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**RECREATIONAL ANGLERS  
WORKING TO CONSERVE, PROMOTE, AND ENHANCE MARYLAND'S  
MARINE RESOURCES**

February 21, 2018

To: Honorable Kumar P. Barve, Chair  
Honorable Dana Stein, Vice-Chair  
Honorable Members of the House Environment & Transportation Committee

Re: **HB0538** Environment - Expanded Polystyrene Food Service Products - Prohibition

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As an organization of recreational anglers committed to working to conserve, promote and enhance Maryland's marine resources for the benefit of the general public. We are actively engaged in advocating for science-based fisheries management regulations, enhancing oyster population & habitat, as well as vigorous enforcement of our fisheries laws.

To date, most of the attention focused on polystyrene foam products has been on their presence in their utilitarian form as part of the trash stream on land and in our waterways. There has been much less attention given to the effects on the marine ecosystem of polystyrene degradation into tiny pieces, micro particles and nanoparticles.

While regulations can protect fish spawning areas and harvest pressure, increasing negative environmental factors are a growing threat that are not easily controlled. In addition to increasing water temperatures and ocean acidification, the impact of increasing amounts of very small plastic particles (microparticles and nanoparticles) from the breakdown of polystyrene foam products in both fresh and ocean waters can have a significant effect on fish health and reproduction

1. These polystyrene nanoparticles are taken up by algae and zooplankton on which fish feed and then enter the fish brain where they can cause abnormal feeding and weight loss, inappropriate avoidance of predators and potentially reduced survival. They are also found in the liver and muscle and affect metabolism in those organs.
2. Oysters also ingest these microplastics and they have been demonstrated to interfere with energy uptake, reproduction and offspring performance

The widespread distribution of these breakdown products of polystyrene requires immediate attention if we are to protect our marine ecosystems from further degradation and threaten our seafood resources. We urge the committee to consider the negative effects of polystyrene degradation products on our fish, oysters and other marine organisms as you deliberate a ban on polystyrene foam products and search for alternatives.

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1. Mattsson, K., Johnson, E.V., Malmendal, A. Linse, S., Hansson, L.A. and Cederval, T. (2017) Brain damage and behavioral disorders in fish induced by plastic nanoparticles delivered through the food chain. <https://koiorganisationintrenationl.org/contact>.

2. Sussarellu, R. et al. (2016) Oyster reproduction is affected by exposure to polystyrene microplastics. *Proceedings of the National Academy of Sciences*. 113 (9) 2430-2435