Assateague Coastal Trust – PO Box 731, Berlin, MD 21811 – 410-629-1538

Testimony for SB841 -Water Pollution Control - Discharge Permits - Industrial Poultry Operations
Bill Sponsor: Senator Clarence Lam
Committee: Health, Education & Environmental Affairs
Organization Submitting: Assateague Coastal Trust
Person Submitting: Kathy Phillips
Position: **FAVORABLE**

Dear Chairman Pinsky and members of the Committee,

About 95 percent of animal feeding operations ("AFOs") in Maryland are located in the Chesapeake Bay watershed. The Chesapeake Bay is the largest estuary in the United States and the effort to restore the Chesapeake is equally unique, having been recognized as one of the largest ecosystem restoration projects in the world. The Chesapeake Bay Total Maximum Daily Load ("Bay TMDL") has been widely recognized as the single most comprehensive and rigorous of the more than 70,000 TMDLs in the United States, an approach to Bay restoration necessitated by decades of missed deadlines and failed promises by state and local governments.

The Chesapeake Bay model shows that agriculture is the largest source of nutrient pollution to the Chesapeake from Maryland and from the watershed as a whole. The Eastern Shore is home to the vast majority of AFOs in the state and is also where the least progress in reducing phosphorus pollution has been made since 2009 (the TMDL baseline year) compared to any other large basin, including Pennsylvania's Susquehanna basin.

The cause of this lagging progress is not necessarily a lack of effort by farmers. According to data reported by the state, since 2009 Maryland farmers have implemented important pasture management practices on thousands of additional acres, begun implementing conservation tillage practices on tens of thousands of new acres of crop land, and increased the use of pollution reducing cover crops by hundreds of thousands of acres. Instead, the problem is insufficient regulation of AFOs and the construction of hundreds of new poultry houses. More than 12% of nitrogen reaching Eastern Shore streams comes from poultry litter alone, a percentage more than three times greater than the average for streams outside of Maryland's Eastern Shore.

According to the Delmarva Land and Litter Collaborative (a State/Industry initiative that has failed to produce timely solutions for the proper management of chicken manure and instead

used as a delaying tactic by the State) AFOs on the Delmarva Peninsula generated over 550 tons of poultry litter in 2018, an amount that has increased each year since 2012 and surged almost 18% in only six years. Between 2009 and 2018, nitrogen pollution from broilers increased by 29% in Maryland. According to data from the Delmarva Poultry Industry, the number of poultry houses on the Delmarva increased by 10% and the amount of meat produced increased by 26% since 2010.

This enormous and fast growing source of pollution is having a significant impact on local water quality. According to water quality monitoring data from the United States Geological Survey (USGS), the Choptank River is the only one of the nine major Bay tributaries where both nitrogen and phosphorus pollution levels are continuing to increase over both the short term and long term. Similarly, USGS monitoring shows that nitrogen in the Choptank, Marshyhope, and Nanticoke rivers have continued to increase during the course of the Bay TMDL.

AFOs are also a major source of air pollution on the Eastern Shore, contributing millions of tons of ammonia to the air, annually. Ammonia is not only a toxic air pollutant that is an occupational and human health hazard at certain concentrations, but much of the ammonia emitted from poultry houses is deposited nearby as an uncontrolled - and growing - source of nutrient pollution to the Bay and its tributaries and the Atlantic Coastal Bays.

Nitrogen pollution is also a threat to public health in Maryland, as excessive nitrate levels in drinking water can cause “Blue Baby Syndrome” and is increasingly being linked to certain cancers. According to EPA data, only Delaware has a greater percentage of state land with elevated levels of nitrate pollution in groundwater than Maryland. The vast majority of residents of the Eastern Shore are reliant on groundwater for their drinking water supplies. Several public water systems on the Eastern Shore have registered excessive levels of nitrates in their water supplies, and many families rely on residential wells that are not subject to mandatory testing for nitrates and other hazardous pollutants.

Few regions of the watershed are as important to the success of the Chesapeake Bay restoration as the Eastern Shore of Maryland. Due to the area’s geology and topography, as well as the increasingly intensive agricultural practices in this area, what happens on the Eastern Shore will have an outsized impact on the success of this restoration effort. In recent years, the Bay’s dead zone has reached historic levels. This may be partly attributed to a stagnation in state efforts to implement their Watershed Implementation Plans (WIPs), but it is also related to impacts of climate change in this region.

Scientists with the Chesapeake Bay Program have developed downscaled climate projections for this region that forecast a greater frequency of unusually intense precipitation events. That forecast has come true, with record rainfalls in both 2018 and 2019. Put simply, the “100-year” storm of centuries past are rendered meaningless today. And as sea levels rise in the Chesapeake and Coastal Bays at a much faster rate than the global average, thanks to additional factors like land subsidence and shifting ocean currents, the landscape is getting hit from all sides. AFOs that were once merely low-lying are now increasingly at risk of recurrent inundation, while manure storage structures and other pollution control practices at even upland sites will overflow as they are designed to guard against what used to be a 25-year storm.

The above observations and concerns and suggested reforms are more fully explained, with references, in the attached PDF document "MD General AFO Permit Public Comment 12.2019_ACT_CLA_et al."

Local community leaders from the Lower Eastern Shore of Maryland, including the National Association for the Advancement of Colored People- Wicomico Chapter, first introduced a CAFO moratorium bill in 2013, and since have been raising questions and concerns about air quality and water quality on the Lower Eastern Shore, including ammonia emissions and particulate matter exhausted from poultry houses. These leaders introduced the Community Healthy Air Act (CHAA) in 2015 and have repeatedly re-introduced the CHAA in an effort to have the state gather the necessary data to establish findings about the quality of air these communities are breathing.

During the 2019 MDGA session, the Maryland Department of Environment entered into a failed partnership with the poultry industry that was supposed to gather needed air quality data, although not as comprehensively as required under the CHHA. This collusion between the poultry industry and the State has not accomplished anything. Indeed, the monitors promised by MDE have not even been constructed or placed and as of the date of this hearing, no data has been collected. The MDE Air Quality Study project did, however, successfully derail 2019 efforts to pass the Community Healthy Air Act.

A recent study commissioned by the Chesapeake Bay Foundation found that the ammonia gas exhausted from poultry house into the surrounding community doesn't travel far from the poultry house where it was created. About 30 percent of emitted ammonia is deposited to land or water within a third of a mile of the poultry house and about 70 percent is deposited within 31 miles. The CBF study can be accessed at this link: https://www.sciencedirect.com/science/article/pii/S0048969719352829

The state provides $1 million annually to subsidize hauling about 250,000 tons of animal manure each year to farms where it can be safely spread.

But a recent Salisbury University study conducted by Dr. Memo Diriker, director of Salisbury University's Business Economic and Community Outreach Network, predicted that with so many more fields subject to potential restrictions the state would have to boost its manure transport subsidy and provide financial incentives to expand the private truck fleet now hauling it. Dr. Diriker, projected $10 million might be needed over the next three years.[1]

The amount of land available to accept manure is questionable. The distance to transport manure is projected to increase by more than a quarter over the next five years while the value of manure is getting harder to estimate due to various uncertainties, Diriker said.[2]

[1] https://delawarebusinessnow.com/2020/01/from-the-bay-journal-committee-ag-secretary-see-no-need-to-delay-manure-ban-on-many-maryland-farm-fields/)

[2] https://americanfarmpublications.com/pmt-committee-votes-down-delay-recommendation/

Maryland has a chicken manure management problem. Before Maryland allows construction of additional new poultry houses, the State needs a solution for the existing manure overload problem. The State needs to adequately address the lack of air quality data on the Lower Eastern Shore. The State needs to update and expand the Maryland AFO General Permit to address siting, water quality and air quality deficiencies.

While the poultry industry is a part of the Eastern Shore economy, no business should expand without a plan or force others to clean up their pollution. We are not asking for any reduction in the size of the Eastern Shore's poultry industry. Instead, we ask that the industry not be given permission to expand until the State and the industry demonstrate the existing manure overload problem on the Eastern Shore can be solved.

For the reasons explained in this testimony, and the testimony given by others in support of SB841, Assateague Coastal Trust urges this Committee to give a FAVORABLE report. Thank you for your consideration of this testimony.

Kathy Phillips
Executive Director/Assateague COASTKEEPER
Assateague Coastal Trust

December 26, 2019

Via Electronic Mail

Mr. John Sullivan
Land Management Administration Maryland
Department of the Environment 1800
Washington Boulevard
Baltimore, Maryland 21230
john.sullivan1@maryland.gov

RE: Comments on Draft General Discharge Permit for Animal Feeding Operations

Dear Maryland Department of the Environment (MDE):

Thank you for the opportunity to comment on MDE's Draft General Discharge Permit for Animal Feeding Operations ("draft permit"). These comments are submitted on behalf of Assateague Coastal Trust, Center for Progressive Reform, Chesapeake Legal Alliance, Concerned Citizens Against Industrial CAFOs, Environmental Action Center, Environmental Integrity Project, Maryland League of Conservation Voters, National Association for the Advancement of Colored People - Wicomico County Chapter, Protectors of the St. Martin River, and Waterkeepers Chesapeake.

As stated in the regulatory preamble announcing the availability of the draft permit for public comment, the purpose of the draft permit is to "protect water quality and to comply with federal requirements under Code of Federal Regulations 40 CFR Parts 122, 123, 124, 125, and 412, as well as State requirements under Code of Maryland Regulations (COMAR) 26.08.04.09N." Additional authority cited in the draft permit includes the Clean Water Act, which is designed to "restore and maintain the chemical, physical, and biological integrity of the Nation's waters" and Title 9 of the Environment Article of the Annotated Code of Maryland, which charges the Maryland Department of the Environment ("MDE") with an even broader and bolder mission "to improve, conserve, and manage the quality of the waters of this State," "provide that no waste is discharged into any waters of this State without first receiving necessary treatment or other corrective action," and "develop an alternative to discharging wastewater effluent to surface waters, thus pursuing the goal of the Clean Water Act to end the discharge of pollutants and meet the nutrient reduction goals of the Chesapeake Bay Agreement." For the reasons discussed in these comments, we urge MDE to revise the draft permit in order to be consistent with these state and federal directives and to meet these crucial environmental and public health goals.

Please note that all comments in this letter and the references cited herein are submitted for the administrative record and that all references are immediately available upon request. Below we have summarized some of the specific requests regarding improvements we urge MDE to adopt within the draft permit. This summary of the full comments is provided for convenience but should not be interpreted as an exhaustive list of suggested permit improvements, which are described below in full.

