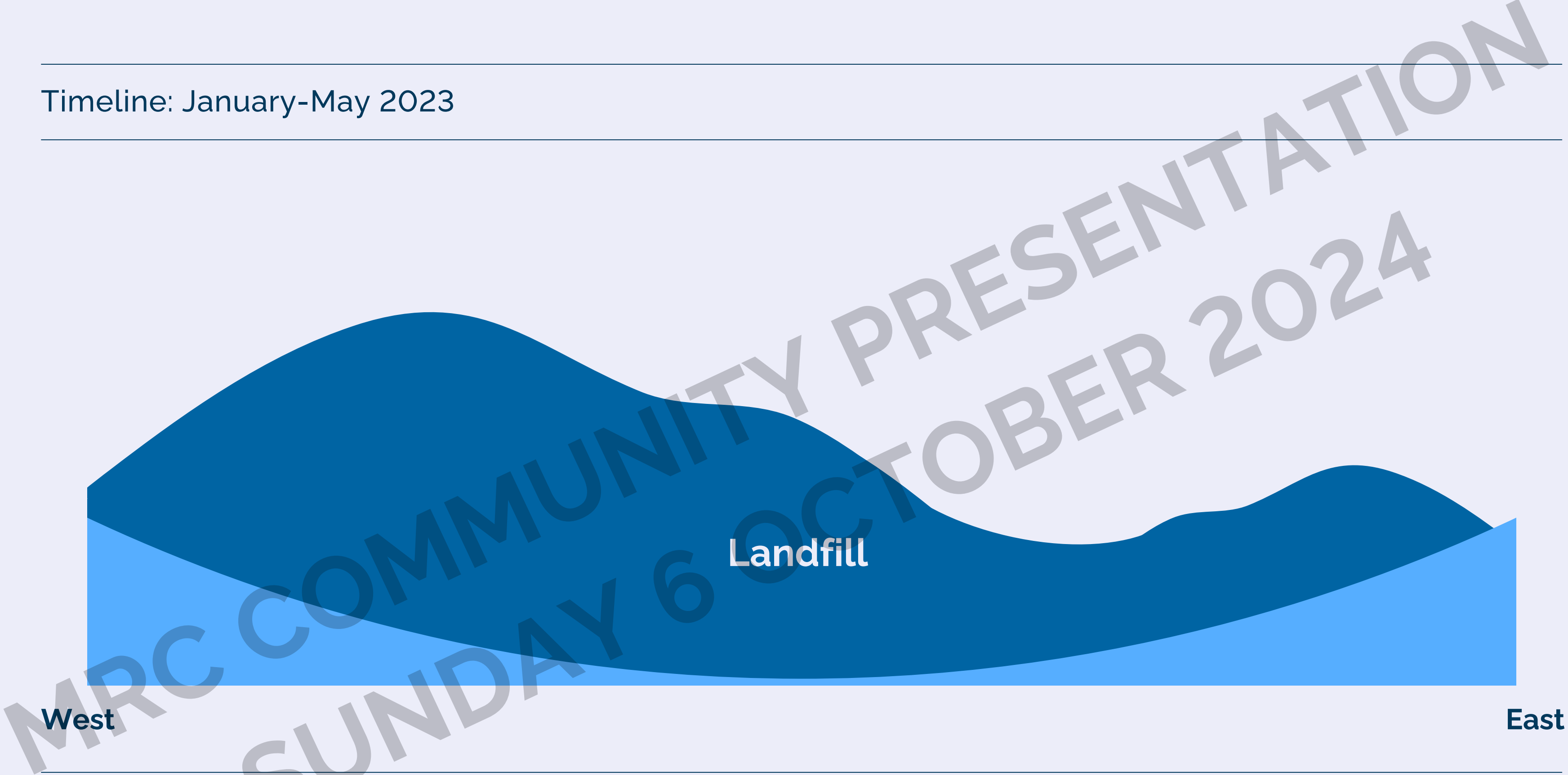


Timeline: January-May 2023

- How do we solve this problem?
 - The height?
 - Something else?



Timeline: January-May 2023



Timeline: January-May 2023



West

East

Timeline: January-May 2023

- How do we solve this problem?
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Timeline: January-May 2023

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 - Something else?
 - Long-term solutions



Timeline: January-May 2023

- How do we solve this problem?
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 - Long-term solutions
 - Short-term solutions



Timeline: January-May 2023

- How do we solve this problem?
 - ~~The height?~~
 - Something else?
 - Long-term solutions
 - Short-term solutions
 - Leachate evaporation



Timeline: January-May 2023

- Our theory at the time:
 - If we eliminate the smells from leachate evaporation, we can reduce the **total odour** and minimise the new impact of height
- The regulator was informed



Our response **(February-October 2023)**

Our response

- Stopped evaporating



Our response

- Stopped evaporating
- Nighttime deliveries of waste stopped




Our response

- Stopped evaporating
- Nighttime deliveries of waste stopped
- Strict conditions on commercial odorous loads



