

Hello Cathy, please see comments below from DNR's Fishing and Boating Service. If there are questions, please contact Alexis Park (alexis.park@maryland.gov).

This proposal to remove land from the Mattawoman Creek Watershed Conservation District (WCD) runs counter to the County's goal of preserving environmental resources - a goal of both the WCD and the County's comprehensive growth plan. Fishing and Boating Services have been in full support of the Watershed Conservation District (WCD), recognizing it as an innovative use of planning to conserve high quality fish habitat and keep Mattawoman Creek's watershed from passing a nearby tipping point associated with significant losses of aquatic resources and their ecological and economic value to the County and the State. We believe the WCD was implemented partly in response to recommendations to conserve the ecological integrity and exploitable resources described in The Case for Protection of the Watershed Resources of Mattawoman Creek (https://dnr.maryland.gov/fisheries/documents/Mattawoman_Ecosystem_Final_Report_March_2012.pdf) that documented the full suite of terrestrial and aquatic resources found in the watershed. In recognition of these valuable resources, the state developed recommendations to conserve ecological integrity and habitat health in the watershed. We viewed the designation of the WCD as the County's application of these recommendations and deemed it a sound conservation approach. The main motivation in creating the WCD was to limit development, indicated by the percent of the watershed in impervious surface, from passing a 10% threshold for aquatic resources. Sound zoning was applied by the county as a safeguard to prevent development that would increase impervious surface to more than 10% of the watershed. The Department recommended that the impervious surface (IS) in the Mattawoman Creek watershed remain below 10% at build out. Among other ecological benefits, this would avoid further and perhaps irreparable degradation of the watershed's fisheries and fish habitat. The 10% IS recommendation is a natural resource planning guideline threshold based on studies of Chesapeake Bay fish habitat deterioration as development increased across the State, including extensive monitoring of Mattawoman Creek. Ideally, we would recommend 5% IS as a safe target that fully conserves rural watershed functions for fisheries and 2% IS to protect rare, threatened, and endangered species. However, development in Mattawoman Creek's watershed has proceeded past those points and 10% IS becomes a realistic objective for conserving remaining fisheries production and aquatic resources. This level of IS should provide an opportunity to successfully augment watershed conservation with restoration projects. As IS increases above 10% and nears 15%, increasingly negative, irreversible ecological shifts occur resulting in decreased fisheries productivity and a watershed that becomes less responsive to protection conservation and restoration efforts. Estimated IS has been nearing the 10% threshold without conversion of the WCD to development. The Fish Habitat and Ecosystem Program has developed an equation to convert property tax map structures per hectare (C/ha) estimates to percent impervious surface (IS). Our estimate of IS for 2011 estimated from C/ha was 10.5%. The County's IS estimate for Mattawoman Creek's watershed for the comprehensive growth plan was estimated directly by planimeter in 2011 and was 8.5%. Planimeter estimates are preferable, but labor intensive and expensive on a large-scale basis; however, we can use the ratios of these two types of estimates to approximate a planimeter based estimate for 2020. The 2020 estimate of IS based on C/ha conversion is 11.4%. If you use the ratio of the county's 2011 estimate to the 2011 C/ha-based estimate to adjust our 2020 estimate of C/ha into County currency, you get 9.2% IS. The County has another estimate for 2017 (9.2% IS) and going through the same steps as above, IS in 2020 would be

9.5%. Development in Mattawoman Creek's watershed during 2003-2017 has been concurrent with negative alteration of stream hydrology, increased stream saltiness, increased sediment and nutrient loading from stream erosion and construction, decreased chlorophyll a, and dissolved oxygen. Water clarity has increased, as has submerged aquatic vegetation. Increased submerged aquatic vegetation was associated with increased ammonia levels (with the potential to be lethal) and patches of very low dissolved oxygen within the beds. Finfish monitoring indicated a drastic decline in all species between 2005 and 2009 with some recovery afterward. This drastic decline was unique to Mattawoman Creek. Finfish abundance has become more variable and less diverse, reflecting decreased planktivore abundance, in the subestuary. Anadromous fish spawning assessments indicated that the watershed still functioned as spawning and nursery habitat. We returned to monitor Mattawoman Creek in summer, 2022. Preliminary results indicate a continued decline in mean bottom dissolved oxygen, as well as finfish catches and species richness. We encourage the county to evaluate the potential impact from the proposed airport expansion and industrial park. The WCD low density zoning was applied to achieve a 10% cap in impervious cover for the watershed. Quick evaluation of statewide data showed a mean of 6% impervious cover for airports, while industrial parks have a mean of 55% impervious cover (Note that there is a large range in these estimates based on the context of the asset). This level of impervious cover represents a significant development of the small watershed where the proposed development is located. It is unclear how the proposed development will affect the 10% cap. Seventy two percent of project drainage will go into Mattawoman Creek and the development is within 1/3 of a mile from Mattawoman Creek. The sub-area plan indicated that 667 acres of impervious surface will not have runoff treatment, while only 212 acres have inadequate runoff treatment available. A comprehensive growth plan is only as strong as the exceptions allowed. Maintaining integrity of the WCD is especially important as the watershed remains in need of sound conservation to assure that current ecological condition and services remain. We acknowledge the County's awareness of the fragility of the watershed and applaud the efforts made to restore streams in order to reduce nutrient and sediment inputs in support of meeting the TMDL. However, we are concerned that rezoning to remove part of the watershed from the WCD could negate these efforts, while adding an additional burden on the County to address additional loads associated with the proposed development. We would be happy to offer any assistance needed in assessing potential impacts of proposed development. Other specific recommendations and comments related to amendments: A passage in the sub-area plan (Part 2, Page 31) the County laments a lack of updated water quality data on websites, the County encourages DNR and USGS to regularly update data so they can use it to make informed land use and environmental restoration decision-making. The Fish Habitat and Ecosystem Program did return to monitor in 2022. The Department may be able to lend additional monitoring assistance, depending on what parameters the County is asking for. However, monitoring water quality related to TMDLs for nutrient and sediment alone have not told the whole story about Mattawoman Creek's fish habitat. Improved water clarity, lower Chlorophyll a, and increased submerged aquatic vegetation, generally considered positive in terms of TMDL response, have been associated with declines in fish populations in Mattawoman Creek.