The Draft Permit Is Not Consistent with the Bay TMDL or the Level of Effort Needed to Ensure the State Meets WIP Commitments (Section II)

We urge MDE to include:

- A requirement for identifying nearest waters of the State, their use classes, and identification of impairments
- Removal of discretionary language that merely authorizes, but does not require, additional BMPs or controls consistent with TMDL wasteload allocations
- A requirement that ensures any previously identified resource concerns have been adequately addressed and that any practices associated with an implementation schedule have been fulfilled before the permit issues
- An amendment to the reference in IV.A.1.(b) to include the full checklist of resource concerns identified by the NRCS
    - A requirement that the operator fills out a checklist of NRCS conservation practices
- An amendment to require MDE to provide public notice of a 60-day comment period within 30 days of receipt of either a request for permit coverage, request for renewal, or proposed substantial change to a nutrient management plan
- Public access to information regarding whether conservation practices are being installed consistent with implementation schedules
- References in the draft permit to the availability of funds available to assist AFO operators in constructing and installing necessary conservation practices

Maintaining Existing Permit Conditions is Not Sufficient to Protect Water Quality in the Face of a Changing Climate (Section III)

We urge MDE to include:

- A reference to considerations of climatic and precipitation conditions in designing technology-based effluent limitations
    - A requirement that all permit applicants and permittees document and report all flood events
    - A statement that MDE will reject applications for new AFO facilities at risk from inundation
- A reopener clause for future modifications to the reissued permit to account for forthcoming climate studies and planning processes
- A requirement for on-site manure management practices that mitigate growing greenhouse gas emissions from the industrial agriculture sector

*New Language in the Draft Permit Regarding Air Pollution is Inadequate in Light of the Magnitude of Nutrient Pollution Emitted by AFOs (*Section IV)

- We urge MDE to ensure that the draft permit accounts for and mitigates the enormous amounts of ammonia produced from each poultry house and manure storage shed.

*The Draft Permit's Use of the Term "Discharge" is Inconsistent and Problematic (*Section V)

We urge MDE to remove references to "no discharge" due to:

- Conflicting state and federal definitions of discharge
- The inevitability of discharges resulting from the increasing volume, frequency, and intensity of precipitation in Maryland resulting from climate change
    - New scientific certainty regarding the water quality impacts from ammonia emitted from AFOs

- Studies and data showing the increase in pollution concentrations downstream of AFOs relative to upstream baseline conditions

*The Vast Majority of Nutrient Pollution Attributable to AFOs Are Land Applied in Adjacent Fields or Exported (*Section VI)

We urge MDE to:

- Ensure that manure is not land applied as fertilizer in any field under the control of the AFO operator that is within a floodplain or subject to recurring nuisance flooding
- Prohibit land application within at least 100 feet of a tile drain or well used for drinking water due to unacceptable risks of releasing pollution directly to waterways or of contamination of water supplies with nitrates
- Include additional regulatory protections that ensure the manure taken off-site from no-land AFOs is properly accounted for
- Facilitate the implementation of Chapter 760 of 2019 by amending V.B.1.d of the draft permit to specifically include a reference to the end user or final recipient of any manure exported by an AFO
- Include a reference in the permit or in the materials distributed to AFOs during the permit registration process to the resources that are available to AFO operators under the Manure Transport Program
- Modernize the draft permit in line with regulatory efforts in other leading states by utilizing technology to provide real-time decision support tools to operators that minimize the risk of pollution

*Siting and Other Criteria for New or Expanded Operations (*Section VII)

We urge MDE to include:

- A determination of whether the Draft Permit's nine minimum standards to protect water quality, the CNMP requirements, and other BMPs required by the permit satisfy these federal requirements
- A date on any reference to another MDE document or any standards incorporated by reference under the control of MDE or another state agency in the draft permit
- A requirement that any permit for the construction and establishment of a new AFO must be sufficiently tailored to any recognized designations assigned to receiving water bodies
- An amendment to VII.M.2 of the draft permit to remove "at its sole discretion" and add language allowing the public to request permit coverage under an individual permit based on the location of the facility
- Standards regarding where MDE will not accept any applications to operate a new AFO that considers all relevant geospatial data
- A policy in the draft permit to not allow any new or expanded AFOs where any part of the production area or any building footprint will be constructed on an existing wetland or stream of any kind
- A requirement that any new AFO facility offset the total estimated pollution load of the operation from on-site performance standards or potential additional off-site offset options
- A *newly developed* load growth demonstration for the agriculture sector

***Other Needed Permit Improvements (*Section VIII)**

We urge MDE to:

- Amend V.B. of the draft permit to include within the list of items that are required to be in the "Annual

Report" the implementation schedule, list of resource concerns identified, and any conservation practices added during the previous year and the full five-year permit term

- Expand Tables 3 and 4 in IV.A to include implementation of conservation practices as described within the broad scope of records to be kept pursuant to IV.B.9.
- Require that all records required to be maintained on site instead be submitted electronically to MDE unless the submission would otherwise be considered infeasible, overly burdensome, or inconsistent with another law; any records kept electronically should be required to be submitted to MDE
- Revise III.A.2, which grants MDE discretion to waive the electronic submission of the notice of intent, to be consistent with federal law and the state's commitments
- Remedy inconsistency with state law by either reinstating the annual fee language from III.F. of the current permit or devising new language that fully complies with the law
- Include more detail in the upset provision, including some examples of what may or may not be considered the cause of an upset
- Include a section consistent with COMAR 26.08.02.04-1F(1) to require applicants for a new or modified AFO to consult the list of Tier II waters and determine if they are located in a catchment or watershed associated with a Tier II water
- Establish that any existing AFOs in a Tier II water should designate "maintenance of healthy waters" as a particular resource concern
    - Describe what actions MDE took in response to any engagement with the Commission on Environmental Justice and Sustainable Communities and, if MDE did not engage with the Commission, conduct meaningful outreach with the Commission and concerned residents within disproportionately impacted communities
        - Require permittees to submit a sampling plan within a certain period of time
    - All results taken according to a sampling plan should be submitted to MDE within a certain period
- Reference the possibility that MDE may require additional on-site monitoring in the future consistent with Chapter 760 of 2019

I. *Background*

About 95 percent of animal feeding operations ("AFOs") in Maryland are located in the Chesapeake Bay watershed.[1] The Chesapeake Bay is the largest estuary in the United States and the effort to restore the Chesapeake is equally unique, having been recognized as one of the largest ecosystem restoration projects in the world. The Chesapeake Bay Total Maximum Daily Load ("Bay TMDL") has been widely recognized as the single most comprehensive and rigorous of the more than 70,000 TMDLs in the United States, an approach to Bay restoration necessitated by decades of missed deadlines and failed promises by state and local governments.[2]

The Chesapeake Bay model shows that agriculture is the largest source of nutrient pollution to the Chesapeake from Maryland and from the watershed as a whole.[3] The Eastern Shore is home to the vast majority of AFOs in the state and is also where the least progress in reducing phosphorus pollution has been made since 2009 (the TMDL baseline year) compared to any other large basin, including Pennsylvania's Susquehanna basin.[4]

The cause of this lagging progress is not necessarily a lack of effort by farmers. According to data reported by the state, since 2009 Maryland farmers have implemented important pasture management practices on thousands of additional acres, begun implementing conservation tillage practices on tens of thousands of new acres of crop land, and increased the use of pollution reducing cover crops by hundreds of thousands

of acres.[5] Instead, the problem is insufficient regulation of AFOs and the construction of hundreds of new poultry houses. More than 12% of nitrogen reaching Eastern Shore streams comes from poultry litter alone, a percentage more than three times greater than the average for streams outside of Maryland's Eastern Shore.[6]

According to the Delmarva Land and Litter Collaborative, poultry AFOs on the Delmarva generated over 550,000 tons of poultry litter in 2018, an amount that has increased each year since 2012 and surged almost

[1] U.S. Environmental Protection Agency (EPA), Region III, Maryland Animal Agriculture Program Assessment. August 2015. Available at: https://www.epa.gov/sites/production/files/2015-09/documents/marylandanimalagricultureprogramassessment.pdf.

[2] For more information, see the Chesapeake Bay Program's Bay History Timeline. Available at: https://www.chesapeakebay.net/discover/history.

[3] Chesapeake Bay Program, Chesapeake Progress: Modeled Nitrogen Loads to the Chesapeake Bay (2009-2017). Available at: https://www.chesapeakeprogress.com/clean-water/2017-watershed-implementation-plans.

[4] Chesapeake Bay Program, 2017. Chesapeake Assessment and Scenario Tool (CAST) Version 2017d. Chesapeake Bay Program Office, Last accessed October 2019 showing "Edge of Tide" Nitrogen loading to the Chesapeake Bay from each of the 19 State-Basins. Note that this statement applies only to large State-Basins and excludes several small State-Basins responsible for less than 2 percent of total phosphorus pollution delivered to the Chesapeake Bay. The Chesapeake Bay Assessment Scenario Tool is available at: https://cast.chesapeakebay.net/.

[5] Chesapeake Bay Program. Chesapeake Assessment and Scenario Tool (CAST) Version 2017d. Chesapeake Bay Program Office, last accessed April 2019 showing BMPs submitted by each state and for each sector and which BMPs EPA credited for use in the Chesapeake Bay model. The Chesapeake Bay Assessment Scenario Tool is available at: https://cast.chesapeakebay.net/.

[6] Chesapeake Bay Program. Chesapeake Assessment and Scenario Tool (CAST) Version 2017d. Chesapeake Bay Program Office, last accessed December 2019, showing phosphorus load input sources at the edge of stream. The Chesapeake Bay Assessment Scenario Tool is available at: https://cast.chesapeakebay.net/.

18% in only six years.[7] Between 2009 and 2018, nitrogen pollution from broilers increased by 29% in Maryland.[8] According to data from the Delmarva Poultry Industry, the number of poultry houses on the Delmarva increased by 10% and the amount of meat produced increased by 26% since 2010.[9]

This enormous and fast growing source of pollution is having a significant impact on local water quality. According to water quality monitoring data from the United States Geological Survey (USGS), the Choptank River is the only one of the nine major Bay tributaries where both nitrogen and phosphorus pollution levels are continuing to increase over both the short term and long term.[10] Similarly, USGS monitoring shows that nitrogen in the Choptank, Marshyhope, and Nanticoke rivers have continued to increase during the course of the Bay TMDL.[11]

AFOs are also a major source of air pollution on the Eastern Shore, contributing *millions of tons of ammonia* to the air, annually. Ammonia is not only a toxic air pollutant that is an occupational and human health hazard at certain concentrations, but much of the ammonia emitted from poultry houses is deposited nearby as an uncontrolled - and growing - source of nutrient pollution to the Bay and its tributaries and the Atlantic Coastal Bays.