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November 2023–March 2024



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Timeline: November 2023-March 2024

- Odour complaints still going up, despite weather
 - This is new - expect fewer odours in summer
- Becoming clear that something has changed



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April-August 2024

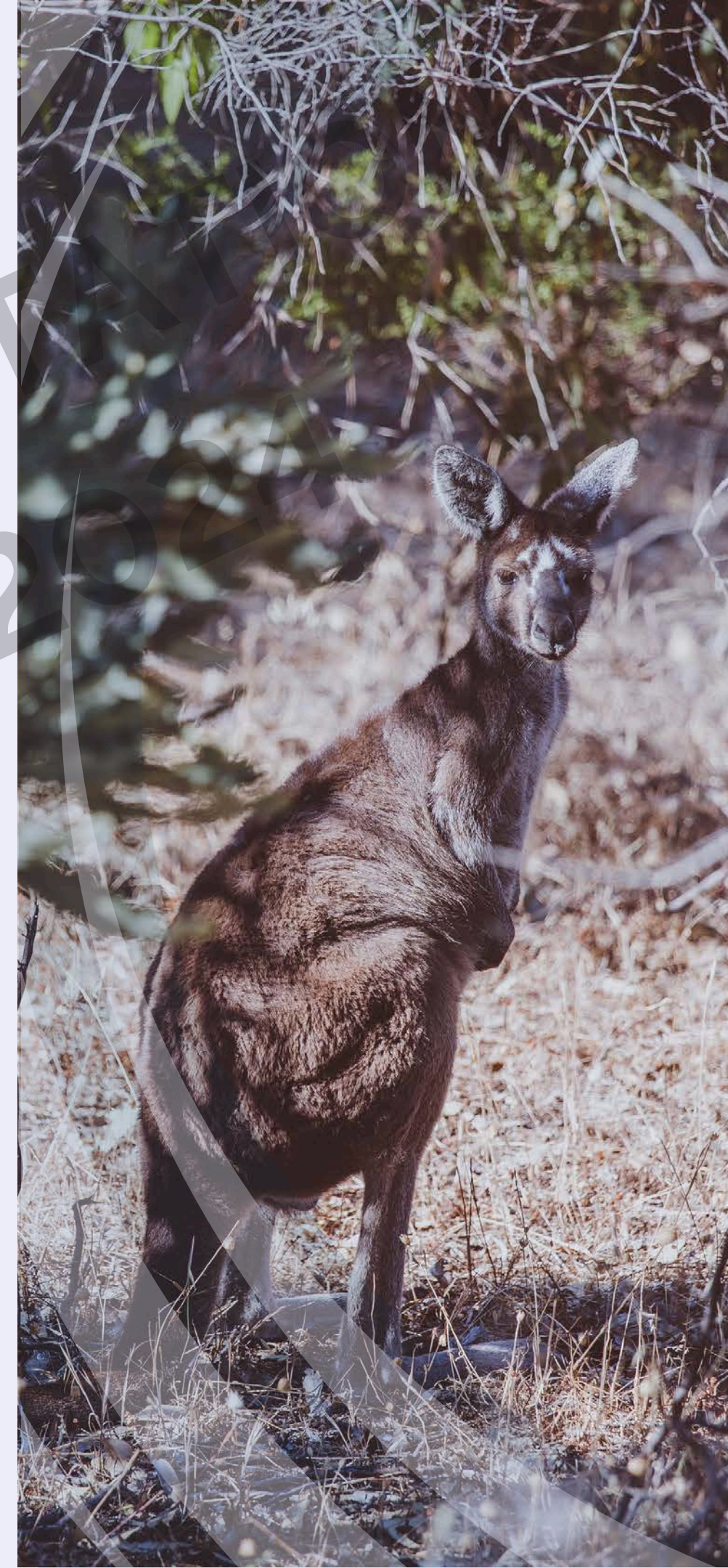


