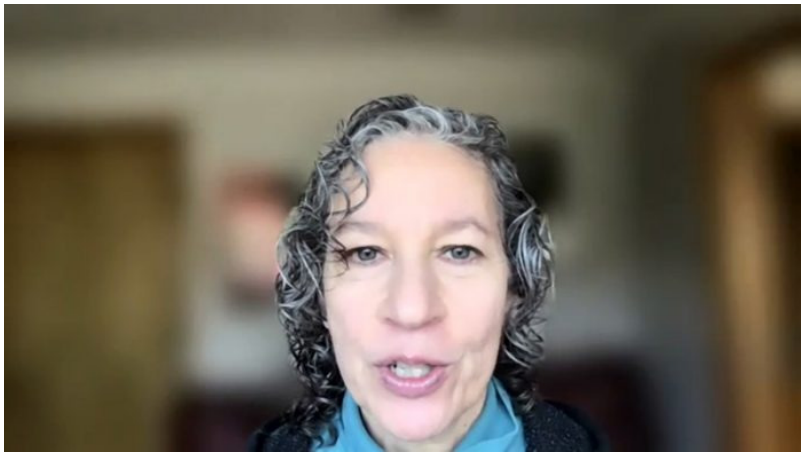
PFAS condemned at O.B. hearing

Scientists compare PFAS to dioxin; say the chemicals are biggest U.S. pollution problem.

By **Rich Saltzberg** - December 14, 2021



Kyla Bennett, director of science policy for Public Employees for Environmental Responsibility, spoke at the Oak Bluffs board of health meeting.

At an Oak Bluffs board of health hearing Tuesday, scientists illustrated a litany of dangers associated with PFAS, and warned that Vineyarders are being misled by paid opinions that downplayed the risk of the chemicals.

The hearing was meant to be an introduction to draft regulations to prohibit turf containing PFAS. However most of the hearing focused on PFAS itself, a class of chemicals that are long-lasting in the environment. The

elephant in the Zoom was the synthetic turf athletic field proposed for Martha's Vineyard Regional High School. Though not stated overtly, the draft regulations would effectively torpedo the project in its proposed form, because the turf intended for it will contain PFAS.

There were dozens of proponents and opponents of the synthetic turf field proposed at MVRHS in the Zoom audience.

Several scientists provided opinions to the board and took its questions. None had anything remotely positive to say about PFAS.

"So PFAS has been found to affect multiple systems in the body," Courtney Carignan, an exposure scientist and environmental epidemiologist who is an assistant professor at Michigan State University, said. "Dr. Linda Birnbaum, who's the former director of the National Institute of Environmental Health Sciences, recently gave a talk comparing PFAS toxicity and toxicity of dioxins." Carignan said dioxin has been studied for years, and "is known to be quite toxic."

Carignan said Birnbaum noted both dioxin and PFAS are "toxic" to multiple body systems.

"Dioxins have been found to be very persistent; PFAS is also very persistent — the list goes on. Dioxin and PFASs, another thing they have in common is they're both very toxic to the immune system, so the immune system is the most sensitive endpoint. For PFAS, the

second most sensitive endpoint is mammary gland toxicity, so it affects development of the mammary glands and has been implicated, potentially, in breast cancer and things like reduced ability to breastfeed."

Carignan also said PFAS has been implicated in autoimmune disease and elevated cholesterol levels. "So in contaminated communities where the drinking water levels of PFAS are high, you actually can see a very clear dose response in terms of the association between PFAS exposure and elevated cholesterol," Carignan said.

Kyla Bennett, director of science policy for Public Employees for Environmental Responsibility, an ecologist and attorney, said she was not making a paid appearance at the hearing, nor were the other scientists present.

"We are here because we care about human health and the environment," Bennett said. "We are here because we are very concerned about PFAS. We have no ax to grind. We have no ulterior motive. We just want to arm Martha's Vineyard with the facts so you can make the correct decision for your Island, your environment, and your residents."

Bennett said Vineyarders have been told PFAS can be divided into good and bad, however she pointed out all PFAS is persistent, and "that is bad."

Bennett said the "vast majority" of PFAS with toxicity data available reveal danger, and there are 12,039 types of PFAS that have been identified by the Environmental Protection Agency (EPA). "If we wait for risk assessments on those PFAS, it will take us thousands of years," Bennett said. "We cannot afford to do that."

Bennett said PFAS is enduring in the environment, a so-called "forever chemical," and it continues to accumulate wherever more of it is introduced. Bennett stressed that halting or limiting PFAS doesn't make the PFAS already in the environment go away. She described PFAS as an "additive" problem, and argued it was "nonsensical" to take the position that because PFAS already exists in the environment that it won't hurt to add more.

"The more you put in the environment," Bennett said, "the more you're going to have. It stays there. It's dangerous."