Nitrogen pollution is also a threat to public health in Maryland, as excessive nitrate levels in drinking water can cause "Blue Baby Syndrome" and is increasingly being linked to certain cancers.[12] According to EPA data, only Delaware has a greater percentage of state land with elevated levels of nitrate pollution in groundwater than Maryland.[13] The vast majority of residents of the Eastern Shore are reliant on groundwater for their drinking water supplies.[14] Several public water systems on the Eastern Shore have registered excessive levels of nitrates in their water supplies, and many families rely on residential wells that are not subject to mandatory testing for nitrates and other hazardous pollutants.[15]

Few regions of the watershed are as important to the success of the Chesapeake Bay restoration as the Eastern Shore of Maryland. Due to the area's geology and topography, as well as the increasingly intensive

[7] Delmarva Land and Litter Collaborative, Exploring Chicken Farming on Delmarva. Available at: https://www.arcgis.com/apps/MapSeries/index.html?appid=ea25550135f04151bd8bee3c247188b2. The DLLC is composed of representatives from the farming community, environmental groups, poultry companies, agricultural businesses, academic institutions, and government agencies, including the Maryland Department of Agriculture and EPA.
[8] Chesapeake Bay Program. Chesapeake Assessment and Scenario Tool (CAST) Version 2017d. Chesapeake Bay Program Office, last accessed November 2019, showing nutrients available to be applied to the land and associated pollution loads. The Chesapeake Bay Assessment Scenario Tool is available at: https://cast.chesapeakebay.net/.
[9] Delmarva Poultry Industry. Delmarva Chicken Production Facts, 1957-2018. Last accessed December 2019. Available at: https://www.dpichicken.org/facts/docs/Delmarva%20Chicken%20Production%20Facts%201957-2018.pdf.
[10] USGS, Chesapeake Bay River Input Monitoring Network 1985-2018: Short- and long-term trends. Last accessed December 2019. Available at: https://www.sciencebase.gov/catalog/item/5cc1c97de4b09b8c0b746e70.
[11] USGS, Short-Term Trends in Loads Between 2007 and 2016. Last accessed December 2019. Available at: https://cbrim.er.usgs.gov/pdf_maps/ST_Trend/ST-NTN2016_TN_Bars.pdf.
[12] International Journal of Environmental Research and Public Health. Drinking Water Nitrate and Human Health: An Updated Review. Last accessed December 2019. Available at: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6068531/#.
[13] EPA. Estimated Nitrate Concentrations in Groundwater Used for Drinking. Last accessed December 2019. Available at: https://www.epa.gov/nutrient-policy-data/estimated-nitrate-concentrations-groundwater-used-drinking.
[14] MDE. Maryland's Source Water Assessment Program. Last accessed December 2019. Available at: https://mde.maryland.gov/programs/Water/water_supply/Source_Water_Assessment_Program/Pages/factsheet.aspx.
[15] Environmental Working Group. Fertilizer Runoff Contaminates Drinking Water with Nitrate. Last accessed December 2019. Available at: https://www.ewg.org/interactive-maps/troubleinfarmcountryrevisited/map/.

agricultural practices in this area, what happens on the Eastern Shore will have an outsized impact on the success of this restoration effort. In recent years, the Bay's dead zone has reached historic levels.[16] This may be partly attributed to a stagnation in state efforts to implement their Watershed Implementation Plans (WIPs), but it is also related to impacts of climate change in this region.

Scientists with the Chesapeake Bay Program have developed downscaled climate projections for this region that forecast a greater frequency of unusually intense precipitation events.[17] That forecast has come true, with record rainfalls in both 2018 and 2019.[18] Put simply, the "100-year" storm of centuries past are rendered meaningless today. And as sea levels rise in the Chesapeake and Coastal Bays at a much faster rate than the global average, thanks to additional factors like land subsidence and shifting ocean currents, the landscape is getting hit from all sides. AFOs that were once merely low-lying are now increasingly at risk of recurrent inundation, while manure storage structures and other pollution control practices at even upland sites will overflow as they are designed to guard against what used to be a 25-year storm.

Against this backdrop, producing poultry at an industrial scale and in a fashion that not only protects local waterways and communities, but actually helps accelerate the restoration of the Chesapeake Bay, will take a herculean effort or, at the very least, an extraordinarily well-designed AFO permit. This is why the undersigned organizations feel this draft permit must be improved. By any measure, this permit is little more than a continuation of the status quo. But the status quo, as described above, is clearly deficient.

II. The Draft Permit Is Not Consistent with the Bay TMDL or the Level of Effort Needed to Ensure the State Meets WIP Commitments.

Given the enormity of the challenge of restoring the Chesapeake, the incredible effort and resources that are being devoted to accelerating progress toward reaching the 2025 Bay TMDL target, and considering the significant percentage of nutrient pollution that is generated by animal feeding operations, it is surprising how little attention is given to the TMDL in this draft permit. Under the Clean Water Act, whenever it is determined that a technology-based effluent limitation is insufficient to ensure attainment of state water quality standards, the permit must include more stringent water quality-based effluent limitations as well.[19] MDE has included such standards in other general and stormwater permits, including the well-known 20% impervious surface restoration standard in the MS4 permits and industrial stormwater general permit.

The EPA Permit Writers Manual for CAFOs says that "[e]ven for CAFOs subject to a no-discharge, technology-based standard for the production area, situations could arise where the permitting authority needs to impose more stringent requirements for allowable discharges. Specifically, *more stringent discharge limitations are necessary in instances where CAFOs discharge from a production area to a*

[16] Chesapeake Bay Program. Bay News: Bay sees worst dead zone in the past five years. Last accessed December 2019. Available at: https://www.chesapeakebay.net/news/blog/bay_sees_worst_dead_zone_in_the_past_five_years.
[17] Chesapeake Bay Program, Scientific and Technical Advisory Committee. Preliminary Phase 6 Watershed Model (WSM) and Chesapeake Bay Water Quality Sediment Transport Model (WQSTM) Climate Change Assessment Procedures for the 2017 Midpoint Assessment. Last accessed December 2019. Available at: http://www.chesapeake.org/stac/presentations/279_CCAF_STACPeerReviewDocumentation_Draft_063017.pdf.
[18] See *supra* note 16.
[19] 33. U.S.C. 1311(b)(1)(c)

waterbody listed under CWA section 303(d) as impaired due to nutrients, dissolved oxygen or bacteria, or where an analysis of frequency, duration and magnitude of the anticipated discharge (consisting of potential overflows of manure, litter, or process wastewater) indicates the reasonable potential to violate applicable water quality standards." (Emphasis added).

This draft permit includes no such major restoration requirement and makes few references to TMDLs at all. In fact, the draft permit is devoid of any reference to the "water quality standards" that are the basis for federal and state water quality laws. The only references to a TMDL in the draft permit are found in Part VII.K, which merely contains a conclusory statement that "permit requirements *are consistent* with existing Total Maximum Daily Loads (TMDLs) for impaired water bodies" followed by a note that "additional or alternative controls or monitoring *may* be required." (Emphasis added). Similarly, in paragraph K.2. the draft permit states that "consistent with the assumptions and requirements of the Chesapeake Bay TMDL WLA, the Department *may require*, during the permit review process, and at any time after the issuance of the permit coverage, additional BMPs and controls." (Emphasis added).

Currently, the draft permit contains no requirement for identifying nearest waters of the State or their use classes, nor does it require identification of impairments. It is difficult to see how a facility could plan appropriate BMPs to prevent degradation of water quality without such vital information. Without identification of waters of the State or their impairment status, neither the applicant nor MDE, nor the public at large can evaluate whether a facility may impact local water quality or the Bay. Further, the draft permit does not require applicants to identify other AFOs in the subwatershed or immediate area.

As referenced repeatedly in the state's Phase III WIP, the ongoing Bay restoration effort is predicated on an "adaptive management" approach whereby past progress is constantly evaluated and new policies and renewed permits are continually adjusted based on the measured levels of progress. In order to effectuate the adaptive management approach Maryland committed to under the Bay TMDL and referenced repeatedly in the Phase III WIP, **MDE must provide an assessment of the amount of load reductions achieved by permitted AFOs during the current permit term**, including the loads associated with each new BMP established on site, as well as the tonnage of manure exported out of the Bay watershed or to an alternative use facility.

EPA is tasked with monitoring the pace of pollution load reduction progress. In the most recent such evaluation of progress, EPA found that Maryland agriculture "[d]id not achieve its 2017 target for nitrogen, in part, because of missed milestones in the agricultural sector and unexpected changes in agricultural production as reflected in the 2012 Agricultural Census." As a result "EPA expects Maryland to address the nitrogen gap in this sector through increased agricultural BMP implementation."

Unless MDE can provide a detailed justification for the first sentence under Part VII.K declaring that "[p]ermit requirements are consistent with existing Total Maximum Daily Loads" then **the discretionary language that merely authorizes, but does not require, additional BMPs or controls should be removed. We urge MDE to instead build upon the framework established in the current and draft permit around "resource concerns" and "implementation schedules"** that permitted AFOs are required to develop and follow pursuant to III.B. of the draft permit. The current and draft permits provide a useful but currently incomplete process that, with improvement, could serve as a form of water quality-based

effluent limit, consistent with the Bay TMDL's assumptions and adaptive management framework and with the scale of additional nutrient and sediment reductions that the Phase III WIP envisions for Maryland's agriculture sector. The draft permit is a critical component of the state's agricultural nutrient reduction strategy under the WIPs and the draft permit should thus be bounded by the Bay TMDL and the commitments the state made under the WIP.

In light of the numerous and overlapping water quality impairments throughout Maryland's portion of the Chesapeake Bay watershed, MDE should determine prior to issuing this permit the extent to which regulated AFOs are causing or contributing to these impairments. Following this evaluation, MDE should revise the draft permit to ensure that these water quality concerns are sufficiently regulated through the existing process of addressing site-specific resource concerns and implementation schedules. The following steps are critical to giving effect to this process of assessing resource concerns, which represents the heart of this pollution prevention permit under the Clean Water Act and the parallel water pollution control regime under state law.

The first step is for the AFO operator and plan writer, in consultation with MDE, to **ensure that any previously identified resource concerns have been adequately addressed and that any practices associated with an implementation schedule have been fulfilled.** The next step is to **identify which additional and relevant conservation practices listed in the NRCS document "Conservation Practices to Address Resource Concerns" for Maryland have not been utilized.**[20] This process of determining additional conservation practices to add to the implementation schedule should be based on site-specific considerations including the number of local impairments, if any, and whether any Tier II waters are located in the same catchment as the AFO, soil test data for the site and any adjacent fields to determine the likelihood of nutrient loss, the number of reported overflows from the site, the presence of any ditches, wells, sinkholes, and proximity to surface waters.

The draft permit should require the operator to fill out a checklist of NRCS conservation practices and any other high priority BMPs identified by the Chesapeake Bay Program as capable of reducing pollution from permitted feeding spaces. This checklist should be returned to MDE as part of the Registration Process described in Part III.C. and the operator should be required to describe which practices were already constructed as part of the implementation schedule associated with the current permit or completed prior to that permit term; the practices that are not relevant; and the additional practices that the operator and/or plan writer determine are necessary to protect water quality and meet state water quality standards. The checklist should include prompts that assist the operator or plan writer in identifying which practices may be relevant and necessary based on site-specific considerations as well as available cost share opportunities. **The draft permit should be amended to reference in IV.A.1.(b) the full checklist of resource concerns identified by the NRCS.**

Importantly, the NOI should not be approved until an MDE permit writer determines whether or not the list of resource concerns is comprehensive and the implementation schedule is reasonable. **We urge MDE to amend the open-ended reference to "a date certain" in III.B.5 and instead include a clear, measurable, and enforceable standard**, such as a deadline of no more than five years from the date of

[20] NRCS. Conservation Practices to Address Resource Concerns. Last accessed December 2019. Available at: https://www.nrcs.usda.gov/wps/portal/nrcs/main/md/technical/cp/.

permit registration to implement most conservation practices identified in the required plan, with longer timelines for specified conservation practices determined by MDE to require additional time for construction.

