Comment on acp-2021-365
Anonymous Referee #1

Referee comment on "Urban aerosol chemistry at a land-water transition site during summer – Part 1: Impact of agricultural and industrial ammonia emissions" by Nicholas Balasus et al., Atmos. Chem. Phys. Discuss., https://doi.org/10.5194/acp-2021-365-RC1, 2021

Manuscript is very well-written, the study is a good exercise in source apportionment, that applies new concepts (land-water meteorology, stagnation events, and NH3 impacts to PM composition) to improve the hypothesized results. Only minor revisions are needed.

Figure 1 should include the NADP site ID for Beltsville site. The NH4 and NO3 data mentioned if taken from the CASTNET site is not regulatory (line 279). Only O3 is regulatory for that network. CASTNET should identified as the data source.

Figure 7 mentions only dairy in PA and poultry in Maryland. Dairy is not large in Maryland, but there are some farms, since you are identifying moderate sources in downtown that are amplified due to the stagnation/low WS boundary layer events, could some of the MD dairy also be along the trajectory path?

Where did the CO data come from that was used to eliminate the possible traffic source?

NH3 needs a subscript in line 187 & 266.