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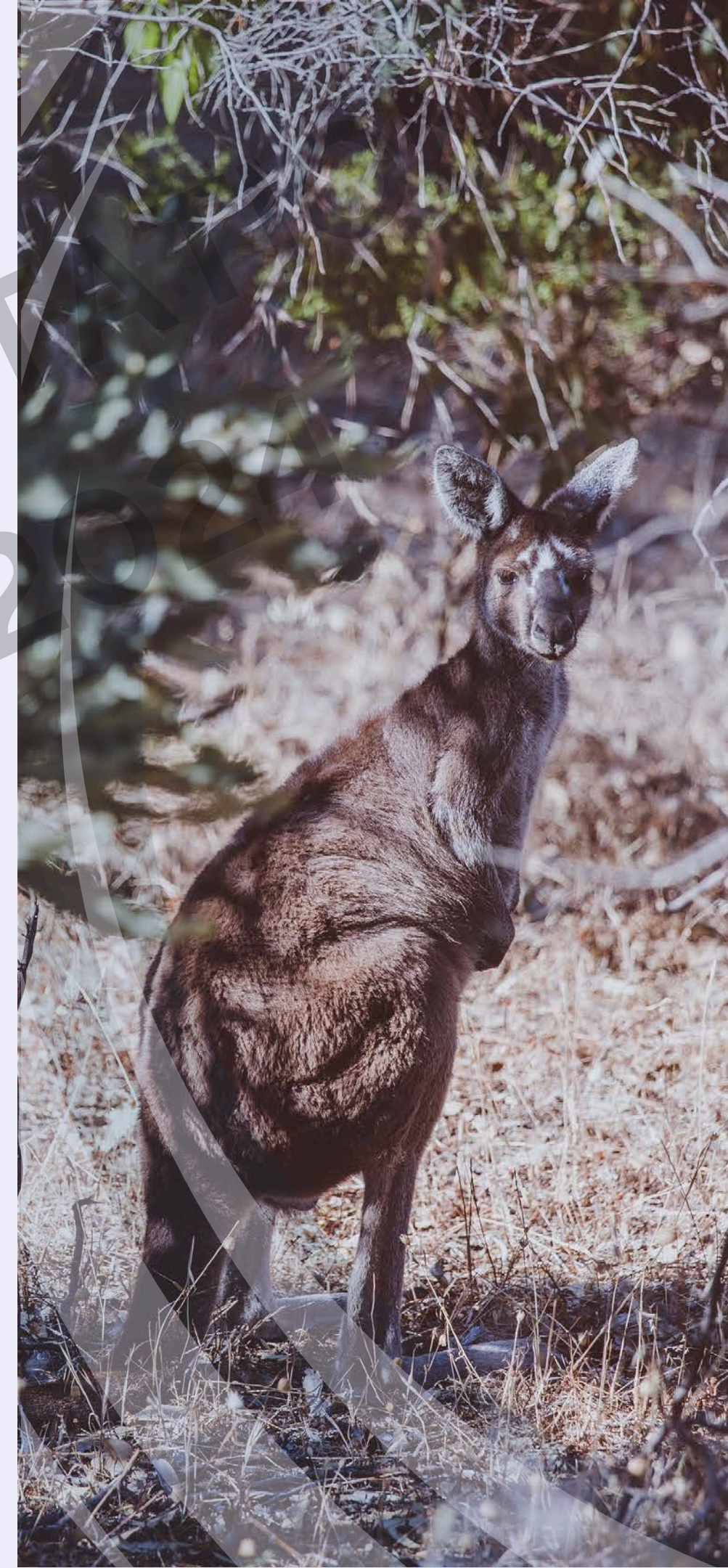
Timeline: April-August 2024

- What we didn't foresee
 - Most rainy days Jun-Aug in 28 years*

*Bureau of Meteorology, ABC News 5 September 2024

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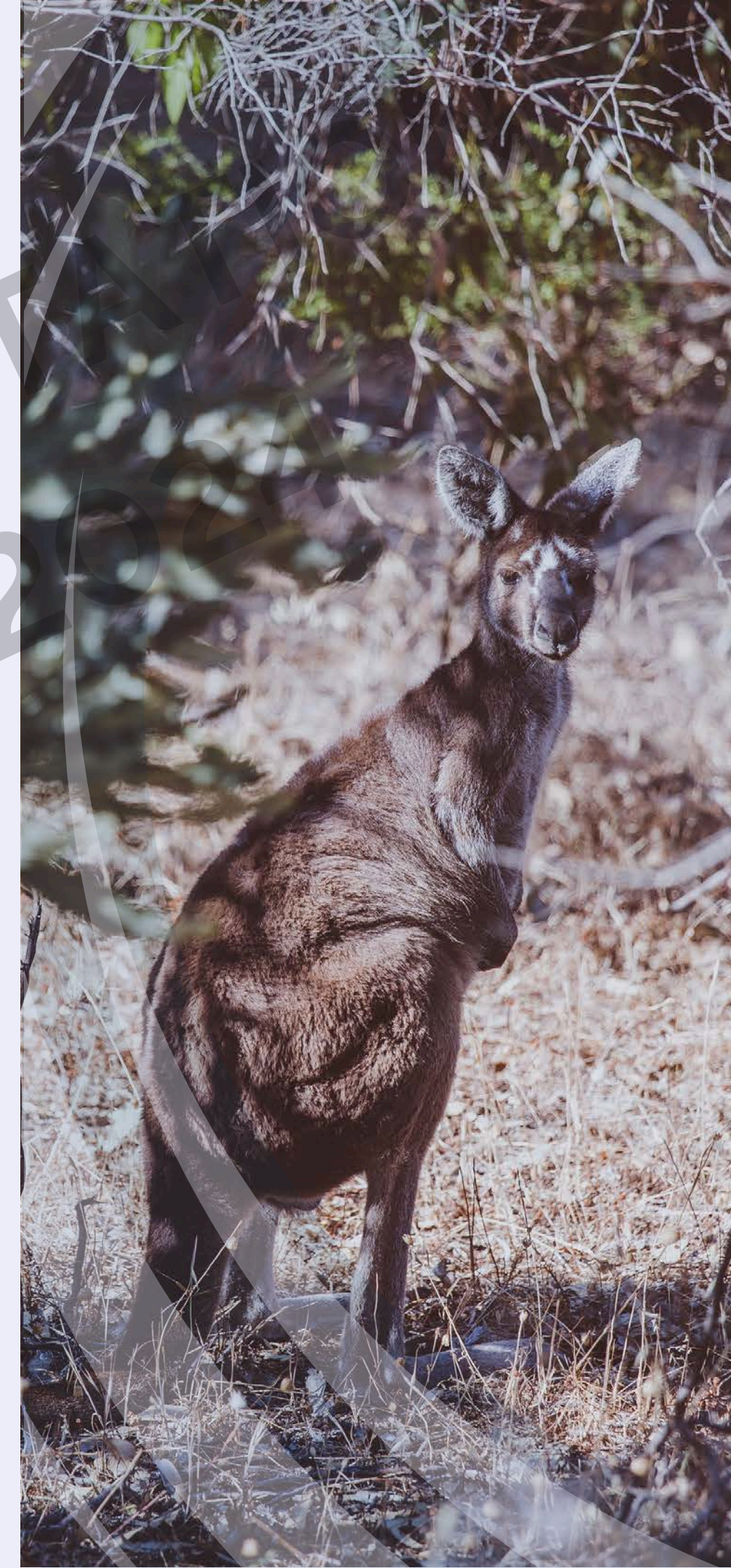
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 - Top of landfill mass became oversaturated