It must be clear that each AFO covered by this permit is required to implement the appropriate site-specific NRCS conservation practices identified by MDE, the plan writer, and the operator. At a minimum, such practices must be adequate to keep erosion levels in each field at or below the soil loss tolerance value specified in the NRCS Field Office Technical Guide or other relevant standards identified by MDE.[21]

To ensure that this process is rigorous and to avoid what currently appears to be self-regulation by AFO operators, the checklist should be provided on the MDE website alongside each NOI and the public should be given an opportunity to provide comment on whether or not the list of resource concerns is adequate given localized knowledge of environmental conditions. Without MDE review and approval and the opportunity for public comment, the current approach to allowing operators to establish their own list of resource concerns and implementation schedule seems to represent a failure to regulate and certainly would disqualify this framework from serving as a reasonable proxy for a water quality-based effluent limitation. **The draft permit should be amended to require MDE to provide public notice of a 60-day comment period, within 30 days of receipt of either a request for permit coverage, request for renewal, or proposed substantial change to a nutrient management plan.** [22]

At present, the public has no way of understanding what progress permitted AFOs have made toward reducing nutrient pollution in line with the wasteload allocations established in the WIP. The Phase III WIP makes clear that the wastewater and agriculture sectors will be tasked with carrying the bulk of the additional pollution load reduction obligations moving forward. **As the only permitted source of agricultural pollution, AFOs must be given a clear directive regarding the conservation practices expected of them and the public must be given access to information regarding whether the enforceable conditions of these permits are being met.**

Finally, to ensure that this critical permit program is delivering the pollution reductions expected, **the permit should be revised to include references to the availability of funds** available to assist the operator in constructing and installing all necessary conservation practices (including the Maryland Agricultural Cost Share program, Manure Transport Program, and Chesapeake Bay and Atlantic Coastal Bays 2010 Trust Fund, among other programs).

[21] NRDC, *Sample State Pollution Control Permit,* available at https://www.nrdc.org/sites/default/files/cafos-dont-know-hurting-us-sample-permit.pdf

[22] MDE may determine that any change to the NMP is substantial based on the proposal to change the NMP. At minimum, any of the following changes should constitute a substantial change to the NMP: 1. Any increase in animal numbers above the number specified in the application for permit coverage. 2. Addition of new land application areas not previously included in the AFO/CAFO's NMP, except if the added land application area is covered by the NMP incorporated into an existing NPDES permit and the AFO/CAFO complies with the NMP when applying manure, litter, and process wastewater to the added land. 3. Changes to the maximum amounts of nitrogen and phosphorus derived from all sources for each crop. 4. Changes to site-specific components of the AFO/ CAFO's NMP, where such changes may increase the risk of nitrogen and phosphorus transport to Waters of the State. 5. A change in the type of manure system. 6. Adding new treatment technologies to existing treatment systems. See NRDC, *Sample State Pollution Control Permit,* available at https://www.nrdc.org/sites/default/files/cafos-dont-know-hurting-us-sample-permit.pdf

Maryland's wastewater sector has delivered the vast majority of nutrient reductions in the past and that progress was only made possible as a result of substantial support from state capital funds. In a similar fashion, the AFO permit cannot be expected to deliver the substantial reductions needed without substantial funding support from state programs and from contributions from the poultry integrators. AFO operators deserve to understand this context and the different programs available to support their efforts. Similarly, the public deserves to know that the commitments Maryland made in the WIP are not hollow but will be upheld through this key permit.

The AFO permit does not exist in a vacuum, but is a part of a larger policy framework geared toward delivering extraordinarily cost effective pollution reductions. This draft permit is perhaps the most important permit in Maryland. MDE must protect the integrity of the TMDL and follow through on the Bay commitments made to Marylanders by incorporating key water quality-based effluent limitations and Bay restoration requirements into this permit.

Several commenters attempted to obtain documents, data, records, and other information from MDE regarding the TMDL determinations in the permit. Pursuant to state law, Public Information Act ("PIA") requests were sent to MDE's Land Management Administration (LMA) with explicit and specific requests for documents related to TMDL implementation and determinations. This PIA request was submitted to MDE October 4, 2019. We followed up numerous times between then and the submission date of this comment. **To date, MDE has not provided the Parties with any documents responsive to the TMDL section of the 10/4/2019 PIA request. Furthermore, contrary to State law, MDE has not provided the Parties with a statement or explanation as to why the requested documents are either exempt from disclosure or do not exist.**[23] MDE's failure significantly harms the commenters' ability to provide public comments to MDE regarding this permit, harms our ability to participate in a public permitting process and is an infringement of due process rights to public participation and access to information.

III. Maintaining Existing Permit Conditions is Not Sufficient to Protect Water Quality in the Face of a Changing Climate.

On the Eastern Shore of Maryland, as much as anywhere in the United States, the impact of a changing climate is clear for anyone to see. With islands disappearing, salt water forcing the abandonment of thousands of acres of agricultural lands, and "25-year storms" inundating vast expanses of floodplains far more often than once every 25 years, the state must act with urgency to update and modernize policies to be reflective of current and future conditions. We urge MDE to reissue the draft permit with climate reforms and considerations.

Again, several commenters attempted to obtain documents, data, records, and other information from MDE regarding climatological and meteorological information that was considered and reviewed by MDE during the drafting of the Permit. A PIA request was sent to MDE LMA on October 4th 2019 with a clear and explicit request for this information. To date MDE has not provided documents responsive to this request or provided an explanation regarding why the requested documents have not been produced. Not only is the lack of response in violation of the law but MDE's failure to produce this information harms the

[23] Maryland Public Information Act. Md. Code Ann., Gen Provis. § 4-202

commenters' ability to fully participate in the public permitting process. MDE has preemptively and without reason foreclosed public discussion of how the Permit's ability to protect state waters is impacted by the unique and specific climate threats facing Maryland.

a. Maryland must consider climatic and precipitation conditions in designing the TBELs for stormwater discharges

The premise of this no discharge permit is that the proper design and implementation of onsite BMPs will eliminate actual discharges to surface waters as well as the potential to discharge from the site. These BMPs serve as technology based effluent limitations (TBELs) that are necessary for an operation to comply with the zero discharge requirements of this permit and with federal regulations. However, there is no indication that the required BMPs are designed to adequately control the increasingly extreme precipitation events occurring in Maryland. The increased threat of extreme rain events in Maryland must be part of MDE's consideration and design of this draft permit. It is not sufficient to rely on outdated standards when the science is clear that Maryland and the Mid-Atlantic are experiencing extreme rain events at a greater frequency than any other part of the contiguous United States.

All nine of the minimum standards contained in the permit at Part IV.B. of the permit must be re-examined in light of current and project precipitation trends in Maryland. The majority of these minimum standards are carryovers from previous permit iterations and therefore based on older data that may lack information about current trends and projections for extreme rain events.

b. Maryland should require all permit applicants and permit-holders to respond to present-day flood risks and precipitation conditions.

Climate change has already increased the risk of flooding and the intensity and volume of precipitation in Maryland. Therefore, MDE should require all permit applicants to identify and consider present-day flood risks and precipitation conditions at their facilities in applications for permit coverage and in the design and maintenance of stormwater control practices. **MDE should also require permittees to document and report all flooding incidents** that impact the production area (regardless of whether inundation or an overflow occurred) to regulators in order to gather data on site-specific flood risks and all potential pollution discharges.

At present rates of sea level rise, the Lower Eastern Shore is losing about 100 acres per year of productive land to saltwater intrusion according to University of Maryland researchers.[24] And the pace of sea level rise is expected to increase dramatically. According to NOAA tide gauges, sea levels have risen about 13 inches over the last 100 years, while according to the Maryland WIP, the average projection is for another 3.7 feet in the next 80 years, or four times more sea level rise per year, on average. In fact, the pace of inundation could actually be far worse in some areas. A vulnerability assessment of the Eastern Shore conducted by the Eastern Shore Land Conservancy, the Eastern Shore Regional GIS Cooperative (ESRGC), the Georgetown Climate Center, and the University of Maryland Environmental Finance Center and based on

[24] See Bay Journal article "Saltwater intrusion laying waste to Delmarva farms as sea level rises" by Jeremy Cox. Last accessed December 2019. Available at: https://www.bayjournal.com/article/saltwater_intrusion_laying_waste_to_delmarva_farms_as_sea_level_rises.

work conducted by the U.S. Army Corps of Engineers assumes that sea levels will rise by 2 feet by 2050 and 6 feet by 2100.[25] So, while 100 acres may be lost per year now to saltwater, this may snowball to many hundreds or thousands of acres lost in future years.

Based on the enormous financial losses to the Eastern Shore that the Eastern Shore Land Conservancy and its partners are projecting from sea level rise and storm surge inundation, those groups recommended, among other items: (1) conducting a resilience assessment prior to undertaking capital investments; (2) expanding the regulatory floodplain; (3) enacting a three-foot freeboard requirement in building codes; and (4) regulating certain flood zones as if they are in a higher risk coastal flood zone now (to make sure that we're preparing for future risks now).[26]

The Phase III WIP also acknowledges that "more intense storms are expected to change the effectiveness of BMPs to control pollution runoff." The WIP states that "[t]hese enormous costs are raising questions, nationally and in Maryland, whether building and rebuilding should continue in areas with repeat catastrophic weather events. As the State continues to invest in BMPs to restore the Bay, it must carefully consider their placement to avoid areas that are at risk from the most severe climate impacts." The writers of the WIP, including many MDE staff that contributed to writing it, identified a number of reasons why doing nothing will force the state to incur additional costs later:

> "First, increasingly frequent and severe extreme weather events will damage BMPs and necessitate more inspections, maintenance, or replacement. Second, more BMPs need to be installed to compensate for an anticipated loss of BMP pollution reduction efficiency. Third, additional BMPs are likely needed to address increased future pollution loads."

Given the increasing likelihood of flooding to permitted facilities and the potential risk of flood-induced pollution discharges, MDE should revise the draft permit's reporting requirements in order to capture data for every incident of flooding that occurs at a permitted facility.[27] An all-encompassing requirement for reporting flooding incidents at permitted sites will be beneficial to permittees and MDE in a number of ways. First, the requirement would ensure that any episode of potential flood-induced discharges is documented. Second, the documentation and reporting would also benefit the permittee and agency by providing site-specific flood data that could help with the design and implementation of future flood-mitigation measures. Lastly, the collection of this data would allow Maryland to begin creating a record of flooding to support future permit-wide adaptation reforms.

c. Maryland should reject applications for new CAFO facilities at risk from inundation.

Section IV.E. of the draft permit must be strengthened. It is imperative for the protection of waters of the State that MDE establish siting standards to keep new facilities and their appurtenant infrastructure out of

[25] Eastern Shore Land Conservancy on behalf of the Eastern Shore Climate Adaptation Partnership. Mainstreaming Sea Level Rise Preparedness in Local Planning and Policy on Maryland's Eastern Shore. Last accessed December 2019. Available at: http://www.eslc.org/wp-content/uploads/docs/coastal-resilience/regional-sea-level-rise-study-2019.pdf.
[26] *Id.*
[27] A number of provisions may already require reporting of some, but not all, flood incidents at permitted sites. Submittal of required plans, Part III.B.; Annual implementation report, Part V.B.; Notification of noncompliance, Part V.E.; Notification of upset, Part V.F.; Notification of Emergency or Catastrophic Loss, Part IV.F.6.

areas of high risk of inundation now or under future climate conditions. Currently, MDE has approved facilities that have expanded their operations within a floodplain, while adjacent houses on site have been decommissioned due to flooding damage. At a minimum, **we strongly urge MDE to prohibit new and expanded AFOs from being sited in a FEMA flood zone (areas not determined to be an area of minimal flood hazard), in areas subject to potential inundation by storm surge from a Category 1 or 2 hurricane, and areas projected to be at risk of inundation from storm surge when sea levels increase by two feet or less.**

d. Maryland should consider revisions to the draft permit and future modifications to the reissued permit to account for forthcoming studies and planning processes.

MDE should revise the draft permit to include a reopener clause, committing to modify the permit to address forthcoming climate change analyses, reports, and plans relevant to this permit. Critically, MDE should ensure that reasonable modifications are made to this permit no later than 2022 for the purpose of incorporating the state's commitment to address climate-attributable pollution loads to the Chesapeake Bay as part of the Bay TMDL mid-point assessment.

