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1<sup>st</sup> September 2023

Hon. Penny Sharpe  
Minister for Environment  
Hon Paul Scully  
Minister for Planning and Public Spaces

Dear Ministers,

**Responding to the NSW Chief Scientist and Engineers Report (CSE) *Synthetic Turf in Public Spaces* (2023)**

Action to address the construction and management of synthetic turf fields in NSW represents a valuable opportunity to curb the spread of microplastics in our waterways. Revelations of environmental impacts and significant research gaps in the recent NSW Chief Scientist and Engineers Report (CSE) *Synthetic Turf in Public Spaces* (2023) have highlighted these surfaces as a critical concern.

We are writing to urge the government to go beyond the 'learn and adapt' approach recommended by the Chief Scientist, in its response to the CSE Report, as this will inevitably result in the establishment of more such fields and accumulating future problems for human and environmental health. There is sufficient evidence now to be alarmed and we need to take precautionary action.

Total Environment Centre's Australian Microplastic Assessment Project (AUSMAP), works at the forefront of the microplastic crisis and is a leading research entity on the loss of rubber crumb and synthetic grass from synthetic turf fields. As a nationwide citizen science program, AUSMAP aims to quantify microplastic pollution with the primary goals of identifying litter hotspots and assisting in source reduction. Since 2018, AUSMAP and its community of volunteers and partners, have collected over 600 samples and removed over 5 million microplastics from Australian waterways. In doing so, it has become apparent that sustained inputs of synthetic grass and rubber crumb are commonplace in both freshwater and coastal samples in NSW, with potentially significant environmental implications.

We wish to draw your attention to key research undertaken by AUSMAP in 2023 to quantify net microplastic loss from a synthetic turf field and the efficacy of stormwater pit traps. This study has occurred in collaboration with a Council in Sydney's north-west and was catalysed by mounting international evidence on the toxicity of rubber crumb and its mobility in the environment.<sup>1,2,3</sup>

<sup>1</sup> [Evaluation of potential carcinogenicity of organic chemicals in synthetic turf rubber crumb \(Perkins et al. 2019\)](#)

<sup>2</sup> [ERASSTRI - European Risk Assessment Study on Synthetic Turf Rubber Infill - Part 2: Migration and Monitoring Studies \(Schneider et al. 2020\)](#)

<sup>3</sup> [Global Evaluation of the Chemical Hazard of Recycled Tire Crumb Rubber Employed on Worldwide Synthetic Turf Football Pitches \(Armada et al. 2022\)](#)

Sampling of four pit-baskets (200-micron mesh) and downstream stormwater nets under wet and dry conditions were used to assess the performance of stormwater mitigation measures. In addition, walk-off trials were conducted to determine microplastic loss on field users. Preliminary results have highlighted that up to 70,000 particles of rubber crumb and over 50,000 particles of synthetic grass have been captured in a single trap sample. Downstream sampling and brush-off zone trials with community stakeholders are currently underway to assess other avenues of microplastic loss but have shown relatively lower loads.

Key findings from this investigation highlight extreme microplastic loss from this surface that would enter the environment unabated without the presence of stormwater mitigation traps. The impact of such mitigation (and the varying approaches) is yet to be reported - and invariably to date, are not common practice.

In summary, the results of our research, concessions of 'significant' knowledge gaps and mounting community concern, signify that the CSE's decision to adopt an accelerated 'learn and adapt' approach to synthetic fields in NSW is insufficient.

Consequently, we are seeking the NSW government take regulatory action to:

1. Impose a 5-year moratorium on new planning and approvals for synthetic grass fields.
2. Subject existing fields to pollution mitigation measures as soon as possible.
3. Urgently develop end-of-life pathways (recycling?) for fields that will not cause environmental damage (our case study identifies the only one in Australia, which is 10 years old and with Australian conditions mean they have shorter lifespans than overseas cases).
4. Invest substantial effort into how to improve drainage and condition of natural grass fields to avoid synthetic grass.
5. Continue a research program including epidemiological or health risk studies, heat impacts, environmental impacts, chemical composition, stormwater discharge, microplastic loss etc. AUSMAP has the expertise to participate.

Stringent regulation is in line with overseas developments. Most notably, this follows the European Union's recent decision to ban intentionally added microplastics including rubber crumb following a transitional 8-year period.<sup>4</sup>

We look forward to your advice.



Jeff Angel  
Director  
Total Environment Centre



Dr Michelle Blewitt  
Project Director  
AUSMAP

<sup>4</sup> [Committee for Risk Assessment \(RAC\). Opinion related to the request by the Executive Director of ECHA under Art. 77\(3\)\(c\) of REACH to prepare a supplementary opinion on: CEN technical report 17519 on risk management measures for artificial pitches and the ESTC study on their effectiveness and the proposed derogation for polymers without carbon atoms in their structure \(European Chemicals Agency 2021\)](#)



## **Be A Sport: Let's Stop Rubber Crumb Loss**

AUSMAP and Ku-ring-gai Council

Synthetic grass and rubber crumb infill are both pollutants of concern with potential health and environmental impacts.

By quantifying losses from Charles Bean Sportsfield, this project sought to assess the effectiveness of current mitigation measures.

According to preliminary results, 70,000 rubber crumb particles and 50,000 synthetic grass particles were captured in a single trap sample.

For other avenues of microplastic loss, downstream sampling and brush-off zone trials in collaboration with community stakeholders are ongoing.

The findings of this continuing study will inform management and a community education campaign.

**From:** [Susan Read](#)  
**To:** [Roger Faulkner](#)  
**Subject:** FW: Crimson Hill, Lindfield Litter Basket Installation  
**Date:** Tuesday, 20 May 2014 2:32:24 PM  
**Attachments:** [image001.png](#)  
[image002.png](#)  
[image003.png](#)  
[6199 Lindfield CPC.pdf](#)

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**Susan Read** | Landscape Architect | Ku-ring-gai Council  
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*Ku-ring-gai: Sydney's green heart*

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**From:** [REDACTED] [mailto:[REDACTED]@ecosol.com.au]  
**Sent:** Tuesday, 20 May 2014 2:26 PM  
**To:** Susan Read  
**Subject:** Crimson Hill, Lindfield Litter Basket Installation

Hi Susan

Nice to meet you on site today.

I am pleased to confirm the 8 x Ecosol litter baskets at the above mentioned project has now been completed.

Please find attached Certificate of Practical Completion. If you could please sign and return it via email [REDACTED] or fax **(02) 9669 6100** it would be greatly appreciated.

I have also attached a few photos for your reference.

Thank you

If you have any queries please feel free to contact me anytime on [REDACTED]

Regards



Project Coordinator - NSW/ACT/VIC/TAS



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