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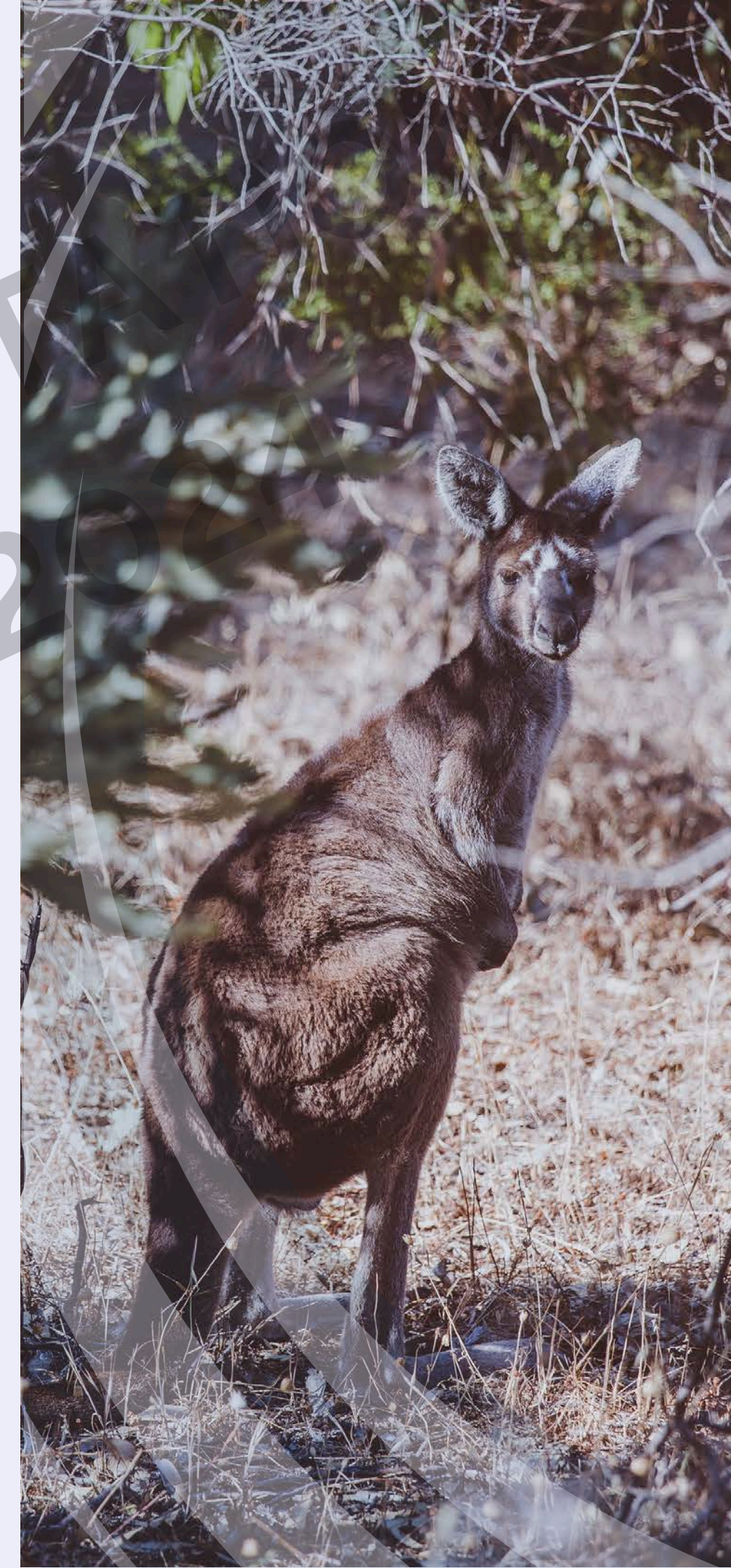
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