Maryland committed to submit to EPA an addendum to its Phase III WIP that addresses previously unaccounted for loads of pollution attributable to climate change. Preliminary modeling of these loads by the Bay Program indicates that Maryland's share could amount to 2.19 million pounds of nitrogen per year by 2025 that are not currently accounted for by the state's WIP or in existing permitting programs. Maryland's climate addendum is due for submission in 2021, which is several years before this permit will expire. The climate addendum is likely to consider new and revised commitments relevant to agricultural sources of climate-attributable pollution, including, for example, potential increases in agricultural stormwater discharges attributed to increasing intensity and quantity of precipitation within the region.[28] Maryland will soon also finalize several relevant climate studies, reports, and plans including, for example, a statewide plan to address nuisance flooding, a statewide plan to address saltwater intrusion, an update to Maryland's modeling and mapping of 100-year flood-zones, and a Commission on Climate Change report on the impact of climate change to Maryland agriculture.[29]

e. Maryland should impose on-site manure management practices that mitigate growing greenhouse gas emissions from the industrial agricultural sector.

Clean Water Act permits are not regulatory instruments primarily designed for controlling air emissions. However, as Maryland has acknowledged in the past, thoughtfully designed stormwater management, including basic housekeeping practices, have the potential to produce co-benefits, among them, reducing greenhouse gas emissions, particulate matter, and other air pollution.[30] Maryland should consider existing

[28] Notably, in its Phase III Watershed Implementation Plan, Maryland specifically commits to continued research on the impact of increased precipitation on stormwater BMP performance, which would support the modification of stormwater design standards and other elements of this permit to account for the impacts of climate change.

[29] The MCCC report on the impact of climate change to Maryland agriculture was due to the Commission in early 2019. As of 12/19/2019, the STWG had not released the report or a draft report.

[30] "Operators must minimize generation of dust and off-site tracking of raw, final or waste materials. Dust control practices can reduce the activities and air movement that cause dust to be generated. Airborne particles pose a dual threat to the environment and human health. Dust carried off site increases the likelihood of water pollution." Maryland

research on greenhouse gas and other toxic air emissions from animal manure in setting requirements for on-site manure management practices, including, for example, thresholds and requirements for the quantity, duration, and containment practices for manure stockpiles. The NRCS standards include several practices related to greenhouse gas emissions and offer viable and thoroughly tested solutions designed specifically for AFOs or other agricultural producers.[31]

One third of nitrogen pollution to the Bay occurs through air deposition of pollutants.[32] While some forms of nitrogen-based emissions have declined, emissions of ammonia and nitrous oxide have increased along with the quantity of animal manure produced. Nitrous oxide is a highly persistent greenhouse gas that is 300 times more potent than carbon dioxide.[33] Nearly three-quarters of the nitrous oxide emitted in the United States is attributed to the agricultural sector and emissions are increasing along with the expansion of industrial animal agriculture.[34] When manure is stockpiled in large quantities nitrous oxide is produced and emitted, along with the potent greenhouse gas methane. Recent research also shows that for each unit of fertilizer applied, soils produce between 1% to 5% nitrous oxide (by weight). When fertilizer is applied in excess of crop needs, the increase in nitrous oxide production is exponential. These studies suggest that manure management practices could be tailored to mitigate substantial emissions.[35]

In a recent report, the Environmental Integrity Project estimated that a typical Eastern Shore CAFO – producing some 500,000 chickens annually – could produce up to 24 tons of ammonia per year, nearly double the previous estimate by EPA Bay regulators.[36] Researchers attribute this higher estimate, in part, to such management practices as high-frequency reuse of bedding materials and to warmer climate conditions. While ammonia's contributions to climate change may be minimal compared to nitrous oxide, methane, or carbon dioxide, it is a potent occupational and public health threat, especially for AFO workers and for vulnerable communities adjacent and downwind of CAFOs and other industrial agriculture facilities.

During the period of this permit, Maryland should commit to a review of the literature and consultation with researchers and other experts to devise technical requirements for manure management that reduce the potential for emission of greenhouse gases and other toxic air pollutants.[37] **Maryland should incorporate**

Department of Environment, 12-SW - Fact Sheet for General Permit for Stormwater Discharges Associated with Industrial Activity (Oct., 2012, updated Oct., 2013), at pg. 36. Available at: https://mde.maryland.gov/programs/Permits/WaterManagementPermits/Documents/GDP%20Stormwater/12_SW_FactSheet_Final.pdf.

[31] See supra note 20.

[32] See U.S. EPA, Chesapeake Bay Total Maximum Daily Load for Nitrogen, Phosphorus and Sediment, Appendix L, page L-2 (Dec. 29, 2010)

[33] For more, see Sabrina Shankman, What Is Nitrous Oxide and Why Is It a Climate Threat?, Inside Climate News (Sept. 11, 2019). Available at https://insideclimatenews.org/news/11092019/nitrous-oxide-climate-pollutant-explainer-greenhouse-gas-agriculture-livestock.

[34] Thompson, R.L., Lassaletta, L., Patra, P.K. et al. Acceleration of global N2O emissions seen from two decades of atmospheric inversion. Nat. Clim. Chang. 9, 993–998 (2019) doi:10.1038/s41558-019-0613-7.

[35] Iurii Shcherbak, Neville Millar, G. Philip Robertson, Global metaanalysis of N2O fertilizer responses, Proceedings of the National Academy of Sciences Jun 2014, 111 (25) 9199-9204; DOI: 10.1073/pnas.1322434111.

[36] Abel Russ and Eric Schaeffer, Ammonia Emissions from Broiler Operations Higher than Previously Thought, Environmental Integrity Project (Dec. 2017). Available at: https://www.environmentalintegrity.org/wp-content/uploads/2017/12/Ammonia-Emissions.pdf.

[37] See generally, Hongmin Dong, et al, Chapter 10: Emissions from Livestock and Manure Management, in 2006 IPCC Guidelines for National Greenhouse Gas Inventories, Volume 4 Agriculture, Forestry, and Other Land Use.

revisions to manure management requirements in the proposed permit through a permit modification.

IV. New Language in the Draft Permit Regarding Air Pollution is Inadequate in Light of the Magnitude of Nutrient Pollution Emitted by AFOs

Ammonia from U.S. poultry operations and, in particular, broiler operations have been widely studied over the past fifteen years.[38] Estimates of emissions factors are relatively consistent in Delmarva and range from 0.47 grams of ammonia per bird per day (g NH_3 $bird^{-1}$ day^{-1}) to 0.98 g NH_3 $bird^{-1}$ day^{-1}.[39] EPA's 2004 National Emissions Inventory Draft Report on Ammonia Emissions calculated a broiler emissions factor of 0.22 pounds per bird per year.[40] Recently, EPA provided emissions rates for ammonia emissions from poultry operations for the purpose of reporting air releases pursuant to federal requirements.[41] The rates provide a range of industry practices, including the number of days per flock (40 to 63) and whether the litter is reused for subsequent flock or new bedding.

These averages contemplate the fluctuations in ammonia emissions driven by factors such as broiler age, type and amount of feed, temperature, and frequency of tunnel house cleanouts and litter changes. It is also worth noting that a 2004 study by Siefert *et al* characterized AFOs on Delmarva, finding some of the highest emissions rates of any such study in the U.S., with an emissions rate of 1.18 grams of ammonia, per bird, per day (g NH3 bird-1 day-1). This study, as well as the EPA 2004 National Emissions Inventory data, were relied on for a 2010 study by the Maryland Department of Natural Resources (DNR) on broiler ammonia

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https://www.ipcc-nggip.iges.or.jp/public/2006gl/pdf/4_Volume4/V4_10_Ch10_Livestock.pdf; Paul Jun, Michael Gibbs, and Kathryn Gaffney, CH4 and N2O Emissions from Livestock Manure, in 2002 IPCC Good Practice Guidance and Uncertainty Management in National Greenhouse Gas Inventories. https://www.ipcc-nggip.iges.or.jp/public/gp/bgp/4_2_CH4_and_N2O_Livestock_Manure.pdf; IPCC, Chapter 4: Agriculture, in 2000 IPCC Good Practice Guidance and Uncertainty Management in National Greenhouse Gas Inventories. https://www.ipcc-nggip.iges.or.jp/public/gp/english/4_Agriculture.pdf; and Gerber, P.J., Steinfeld, H., Henderson, B., Mottet, A., Opio, C., Dijkman, J., Falcucci, A. & Tempio, G. 2013. Tackling climate change through livestock – A global assessment of emissions and mitigation opportunities. Food and Agriculture Organization of the United Nations (FAO), Rome.

[38] Burns, R. T., K. A. Armstrong, F. R. Walker, C. J. Richards, and D.R. Raman. 2003. Ammonia emissions from a broiler production facility in the United States. In Proc. International Symposium on Gaseous and Odor Emissions from Animal Production Facilities, 88-95. Horsens, Denmark: CIGR.

See also Lacey, R. E., J. S. Redwine, and C. B. Parnell, Jr. 2003. Particulate matter and ammonia emission factors for tunnel-ventilated broiler production houses in the southern U.S. Trans. ASAE 46(4): 1203-1214.

See also Siefert, R. L., J. R. Scudlark, A. G. Potter, K. A. Simonsen and K.B. Savidge. 2004. Characterization of atmospheric ammonia emission from a commercial chicken house on the Delmarva Peninsula. Environ. Sci. Tech. 38(10): 2769:2778.

See also Wheeler, E.F., et al. Ammonia Emissions from Twelve U.S. Broiler Chicken Houses. Agricultural and Biosystems Engineering Publications (2006). Paper 151. Available at http://lib.dr.iastate.edu/abe_eng_pubs/151. Ammonia Emissions from Broiler Houses_ J Appl Poult Res-2005-Pescatore-635-7.

See also EPA: National Emission Inventory—Ammonia Emissions from Animal Husbandry Operations. January 30, 2004 Draft Report.

[39] Broiler Industry Ammonia Emissions in the Chesapeake Bay Watershed. 2010 Report by Maryland Dept. of Natural Resources: DNR 12-6232010-459; PPRP-154.

[40] EPA: National Emission Inventory—Ammonia Emissions from Animal Husbandry Operations. January 30, 2004 Draft Report. at 35, 56, 90, 123. EPA data and methodology at 31-35, table 3-8 at 35, and App.D.3.3 – table D-12 at 123. EPA's 0.22 lb. NH3 bird-1 year-1 estimate contemplates 5.5 flocks, with flock age ranging from 45-60 days.

[41] EPA: CERCLA and EPCRA Reporting Requirements for Air Releases of Hazardous Substances from Animal Waste at Farms: Ammonia and Hydrogen Sulfide Emission Rates for Poultry Operations. Last accessed December 2019. Available at: https://www.epa.gov/epcra/cercla-and-epcra-reporting-requirements-air-releases-hazardous-substances-animal-waste-farms.

emissions in Maryland. That study found that between 1990 and 2006 the Maryland poultry industry emitted over 30,000 tons of ammonia per year, based on EPA emissions factors.[42] [43]

A conservative, or low, emission factor could be derived from EPA's emissions rate guide for AFO reporting, of 0.59 g NH_3 $bird^{-1}$ day^{-1}. A typical new broiler operation in Maryland cycles through approximately 6.8 flocks per year, at 36 days per flock, or 244 days per year.[44] Recent reporting from the Delmarva Poultry Industry for 2017 estimates 306.7 million broilers were raised in Maryland, producing 1.84 billion pounds of meat. Conservatively, with a state capacity of about 50 million chickens, *at least* 15 million pounds of ammonia would be emitted from poultry houses each year. This estimate ***does not*** include emissions from house cleanouts, flock removal, windrowing practices or manure storage.