"Massachusetts is going to be regulating all PFAS as a class," Bennett said.

She described the thresholds for PFAS contamination as on a downward trend.

California is trying to regulate PFOS, a subtype of PFAS, in minute concentrations — "parts per quadrillion," Bennett said. "And it is very likely that soon, we will learn that there is no acceptable safe limit of some of these PFAS — like lead, it should be zero."

Graham Peaslee, a professor of physics at the University of Notre Dame, said, "This is a nationwide problem, it's not Martha's Vineyard alone."

Peaslee described PFAS as "probably" the largest pollution problem facing the U.S. He said the cost associated with cleaning up pollutants like asbestos and dioxin are likely to "pale in comparison."

Peaslee said PFAS has become so prevalent that "every child that is born in this country is born with 5 parts per billion in their blood of recognizable PFAS, and probably 10 times that of unrecognizable PFAS."

Peaslee said the Vineyard had a "very precious" and "limited" freshwater supply, "and the more PFAS you put into it, the more that you will be drinking, and the more that will show up in you and your children's blood."

"You guys are a sandbar," Kristen Mello, an analytical chemist, PFAS investigator, and city councilor from Westfield, said. "You are a sandbar, and your drinking water comes from the rain. Every drop of PFAS you add to that Island is yours to keep."

Peaslee said he was speaking at the hearing to "counteract" paid opinions from vested interests. He said he is researching how to measure all PFAS, not just what's recognizable — "there are so many of them it's hard to keep up with."

Peaslee described PFAS as all "bioaccumulative" and all "persistent," and "as much as we can study, it's all toxic … so there's no such thing as a good PFAS at this point."

Limits for PFAS are going down around the world, "and going down significantly," Peaslee said.

The U.S. hasn't regulated PFAS yet, he said, but he anticipated the EPA will within the next year.

Peaslee said much is being made of the fact PFAS are polymers, and polymers aren't easily absorbed by the body: "However, all PFAS are made in a solvent, which are short-chain PFAS, which come along for the ride."

Mello later told The Times those short-chain polymers are better called short-chain PFAS, and are "hitchhikers" that are "bioavailable" — readily absorbed by the body. She described them as toxic and able to "cross the blood-brain barrier."

Peaslee said in artificial turf, most of the short-chain PFAS stays in the grass blades, but exposure to sunlight and water changes that.

"Nobody knows how much will actually come off," he said. "People will try to tell you it's only a few parts per billion," and it will get diluted.

"The idea is to think of the bigger picture," he said. "Where does that few parts per billion go eventually?"

Peaslee argued it will end up in the water supply.

Health board member Dr. Jim Butterick said he saw parallels between PFAS and the incremental grasp and regulation of tobacco. Dr. Butterick asked if it was possible "to build an artificial field that does not have PFAS?"

"I think that it is possible to do so," Peaslee said. "But I'm not an expert on artificial turf. But I know why it's being used. It's being used as an extrusion agent, it's being used as a finishing agent to make the [grass blade] not buckle and not wear easily. They used to make it before they had this. It just wasn't as good turf. It didn't last as long." Peaslee said he thought it would require pressure on the manufacturers to come up with a PFAS-free turf. It would be expensive to develop, he said.

"Nobody's going to do it if you keep on buying the fields," he said. However, Peaslee said he believes "somebody will do it."

Peaslee said he was the author of the study that showed PFAS was leaching from firefighter gear. "And I was told at the time, very clearly, Oh, we don't use it, and if we do use it, it's safe — it doesn't go through the skin, and firefighters of course never sweat … and then what happened was as soon as the paper came out — it was validated by a peer-reviewed study — and all of a sudden the union got involved. And you know, the union voted a resolution and within a week of that resolution passing, all three remaining manufacturers had volunteered to make PFAS-free outerwear, which was pretty remarkable … it's the power of a bunch of voices getting together and saying, 'How come you lied to us about this?'"

Peaslee said there's an analogy to PFAS in artificial turf. "They know it's there," he said. "They will argue about how toxic it is, or how much is there, or how much comes off … I think it's a great opportunity to go back to the manufacturer and say, Look: Interested if you could make it PFAS-free. Who's going to be the first manufacturer to do that?"

Joe Sullivan, owner's project manager for the high school field project, said he had respect for what was being illustrated at the hearing and he was trying to be open-minded, but he was concerned about the lack of voices that might have alternate or mitigating opinions. In particular, Sullivan said he thought the board should hear from the applicant for the field project: "I don't think it's a fair process just to bring the people who may be against that particular product, or the information or science behind it, without allowing the applicant to provide [comment]."

Board chair William White responded, “They’re here, and we’re going to hear them,” but added that doesn’t preclude hearing from other people.

Board member Tom Zinno asked that further public comment, for now, be put in writing and sent to the board of health.

The board made no decision on its regulations, and slated another hearing on the subject for January.