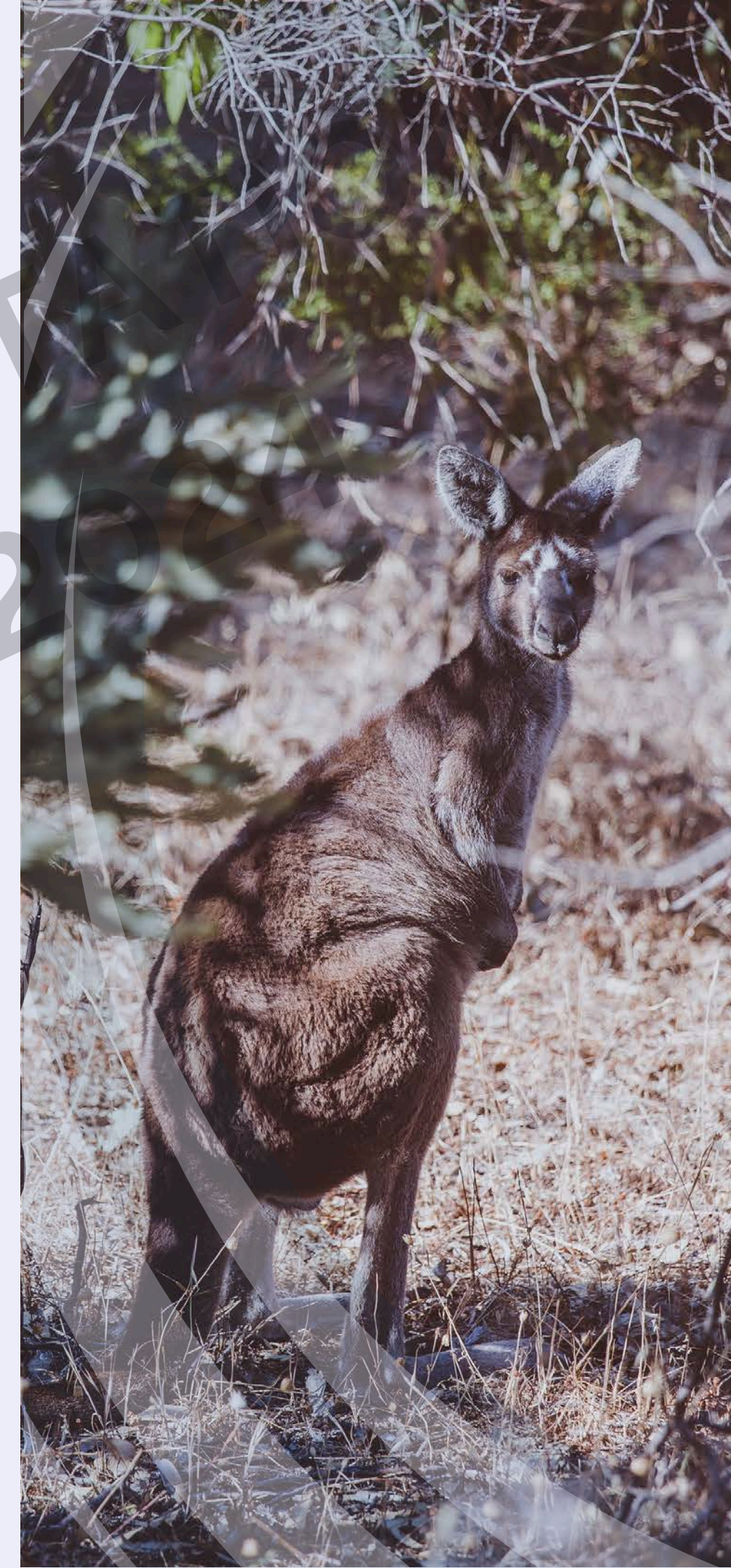
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 - Odours now mixing and being moved by water