Once ammonia is emitted, it travels through the atmosphere, with much of it re-depositing on land or water surfaces near the source. One recent study estimated that 40% of emitted ammonia re-deposits with 2.5 km of the source, and 70% re-deposits within 50 km of the source.[45] Once ammonia deposits on land, it undergoes chemical transformations, some of the nitrogen is absorbed by growing crops or other plants, and some of the nitrogen makes its way to the Chesapeake Bay and Atlantic Coastal Bays.

Even the most conservative estimates of both ammonia emissions and dispersal, and nitrogen deposition with the Bay watershed represent a substantial contribution of nitrogen not only to local lands and waterways, but to the Bay watershed's tidal estuaries and coastal estuaries of the Eastern Shore. As discussed above, nitrogen is sourced from all stages of the life cycle of poultry waste, namely, volatilization within poultry houses, volatilization and leachate from manure storage sheds, and volatilization and leachate during transport, field storage and field application. **It is imperative that the draft permit address those sources entirely under the regulatory scope of this draft permit.**

As discussed in Part II, above, the draft permit must ensure compliance with the Bay TMDL. Failure to account for significant and substantial nitrogen inputs to waters of the State and ultimately the Bay is a failure to meet CWA requirements. Beyond federal requirements, as listed in 40 CFR 12.42(e), the previous iteration of the permit and the instant draft permit require protections concerning waste storage, recordkeeping and controlling nutrient loss, pursuant to Part IV. Special Conditions. Part IV.A.1.a. states:

> a) The required plan shall take into account all animal manure, chicken litter, or process wastewater associated with animal production, regardless of the source of the animal manure, chicken litter, or process wastewater. The plans shall ensure that appropriate manure management measures are used to store, stockpile, and handle animal manure and waste nutrients associated with animal production to

[42] DNR Report 2010, at 11-13.
[43] Environmental Integrity Project, Ammonia Emissions from Broiler Operations Higher than Previously Thought (Jan. 2018), available at https://www.environmentalintegrity.org/reports/ammonia-emissions/.
[44] University of Maryland Extension. Broiler Production Management For Potential and Existing Growers. 2016. Last accessed December 2019. Available at: https://extension.umd.edu/sites/extension.umd.edu/files/_docs/Broiler%20Production%20Management%202016.pdf.
[45] J. Baker et al., Modeling and Measurements of Ammonia from Poultry operations: Their Emissions, Transport, and Deposition in the Chesapeake Bay, Sci. Tot. Environ, online pre-proof at pages 23-24 (Nov. 24, 2019), https://www.sciencedirect.com/science/article/pii/S0048969719352829.

> minimize the potential for nutrient loss or runoff. The manure management requirements shall encompass all land where animals are kept and all land used for manure storage, treatment, or utilization that is under the control of the permittee.

Because nutrient loss occurs throughout the life cycle of waste production, storage, transport and application, the foregoing paragraph requires that applicants account for and manage the enormous amounts of ammonia produced from each poultry house and manure storage shed, while it remains in the production area. Similarly, Part IV.B.6 requires minimum setbacks from waters of the State for stored poultry, in order to control nutrient loss, and Part IV.B.8 requires similar setbacks for land application of manure and wastewater. Finally, Parts IV.A. & IV.B.9 requires records be kept for "animal manure and waste nutrient associated with animal production… ." Without minimum accounting of and controls for ammonia-nitrogen from both poultry houses, manure storage areas, and land application practices, hundreds of thousands of pounds of nitrogen will continue to be discharged into waters of the State from these facilities.

The only reference the draft permit makes to the substantial ammonia pollution caused by AFOs is new language in Part IV.D. that advises, but does not require, an operator to "use appropriate NRCS conservation Practice Standards to address the concern" if "outdoor air quality is determined to be a resource concern." Once again, the framework for determining whether or not something is a resource concern is left up to the owner or operator of the regulated AFO. As such, there are no pollution limits or standards in the draft permit capable of protecting waters of the State, AFO workers, or downwind communities from the massive amount of ammonia emitted by large poultry AFOs, as well as potentially hazardous amounts of particulate matter or any other pollutant.[46]

V. The Draft Permit's Use of the Term "Discharge" is Inconsistent and Problematic

The scope and importance of the term "discharge" under the Clean Water Act has been the subject of litigation and considerable debate both within and outside the context of AFO permitting and regulation. Federal CAFO regulations and Maryland's current and draft permit are often described as relying on a "no discharge" standard. But this legal fiction is neither helpful in attempting to address the environmental implications of AFOs, nor, arguably is the term legally relevant and consistent with the framework of laws regulating pollutants from AFOs in Maryland. **For the following reasons, we urge MDE to remove references to "no discharge."**

The draft permit inserts a definition of "discharge" that is absent in the current permit. The term "discharge" is appropriately defined consistent with the definition used elsewhere in state law as "(a) the addition, introduction, leaking, spilling, or emitting of any pollutant to waters of this State; or (b) the placing of a pollutant in a location where the pollutant is likely to pollute." This definition is far broader in scope than the much litigated definition of discharge under the Clean Water Act. Because the state definition of "discharge" is substantially different than the federal definition it is irrational to copy and paste references to federal standards such as the "no discharge" presumption within the state permit. Specifically, under the state's broad definition, if we are to presume that an AFO does not "discharge" we would be forced to

[46] NRCS National Planning Procedure Handbook, Section 600.54(a)(2)(i) - Element Criteria for CNMP Development, specifically identifies ammonia emissions as a source of pollution deposited to surface waters.

accept as reality an illogical and physically impossible result: that what goes into a poultry house never comes out.

Recent meteorological data have confirmed what scientists have been forecasting for this region's climate for many years. Increasingly intense rain events that quickly flood low-lying areas and overwhelm structures built to antiquated stormwater design standards are becoming more frequent. For this permit to truly be a "no discharge" permit, MDE must require far more conservative and protective storm design standards and stormwater control BMPs. A 100-year, 24-hour rainfall would be more appropriate if MDE is intent on eliminating *surface water discharges from containment structures resulting from precipitation-based overflows*. EPA's CAFO Permit Writers' Manual ("CAFO Manual") states that permit writers must determine the need for more restrictive effluent limitations in situations where "an analysis of frequency, duration, and magnitude of the anticipated discharge indicates a reasonable potential to violate applicable water quality standards."[47] Surely, if MDE conducted this type of analysis it would indicate that the current design standards and reliance on 25 year 24-hour storm protections are antiquated and not protective of local water quality, local TMDLs, and the Chesapeake Bay TMDL.

Unless the draft permit is amended to include updated standards reflective of current and projected climate standards, it will result in a sort of functional backsliding, where the level of pollution discharged or otherwise emitted from these facilities will continue to increase from year to year or permit term to permit term as the limits and conditions become more and more out of line with the changing reality of climate conditions in this region. Like monetary inflation, a steady increase in the volume of precipitation will steadily erode the value of any protections in this draft permit built to prevent pollution. Just as it would be unfathomable for financial institutions to fail to account for the effect of inflation, it would be irrational to perpetuate existing permit standards in the face of changing climate conditions.

Even if the permit's storm design standards were modernized and made more stringent, the permit would also need to include provisions to deal with ammonia emissions. As described in much greater detail above, AFOs emit enormous quantities of ammonia, which invariably results in nutrient pollution, through dispersion to waters of the State. While we urge MDE to ensure that ammonia is listed as a resource concern for all AFOs in order to mitigate the impact of this major source of pollution through existing recommended conservation practices, no conservation practice known to the commenters would completely eliminate ammonia emissions. MDE has been directed "to improve, conserve, and manage the quality of the waters of this State" and that cannot be done by devising a legal fiction that effectively assumes that AFOs do not result in the "addition, introduction, leaking, spilling, or emitting of any pollutant to waters of this State."

It is nearly impossible for anyone to ascertain whether or not the current AFO permit is suitably protective of waters of the State because the permit fails to require sufficient monitoring of ground or surface waters. The only information we do have are the data from state and federal tidal water quality monitoring stations, which are showing largely degrading conditions, as well as a more specific water quality study of AFOs conducted over state lines in Virginia.[48] That recent study conducted by the Virginia Department of Environmental Quality measured nutrient, sediment, bacterial, and other pollution parameters at four farms

[47] EPA NPDES Permit Writers' Manual for CAFOs (2016) Pg. J-10.
[48] Virginia Department of Environmental Quality. Water Quality Monitoring Study, Summer 2018 Eastern Shore Data. Available upon request.

on four different dates throughout the year during both wet and dry conditions at points upstream and downstream of four different poultry AFOs on the Delmarva. Unsurprisingly, the downstream levels of pollution increased dramatically for nitrogen, often by an order of magnitude or more, across all facilities in the study. But the data also showed similar increases in bacteria, again across all facilities. These results are consistent with waste runoff from those operations and seem to indicate that AFOs very clearly result in discharges.

Finally, whether or not the permit could ever feasibly reduce *surface water* discharges to the point of elimination this would still not necessarily be a fully protective outcome. As noted in the draft permit, it is designed to protect "waters of the State," which includes groundwater. Unless and until the permit includes conditions designed to eliminate any possibility of nutrients leaking from manure storage structures, manure piles, localized deposition of ammonia, or from land application of manure not fully consistent with agronomic principles, the permit cannot possibly claim to eliminate pollution to waters of the State. No permit can fully eliminate the possibility of pollution and we are not urging MDE to do so. But a first step toward devising a more protective permit is to cease reliance on any legal fictions that serve as obstacles in the way of a permit writer's more productive efforts to acknowledge all sources of pollution and mitigate them.

VI. The Vast Majority of Nutrient Pollution Attributable to AFOs Are Land Applied in Adjacent Fields or Exported.

The notion that manure and other waste from AFOs are both a valuable source of fertilizer and also a harmful source of pollution is well understood by farmers, by environmentalists, even by the broader public, and certainly by MDE. A decade ago, MDE stated in its response to comments received following the issuance of its first AFO general permit: "The Department is convinced that CAFOs and MAFOs present ***a significant source of nutrients***, especially in the Eastern Shore region."[49] The MDE response continued "[o]ur goal is to ***regulate the manure generated at the largest farms, to reduce the amount of nutrients lost to ground or surface water***." (Emphasis added).

The potential for manure to become water pollution if not carefully applied consistent with agronomic principles is recognized in the federal CAFO regulations and is the source of several key environmental policies in Maryland, including the state's Manure Transport Program and Phosphorus Management Tool. However, the draft permit misses a critical opportunity to help ensure that the largest potential source of pollution to waters of the State is adequately addressed.

