Climate change and artificial turf not a good mix

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By Renée Scott

Our region will feel many impacts from climate change in the coming years but the one we will all face, no matter how close we live to a flood zone, how much money we make, our access to health care, or our proximity to a highway, is heat. Since the 1980s, each successive decade has been warmer than any preceding decade since the 1850s. Worldwide (and in our region), July 2019 was the hottest month in recorded history.

The trend is not our friend on this statistic. Somerville’s Climate Change Vulnerability Assessment says that in ten short years we will have 40 days each year over 90 degrees. Remember how hot it was in Somerville last summer? We had only ten days of 90 degrees or more. This will be an extraordinary increase in a very short time. The Urban Land Institute just released a report on living with heat in which they look at four communities, including Somerville, and how they can best prepare and live with the extreme heat we will all feel. They quote the Union Of Concerned Scientists speaking about the urban implications of this increased heat, who say that “extreme heat is poised to rise steeply in frequency and severity over the coming decades, bringing unprecedented health risks for people and communities across the country.” They explain that urban heat islands increase the heat because “on hot days, roof and pavement surface temperatures in metropolitan areas can be 50–90°F (27–50°C) hotter than the air, while those of nearby shaded or moist surfaces remain close to air temperatures.”

This extreme heat, without relief, reduces the human body’s ability to cool itself and can lead to heat exhaustion, confusion, heat stroke, and even death. Those most vulnerable to heat-related illness are children,
the elderly, people who work outdoors, athletes, and those with lower income who may not have access to air conditioning or other ways to stay cool. Unfortunately, the Living with Heat report explains that Somerville is especially vulnerable to urban heat island impacts because of our excessive pavement and lack of tree canopy and open spaces.

Despite these undisputed facts, our city continues to push to install artificial turf, replacing our grass fields. Artificial turf is frequently 40 to 70 degrees hotter than grass, which rarely gets over 100 degrees. The National Recreation and Park Association recommends that caution be taken with air temps over 80 degrees when playing on artificial turf – and when 90 or higher, to avoid use between noon and 5pm. They also recommend signage, cautioning users to the potential for extreme heat on these surfaces.

The Massachusetts Interscholastic Athletic Association has guidelines on avoiding heat-related illness in our young athletes. Their chart shows that at a humidity level of 65% or more, which is normal for our area in the summer months, air temps in the low to mid-80s create conditions where only fit and heat-acclimatized athletes should participate. But what happens when you consider the additional 40 to 70 degrees of heat from an artificial turf field? At 100 degrees there is no level of humidity where non-heat-acclimatized athletes should play.

Our children are already being impacted by heat on artificial turf here in Somerville. Youth athletes have already suffered heat stroke playing on the artificial turf surface at the Capuano School. Is your child’s coach paying attention? Are they trained in monitoring the conditions as well as what to do if any of the kids in their charge show signs of heat-related illness? What if your kids have gone off on their own to play with friends, not monitored by a trained adult?

Now, if you don’t have kids who play on these fields, you’re probably wondering why you’ve read this far. Unfortunately, the decision to install artificial turf does not just affect those who use the fields. Adding insult to injury, when we cover a grass field with artificial turf, we not only add a very hot surface, we also take away a cool one. It’s a double whammy.

So why are we still considering artificial turf fields? We are told that our grass fields can’t take the use demanded of them and stay in good shape. We are told that our children deserve the best. But is scaldingly hot artificial turf really the best? Is the danger of heat stroke and hotter neighborhoods really worth the risk just so we don’t have rainouts? Do we really understand the seriousness of the heat we will continue to experience with more and more frequency?

The fact that the city wants artificial turf on Conway says that we really do not get it. Our mayor says that climate change is the greatest existential threat we face, yet continues to plan for our cool grass fields to be covered in a plastic surface that can easily get to 150 degrees on a normal warm, sunny day. There is a role for artificial turf – it’s a great surface for indoor, climate controlled, year-round athletic facilities. If we care about children’s athletic opportunity and their safety, let’s invest in creating that kind of facility. But we cannot replace our few remaining grass surfaces with artificial turf without making our heat issues worse and endangering our children.

We have to face reality. Our planet is heating up at historic rates. Our region is seeing increasingly hotter temperatures every year. Our city is one of the very hottest in the Greater Boston area. This is the reality. We do not have the luxury to delay. We do not have the luxury to choose the optimal surface for a particular sport given a particular weather condition. We do not have the luxury to do anything other than make our town as cool as possible to give our residents a fighting chance to be healthy and comfortable. It’s no longer a discussion of which surface holds up best under extreme demand. The discussion needs to be which surface holds up under extreme heat. That surface is not artificial turf.

Renée Scott is a Somerville resident, mother, and co-founder of Green & Open Somerville.
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