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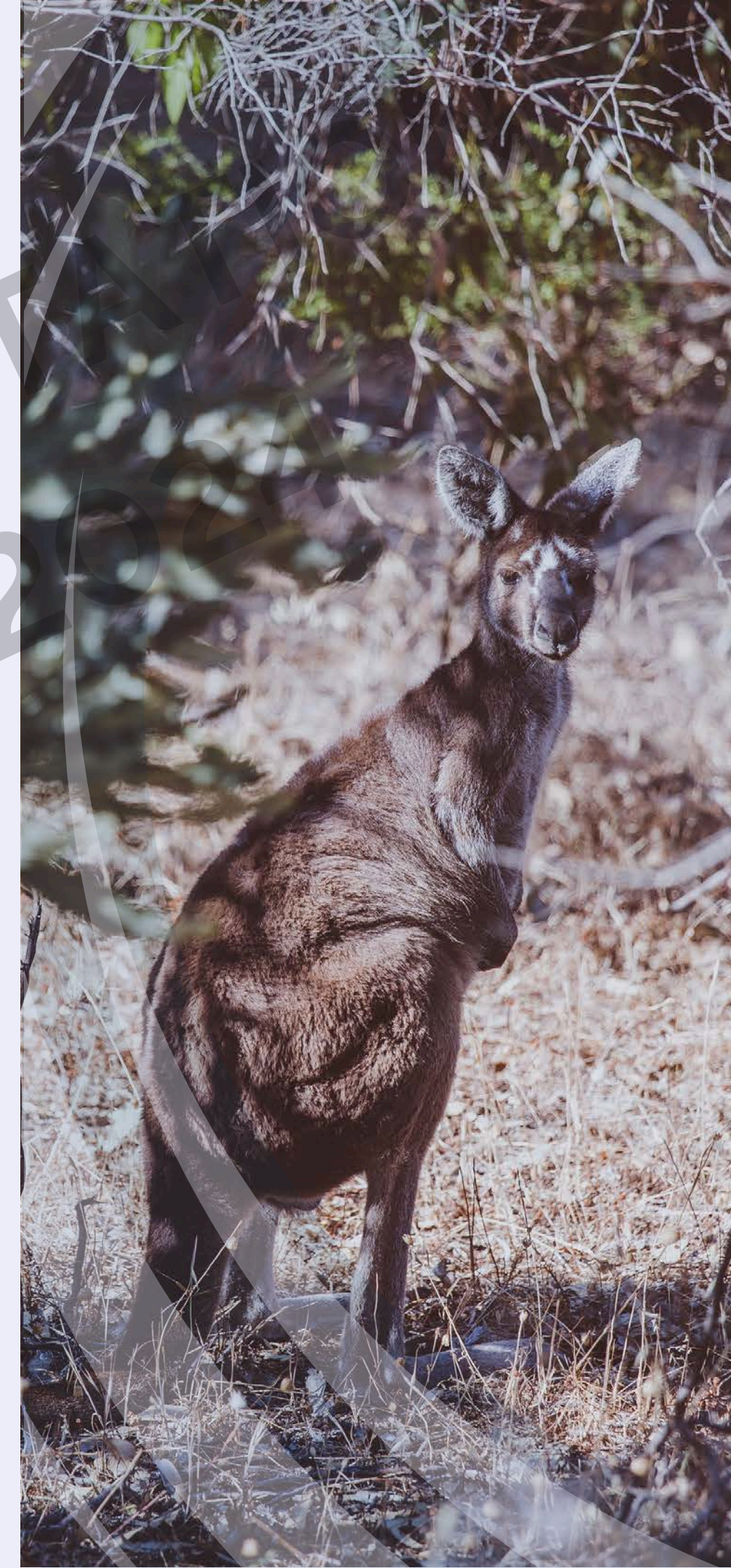
Timeline: April-August 2024

