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Committee: Economic Matters

Testimony on: HB1547 – “Synthetic Turf and Turf Infill - Producer Responsibility”

Position: Support

Hearing Date: February 19, 2020

The Maryland Sierra Club supports HB 1547, a bill that would require cradle-to-grave accountability for synthetic turf fields and playground surfaces. As increasing numbers of grass fields are being replaced with plastic carpet, with tire crumb and sand substrates, their after-use disposal is of growing concern.

Background

The first artificial grass fields, made from a carpet of thermoplastic fibers, appeared in the mid-1960s, most notably in the first indoor baseball stadium, the Houston Astrodome, which gave rise to the term “astro-turf.” Over the next few years, their use expanded outdoors and to professional football fields as well. However, players identified an increasing rate of injuries attributable to the synthetic surfaces and criticized their use. In response, many teams returned to using natural grass fields.

In the 1990s, manufacturers introduced a new generation of artificial turf, designed to be safer and appeal to a larger market, including schools and public and private recreation fields.¹ This design, which continues in use today, consists of a carpet of green plastic fibers with infill material made of ground-up discarded tires, commonly called “crumb tire,” and sand. Many playground surfaces also are being replaced with used tires. Used tires have been a disposal problem for decades, so many people concluded that a presumably beneficial use had been found for them. Unfortunately, it has become apparent that this repurposing of used tires has created a more complicated, harmful, and serious waste and public health problem.²

The Waste Problem

When synthetic turf fields first were developed and installed, little consideration was given to their disposition after they wore out. Little documentation exists for where used fields were taken for disposal in the past, but most were probably landfilled or incinerated.

Today there are over 12,000 synthetic fields installed in the United States, with up to 1500 new installations occurring each year. The lifespan of a typical synthetic field is eight to ten years. A typical football-sized field, for example, is about 80,000 square feet in size and weighs about 230 tons. So the issue of where to dispose of the synthetic fields after they are no longer useable has become a major waste problem.³

In addition to the sheer volume and weight of discarded synthetic turf, its components include toxic chemicals known to be harmful to the environment and human health. The plastic blades, or carpet, contain phthalates, heavy metals, flame retardants, and highly toxic PFAS, a class of non-stick chemicals

¹ <https://www.sciencehistory.org/distillations/magazine/turf-wars>.

² <https://ntp.niehs.nih.gov/whatwestudy/topics/syntheticurf/index.html>.

³ <https://www.fairwarning.org/2019/12/fields-of-waste-artificial-turf-mess/>;
https://www.syntheticurfCouncil.org/page/About_Synthetic_Turf.

Founded in 1892, the Sierra Club is America’s oldest and largest grassroots environmental organization. The Maryland Chapter has over 70,000 members and supporters, and the Sierra Club nationwide has approximately 800,000 members.

used in manufacturing synthetic turf.⁴

The main ingredient of the infill, crumb tire, is particularly problematic. While used tires are generally not considered a hazardous waste, they do contain toxic ingredients such as hydrocarbons, heavy metals (such as zinc, lead, and cadmium),⁵ and carbon black.⁶ Some tire ingredients are known toxins to aquatic organisms.⁷ Other ingredients are known carcinogens, endocrine disruptors, and neurotoxins.

As many as 40,000 ground-up tires are used on just one field. The tiny pieces of tire crumb easily escape into the environment through rain runoff, wind, and use of the field. Studies show that the leaching of organic compounds increases with smaller pieces of shredded tire.⁸

Producer Responsibility and Chain of Custody

Manufacturers typically develop, produce, and ship their merchandise to markets and, once sold, they are no longer held responsible for the use and disposal of their products. But many communities, struggling with increasing demands on decreasing landfill space, are looking at requiring producers and purchasers to account for their products' lifetime use.

This legislation does just that. It requires that producers take responsibility for the end-of-life management of synthetic turf and turf infill by developing a "stewardship plan" which includes the components specified in the bill, and requires that producers obtain approval for their plans from the Maryland Department of the Environment (MDE). The bill also requires that systems be established by producers, and in some circumstances by owners, for tracking the chain of custody of each installation, from manufacture to final disposition, and that this information be transmitted to MDE who, in turn, will be required to publish the information on its website. Finally, the bill requires disposal that prevents environmental contamination, and places limitations on how components of synthetic turf may be reused, allowing for reclamation into new synthetic turf should that be feasible.

Every synthetic turf field in Maryland represents a disposal nightmare of enormous size and complexity. This legislation ensures that our communities will not be burdened with improper disposal of a major waste item. We urge a favorable report on this bill.

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⁴ Lerner, S. <https://theintercept.com/2019/10/08/pfas-chemicals-artificial-turf-soccer/>.

⁵ <https://www.ncbi.nlm.nih.gov/pubmed/14643415>.

⁶ <http://www.ehhi.org/chemicals>.

⁷ <https://www.ncbi.nlm.nih.gov/pubmed/15620758>.

⁸ <http://www.ehhi.org/summary-turf.pdf>.