There are many potential ways in which the draft permit could be improved to protect waters of the State from manure and other wastes that are either land applied at fields under the control of the operator or exported off-site. One important and common sense solution would be to **ensure that manure is not land applied as fertilizer in any field under the control of the AFO operator that is within a floodplain or subject to recurring nuisance flooding**. Such fields are extremely likely to result in nutrient pollution following heavy rainfalls and should be subject to additional measures to ensure that the source and method

[49] MDE. Response to Public Comments Regarding General Discharge Permit for Animal Feeding Operations General Discharge Permit No. 09AF, NPDES Permit No. MDG01. December 31, 2008.

of fertilizer application is as protective of water quality as possible. A restriction such as this would fit well within IV.A.1.a of the draft permit. Similarly, the draft permit includes a new reference in IV.A.1.e to "wells, or tile drains" as part of a requirement for the AFO operator to note the presence of these key features. Instead of merely requiring that these sensitive environmental and public health features are noted in the nutrient management plan, **the permit should prohibit land application within at least 100 feet of a tile drain or well used for drinking water due to unacceptable risks of releasing pollution directly to waterways or of contamination of water supplies with nitrates.**

A large number of more recently developed AFOs are considered "no land" facilities, meaning that the operation is simply an industrial operation with no farming of crops actually occurring on site. While "land AFOs" are subject to manure and waste application rules in the draft permit, no land AFOs are not. To ensure consistent regulatory treatment and eliminate any incentives based on different regulatory requirements, **the draft permit should include additional regulatory protections that ensure the manure taken off-site is properly accounted for.**

Other surrounding states have various mechanisms that MDE should consider drawing from to protect waters of the State from exported manure. In Pennsylvania, this is accomplished through the Commercial Manure Hauler and Broker Certification Act, which ensures that those handling manure exported from AFOs are properly trained, licensed, and subject to recordkeeping obligations. In Virginia, the state Department of Environmental Quality (DEQ) Animal Waste Program includes a whole regulatory and general permit scheme that "governs the management of animal waste at AFOs and animal waste utilized or stored by animal waste end-users." Virginia's permit not only expands critical regulatory protections over the significant percentage of potential nutrient pollution generated within AFOs that are transported off site, but enhances transparency over this potential source of pollution by requiring manure brokers and haulers to submit their manure transport records to the Virginia DEQ, as opposed to merely requiring such records to be kept on site, where they will be generally unusable.

To be sure, Maryland's Manure Transport Program is, by all accounts, a well-run program and a very effective policy for ensuring that the large surplus of poultry litter on the Lower Eastern Shore is properly managed, largely through transport out of the watershed or utilized in an alternative use facility. In the 2019 legislative session, the General Assembly passed SB 546 (Chapter 760), which included additional transparency over the handling of manure exported by AFOs. The draft permit makes no reference to Chapter 760 and **we urge MDE to facilitate the implementation of this new law by requiring V.B.1.d of the draft permit to be amended to specifically include a reference to the end user of any manure exported by an AFO.** Only when all manure exported by Maryland AFOs can be tracked by the public in the same manner as manure handled under the state's Manure Transport Program will we have sufficient assurance that manure is being utilized responsibly and in a way that fully protects waters of the State and communities reliant on clean groundwater for drinking. **We urge MDE to include a reference in the permit or in the materials distributed to AFOs during the permit registration process to the resources that are available to AFO operators under the Manure Transport Program.**

Finally, **we urge MDE to modernize its permit in line with regulatory efforts in other leading states** utilizing technology that pushes out manure spreading advisories. A well-known agronomic principle holds that nutrients must be applied at the right time if they are to be taken up by crops as fertilizer as opposed to

running off as pollution. The permit should adopt manure spread advisories as a low-cost, real-time decision support tool to help AFOs with crop lands take some of the guesswork out of land application with alerts regarding when it is not appropriate to spread manure. MDA has, in recent years, struggled to adapt their winter manure application ban to current weather conditions due to cumbersome and antiquated regulatory procedures and utilizing modern technology would be helpful to both MDE and MDA, particularly as our climate continues to introduce uncertainty regarding weather trends.

VII. Siting and Other Criteria for New or Expanded Operations

Consistent with the current permit, the draft permit contains a brief section for new and modified operations in Part IV.E. While the specified lagoon bottom and embankment standard in paragraph 1 appears reasonably protective, this section is otherwise devoid of the sort of important water quality protections that one would expect. Paragraph 3 includes a reference to New Source Performance Design Criteria, which is important, but which is the bare minimum that ought to be expected of anyone seeking a permit to pollute already heavily polluted waterways and in the midst of a major multi-decade, interstate environmental cleanup effort. It should also be noted that the reference to these New Source Performance Design Criteria in IV.E.3 is missing additional identifying information for this document, which should include at least a date of publication if not also a web link. **Throughout the draft permit any reference to another MDE document or any standards incorporated by reference under the control of MDE or another state agency must include at least a date to ensure that any standards that become part of the terms and conditions of this permit are not subject to further change at the discretion of the State without adequate notice or public participation**.

In addition to the new source design standards and special lagoon bottom and embankment standards established for new and modified operations, Part IV.E. should also be consistent with the following considerations.

a. *Compliance with Federal Regulations.* Neither the draft permit or fact sheet contain any reference to 40 CFR 412.46 which contains federal new source performance standards for CAFOs. **MDE must determine if the Draft Permit's nine minimum standards to protect water quality, the CNMP requirements, and other BMPs required by the permit satisfy these federal requirements.**

b. *Site Specific Considerations.* **Any permit for the construction and establishment of a new AFO must be sufficiently tailored to any recognized designations assigned to receiving water bodies.** If an AFO would be located in a healthy "Tier II" catchment or watershed, MDE should ensure that it is subject to the antidegradation procedures in COMAR 26.08.02.04-1. If the AFO is located in a Tier II catchment or watershed with no remaining assimilative capacity then MDE should ensure that the AFO contains special provisions and requirements to protect that Tier II water from further degradation. If an AFO would be located in a local watershed considered to be impaired for one or more pollutants, the permit should ensure that the operation is governed by a set of enhanced design criteria and/or subject to additional conservation practices tailored to the specifications of the proposed facility and its location within the watershed that will ensure the AFO's operation does not further impair the local watershed.

c. *Petition for Individual Permits*. Any agency issuing a general permit does so in part for the sake of administrative efficiency. However, a standard feature of general permits includes criteria governing when an applicant must instead apply for an individual permit and allow the public to petition the agency to require an individual permit based on certain factors. Given the extraordinary efforts currently underway to restore the Chesapeake Bay and the extraordinary amount of Bay pollution generated by AFOs, the bar for determining when an applicant should apply for an individual permit should be set low. Given the number of additional water quality protections and site-specific considerations inherent in developing a new AFO, it may be more administratively efficient to handle applications for new or expanded AFOs through an individual permit rather than developing a lengthy new section in the general permit to house all of the additional terms and restrictions, many of which necessitate an algorithmic flow of conditional statements to establish the conditions tailored to the unique circumstances of each proposed facility. **However, at a minimum, VII.M.2 of the draft permit should be amended to remove "at its sole discretion" and add language allowing the public to request permit coverage under an individual permit based on the location of the facility**, such as proximity to residential, educational, or religious buildings or near sensitive environmental areas.

d. *Low-Lying Areas Subject to Increasing Risk of Inundation Under Future Climate Scenarios*. Few places in the United States could more accurately be described as ground zero for climate change than Maryland's Eastern Shore. **Given the confluence of climate-induced risks facing many low-lying areas in this region, it would be prudent for the draft permit to include standards regarding where MDE will not accept any applications to operate a new AFO.** Areas subject to episodic flooding are not suitable for development of any industrial facility, no matter how many additional water quality protections or siting criteria are utilized. **We urge MDE to consider all relevant geospatial data in evaluating the suitability of a proposed new AFO facility** including, Federal Emergency Management Agency flood zones, areas subject to inundation by a Category 1 through 3 hurricanes according to National Oceanic and Atmospheric Administration (NOAA) models, areas subject to inundation by two feet or less of sea level rise according to NOAA sea level rise data, and areas subject to recurring high tide flooding as of 2019 or where high tide flooding would occur when sea level is two feet higher than it is now according to NOAA projections.

e. *Wetlands and Waterways*. **We urge MDE to adopt the common sense policy within this draft permit of not allowing any new or expanded AFOs where any part of the production area or any building footprint will be constructed on an existing wetland or stream of any kind** given the unnecessary and extraordinary exposure of additional pollutants directly to waters of the State. Wetlands will only be getting wetter as sea levels rise and precipitation volumes and intensity continue to increase and MDE must ensure its policies keep up with this reality.

f. *Offsets*. Any new AFO facility covered under the draft permit or an individual permit should be required to offset the total estimated pollution load of the operation. The authors of the Bay TMDL understood the importance of offsetting pollution loads from new or expanding sources, as "accounting for growth" was included as one of the eight essential elements that states were required to address in their WIPs. The Bay TMDL included an entire separate appendix devoted to "Offsetting New or Increased Loadings," which, it is important to note, was explicitly not confined solely to point

sources of pollution, but was to include nutrient pollution from any source. EPA issued a number of guidance documents and other educational materials designed to assist the states in understanding how they could implement effective offset programs.[50] One such document of particular relevance and importance, which could have and should have helped MDE stem the tide of nutrient pollution from AFOs, is the "Sector Load Growth Demonstration Technical Memorandum."[51] EPA, in its assessment of Maryland's milestones progress in implementing their WIP and making progress toward meeting the goals of the Bay TMDL recommended that Maryland continue implementing its growth offset policy, something MDE has ceased doing.

Maryland completed its load growth demonstration in 2013 and concluded that there would be no growth in loads form the agriculture sector due to "a decline in animal production in the State resulting in less manure." Not only was the state's analysis wrong, but what is even more troubling is the state's failure to abide by its commitment "to tracking agricultural sector loads as part of the Chesapeake Bay Program annual progress reporting process to verify this analysis is correct." The state pledged that, "[i]n the event future loads are observed to increase, the State is committed to taking steps to offset those loads." At the time that analysis was completed, according to Chesapeake Bay Program data, there were 1.6 million "animal units"[52] from livestock and poultry in Maryland.[53] Ignoring that this animal population had increased for four consecutive years leading up to this "no load growth" assessment (from 1.4 million animal units in 2009) MDE's analysis missed the massive 15% increase in animal population over only four years, from 2014-2017. If Maryland had adhered to its commitment to replicate the load growth demonstration as circumstances changed and animal populations were observed to be increasing, MDE indicated that "***[t]he State's concentrated animal feeding operations (CAFO) permitting program provides further means of controlling net increases in nutrients in the agricultural sector if necessary.***" (Emphasis added).[54]

We urge MDE to complete a new load growth demonstration for the agriculture sector and, more importantly, to include a set of on-site performance standards and potential additional off-site offset options designed to fully offset the total amount of additional loads from all sources associated with any new AFO facility. As it stands now, the draft permit fails to live up to MDE's prior explicit commitment, it is inconsistent with the assumptions of the Bay TMDL, runs contrary to the WIP strategy of relying on the agriculture sector for additional reductions, and permits unchecked growth in pollution in a region that is overwhelmed with nutrient pollution and certainly causing or contributing to ongoing impairments.