- What we didn't foresee
 - Most rainy days Jun-Aug in 28 years
 - Top of landfill mass became oversaturated
 - Rain had nowhere to go
 - Odours now mixing and being moved by water
 - Thick 'mud' on surface

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Timeline: April-August 2024



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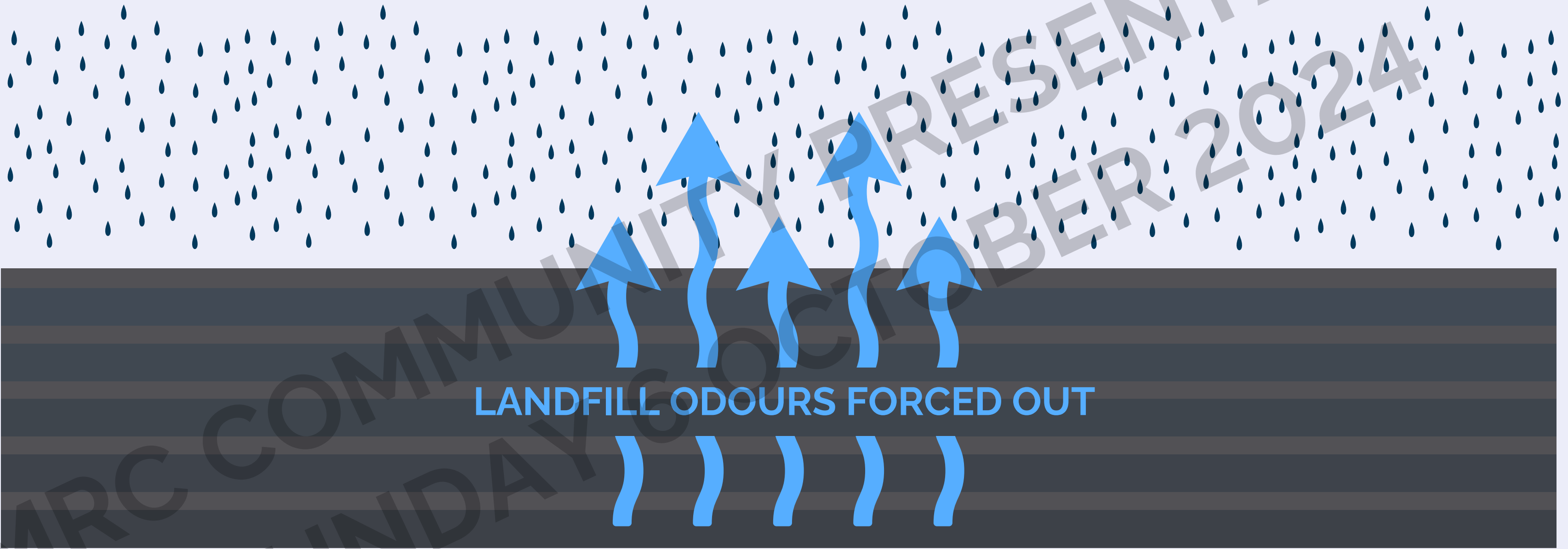
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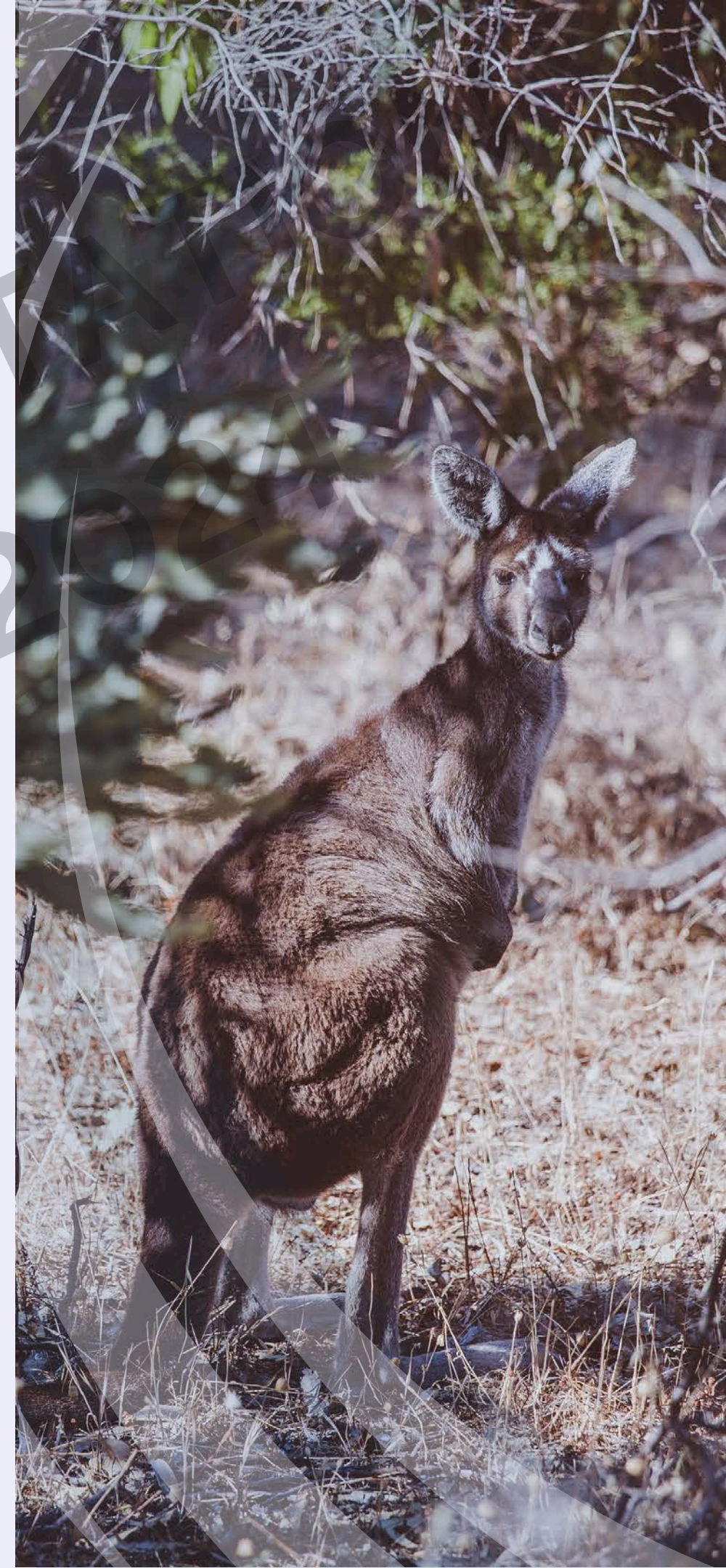


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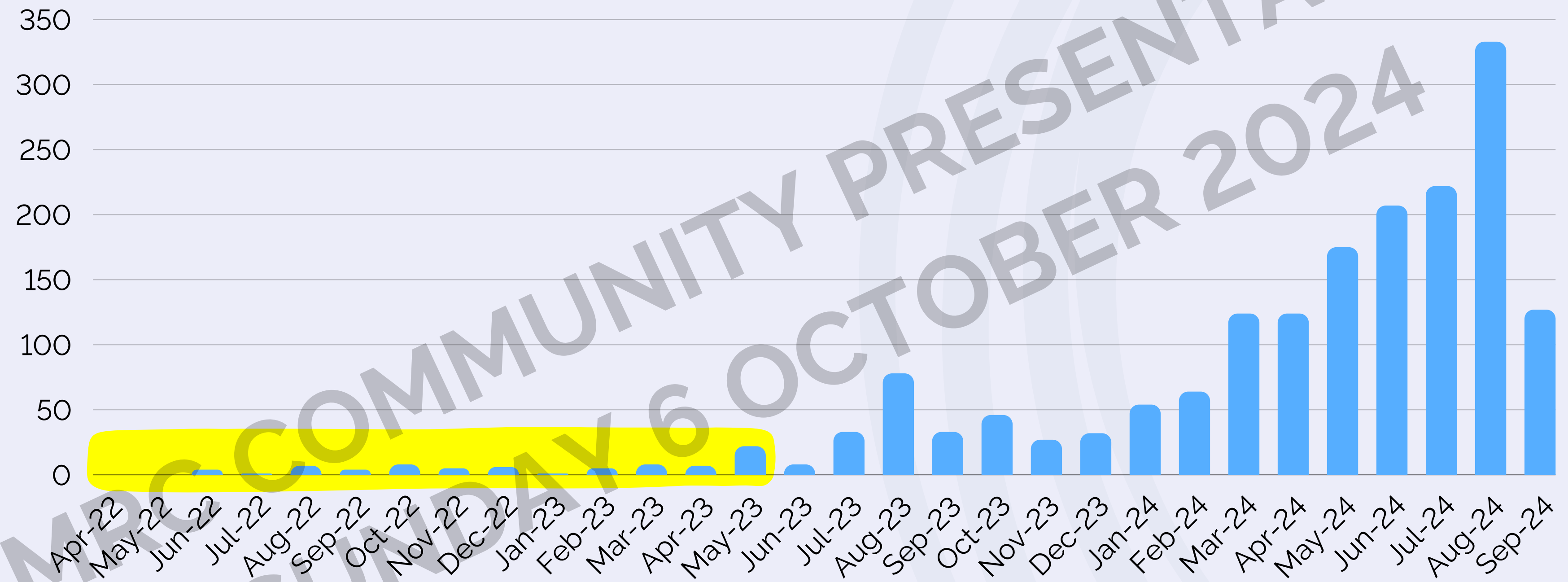
- 'Perfect storm' of conditions
 - High landfill
 - Strong winds, storms and heavy rain
 - Saturated upper landfill
 - Odours on the move
 - Flooded surface



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Community Presentation



Community Presentation



Timeline: April-August 2024

- MRC had never been in this position (or anything like it) before
- Community deeply unhappy
- Expectation to communicate
- Odour complaints still rising



How we responded



How we responded

- Increased the amount of cover on the landfill



How we responded

- Increased the amount of cover on the landfill
- Used odour suppressants and water treatments



How we responded

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- Pumped water away from saturated areas



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How we responded

- Increased the amount of cover on the landfill
- Used odour suppressants and water treatments
- Pumped water away from saturated areas
- Stopped commercial scale odorous loads
- Engaged external, independent odour consultant



What comes next?



What comes next

- Plan to increase rate of evaporation
 - Take advantage of summer
- Use new technology and methods, when they work
- Invest heavily - money and resources
- Continue to learn and act accordingly
- Keep regulator and community informed
- Long-term solutions (Waste to Energy and FOGO)



Will the smell get better?

Will the smell get better?

- Yes



Will the smell get better?

- Yes
 - We believe that it already is



Will the smell get better?

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 - Gradual, steady improvement



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 - Proceeding with caution



Will the smell get better?

- Yes
 - We believe that it already is
 - Gradual, steady improvement
 - Proceeding with caution
 - Independent testing and verification
 - Waste to Energy and FOGO



How much better?



How much better?

- (We hope) a lot



How much better?

- (We hope) a lot
 - Much better than June, July, August 24



How much better?

- (We hope) a lot
 - Much better than June, July, August 24
- But, odours will not disappear
 - Height issue will remain



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- (We hope) a lot
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- Aim to return to early 2023



How much better?

- (We hope) a lot
 - Much better than June, July, August 24
- But, odours will not disappear
 - Height issue will remain
- Aim to return to early 2023
- This will be the new normal until the landfill closes





When will the landfill close?

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- We can't walk away
 - Landfill must be finished and rehabilitated



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- **Estimated** closure in 2028 or 2029
 - Based on current trends



When will the landfill close?

- We can't walk away
 - Landfill must be finished and rehabilitated
- **Estimated** closure in 2028 or 2029
 - Based on current trends
- Closure doesn't mean an instant end to odour
 - Long term management of site





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REGIONAL
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