[50] EPA. Trading and Offset Technical Memoranda for the Chesapeake Bay Watershed. Last accessed: December 2019. Available at: https://www.epa.gov/chesapeake-bay-tmdl/trading-and-offset-technical-memoranda-chesapeake-bay-watershed.
[51] EPA. Sector Load Growth Demonstration Technical Memorandum, Version 1.0. Last accessed: December 2019. Available at: https://www.epa.gov/sites/production/files/2015-07/documents/sectorloaddemonstrationstmfinaljune520132.pdf.
[52] An "animal unit" is equivalent to 2,000 broiler chickens or 8 dairy cows.
[53] Chesapeake Bay Program. Chesapeake Assessment and Scenario Tool (CAST) Version 2017d. Chesapeake Bay Program Office, Last accessed December 2019. The Chesapeake Bay Assessment Scenario Tool is available at: https://cast.chesapeakebay.net/.
[54] *Id.*

VIII. *Other Needed Permit Improvements*

a. Citizen Involvement and Transparency

The Clean Water Act was written with citizen involvement playing a central role. The very first section of the Act states that "public participation in the development, revision, and enforcement of any regulation, standard, effluent limitation, plan, or program established by the Administrator or any State under this chapter shall be provided for, encouraged, and assisted by the Administrator and the States."[55] While the commenters are not aware of any specific state or federal law requiring that draft general NPDES permits and associated documents be made publicly available online, it is nevertheless becoming the norm and is consistent with the Clean Water Act's directive that states must provide and encourage public participation. MDE has not complied with this directive, MDE only published online the draft permit and draft fact sheet for this permit reissuance.[56] This does not encourage public participation, as the draft permit and fact sheet are supported by and make reference to a plethora of underlying documents, studies, and analyses. None of these documents are made readily available online by MDE or through the Maryland PIA process nor are the supporting documents adequately cited, web linked, or made accessible to those wishing to comment on those aspects of the permit. MDE has foreclosed public comment on all of these documents and topics by failing to make them available or accessible. Lastly, as stated above, parties to this comment attempted to obtain relevant documents pertaining to a number of permit topics from MDE through the PIA process and were improperly denied access to the requested documents.

Furthermore, MDE's database[57] that allows the public to search for information pertaining to individual AFOs operating in the state lacks adequate information to encourage public participation. The database provides limited information and contains no links or documents to the permit's application to individual operations. MDE should consider enhancing the availability and accessibility of permit documents for individual operations. For example, EPA's Multi-Sector General Permit for stormwater discharges associated with industrial activity urges each permitted facility covered under the general permit to post their stormwater pollution prevention plans (SWPPPs) online as well as modifications and updates to those plans in order to ensure that the public has access to this important environmental information.[58]

Public participation in environmental permitting is not only a fundamental component of the Clean Water Act, but of Maryland law as well. The Maryland Environmental Policy Act (MEPA) requires of state agencies "the fullest practicable provision of timely public information."[59] State agencies were required to adopt rules to ensure that the policy goals of MEPA were given effect through binding regulations. The Maryland Department of Transportation, for example, adopted regulations to "increase public participation in the planning of Department projects." MDE, however, has never complied with MEPA by adopting any

[55] 33 U.S. Code § 1251(e).
[56] MDE AFO Permit Reissuance and Regulation Changes. Last Accessed December 2019 https://mde.maryland.gov/programs/LAND/RecyclingandOperationsprogram/Pages/AFO-Permit-Reissuance-and-Reg-Changes.aspx
[57] MDE Status of Animal Feeding Operations (AFO) Applications. Last accessed December 2019. https://mde.maryland.gov/programs/LAND/RecyclingandOperationsprogram/Pages/CAFO.aspx
[58] EPA. United States Environmental Protection Agency (Epa) National Pollutant Discharge Elimination System (NPDES) Multi-sector General Permit For Stormwater Discharges Associated With Industrial Activity (MSGP). Section 1.2.1.1.
[59] Maryland Environmental Policy Act (MEPA), Md. Code Ann., Nat. Res. §§1-303(3).

regulations that would bind itself to the important policy goals of MEPA, and, perhaps as a consequence, the draft permit fails to provide public access to environmental information generated under the permit. While not solely related to this draft permit, MDE should adopt the policies and procedures required by MEPA at 1-303 of the Natural Resources Article to ensure that this important statute is no longer ignored by MDE in developing future permits, programs, and policies.[60]

Perhaps the most important information related to the draft permit that the public should have access to is the implementation schedule linked to the site specific resource concerns. As noted above, if the relevant provisions of the general permit were strengthened regarding how resource concerns are identified and approved, this framework could conceivably serve as a form of narrative water quality-based effluent limitation and Chesapeake Bay restoration requirement, similar to what can be found in the state's industrial stormwater and MS4 permits. If all potential resource concerns are evaluated (and assessed against a comprehensive checklist of potential resource concerns and associated conservation practices) and the associated conservation practices are placed into an implementation schedule, then the schedules for each AFO, when properly aggregated by MDE, would serve as a clearinghouse for vital information regarding agricultural pollution prevention and reduction projects.

Providing the public with access to a database of such information would represent a great public service, giving Marylanders much greater confidence about the efforts of AFO operators to protect the state's waters from the largest sources of potential nutrient pollution. Many thousands of Marylanders are actively engaged in trying to restore the Chesapeake and keen to participate in governmental efforts to track restoration progress. As such, critical information about ongoing pollution reduction efforts taken to implement the WIPs is precisely the sort of public information that "all persons are entitled to have access to" under Maryland's Public Information Act.[61] The resulting database of conservation practices could also be fully integrated with the Bay Program's data systems devised to track pollution reduction progress annually that give effect to the "accountability framework" that has been the hallmark of the Bay TMDL.[62] **Thus, we strongly urge MDE to amend V.B. of the draft permit to include within the list of items that are required to be in the "Annual Report" the implementation schedule, list of resource concerns identified, and any conservation practices added during the previous year and the full five-year permit term.**

We also suggest for the sake of internal consistency that Tables 3 and 4 in IV.A of the draft permit be expanded to include references to the implementation of conservation practices as described within the broad scope of records to be kept pursuant to IV.B.9. Conservation practices are included in the federal CAFO regulations as among the elements for which records must be maintained.[63] Finally, **we strongly urge MDE to amend the draft permit to require that all records required to be maintained**

[60] Broadly, MEPA requires that "[t]he policies, rules, regulations, and public laws of the State shall be interpreted and administered in accordance with the policies set forth in this subtitle." §1-302(k). Additionally, MEPA declares that "[t]he protection, preservation, and enhancement of the State's diverse environment is necessary for the maintenance of the public health and welfare and the continued viability of the economy of the State and is a matter of the highest public priority." Finally, MEPA directs that "All State agencies must conduct their affairs with an awareness that they are stewards of the air, land, water, living and historic resources, and that they have an obligation to protect the environment for the use and enjoyment of this and all future generations."

[61] Maryland Public Information Act. Md. Code Ann., Gen. Provis. § 4-103.

[62] EPA, Final Chesapeake Bay Total Maximum Daily Load, 7-1 (Dec. 29, 2010) (hereafter Bay TMDL).

[63] 40 CFR 122.42(e)(2).

on site instead be submitted electronically to MDE unless the submission would otherwise be considered infeasible, overly burdensome, or inconsistent with another law. Any records kept electronically should be required to be submitted to MDE. Otherwise, the draft permit is deliberately hampering MDE's ability to ensure that AFOs are complying with permit terms and hides critical environmental information from the public.

Another specific transparency reform that must be incorporated in the draft permit is a revision to III.A.2, which grants MDE discretion to waive the electronic submission of the notice of intent (NOI), a document which is critical for implementation and enforcement of the general permit and for which the public deserves access. The EPA's recently promulgated the NPDES Electronic Reporting Rule,[64] which established a process for granting temporary waivers that may only be granted by a state following receipt of a written request for a temporary waiver by the permit holder that includes a statement of the reasons why the waiver should be granted. The draft permit not only would circumvent federal regulations, but also the state's own commitments under its Electronic Reporting Rule implementation plan.[65] The state's implementation plan goes beyond the minimum federal requirements and caps a temporary waiver for only a one-year period and only upon a showing that the owner or operator of the permitted facility is physically unable to access the internet and also that electronic reporting would cause an unreasonable burden or expense.

b. Fees

The draft permit omits section III.F from the current permit, which requires the payment of an annual fee, and instead includes references to the payment of "applicable fees" along with the submission of the NOI during the permit registration process. These "applicable fees" are established by law in subsections 9-325(b) and (c) of the Environment Article. The current permit established a fee schedule consistent with 9-325(c)(1) in the table in III.F.1. and opted to make the first annual fee payment due with the NOI, thus constituting the "application fee" required by 9-325(b), which appears to be a reasonable interpretation of the law. However, the draft permit retains only the "application fee" required by 9-325(b) and removed the "fee schedule" required by 9-325(c)(1).

In 9-325(c)(4), the statute states explicitly that "[t]he Department may not waive the fee for a CAFO discharge permit." Notably the amended bill struck the word "permit," seemingly broadening the application of this prohibition on the waiver of fees. Finally, it should be noted that, by removing the annual renewal fees from the draft permit, MDE also disregards the statutory requirement under 9-325(c) that fees be reasonably set based on anticipated costs of compliance, review, and enforcement, along with the overall needs of MDE to prevent water pollution. While the application is a one-time submission, new notices of intent (NOIs) and Annual Implementation Reports (AIRs) are filed annually for review by MDE staff. Likewise, as long as an AFO is in operation, MDE must continually and annually dedicate resources to inspect these facilities and enforce any violations or regulatory requirements. **MDE must remedy this**

[64] 40 CFR 127.15

[65] MDE. NPDES Electronic Reporting Rule Phase 2 Implementation Plan. December 2016. Available at: https://www.epa.gov/sites/production/files/2017-12/documents/maryland_department_of_the_environment_npdes_electronic_reporting_rule_phase_2_implementation_plan_0.pdf.

inconsistency with statute by either reinstating the language from III.F. of the current permit or devising new language that fully complies with the law, including establishing a fee "based on: (i) The anticipated cost of monitoring and regulating the permitted facility; (ii) The flow of effluent discharge from the permitted facility; and (iii) The anticipated needs for program development activities that relate to management of the discharge of pollutants into the waters of this State."

As with any other permit, fees are necessary for the maintenance of the AFO permit. The fees collected through CAFO permitting and renewal must accurately represent the cost of MDE staff time to review new and renewed applications, complete a sufficient number of site visits or inspections at the properties, review technical information submitted by AFOs, and to prepare for enforcement and compliance actions. Ensuring that MDE has the resources it needs to implement the full scope of responsibilities it has under the AFO permit program has become critically important. EPA conducted an "Animal Agriculture Assessment" of Maryland in August of 2015[66] as part of EPA's Bay TMDL oversight activities and found, among other things, that only 55 percent of AFO files it reviewed showed any MDE inspections over a five-year period, with nearly one-third of those AFOs inspected found to have compliance issues with no evidence of any follow-up by MDE. One file EPA inspected found 14 deficiencies.[67]

By MDE's own admission, "[r]esource constraints continue to limit the Department's enforcement capabilities." MDE data from the agency's annual Enforcement and Compliance Reports indicate that AFOs are only inspected about once every three years on average, which is indicative of a lack of inspection and enforcement resources needed to ensure that violations are corrected and compliance is incentivized. North Carolina requires AFOs to be inspected each year. In Maryland's verification protocols submitted to the Chesapeake Bay Program, the state described its "strategy for identifying farms to inspect" as "weighted toward those operations considered to have the greatest risk for water quality impacts, i.e. primarily operations managing manure."[68] MDE needs to give effect to this verification protocol and protective approach to prioritizing inspections by establishing a standard of annual inspections and making sure it has the funding necessary to do so.

Beyond inspection resources, a fully staffed AFO program is needed to ensure that all of the information generated through the draft permit's recordkeeping and reporting requirements is properly handled, aggregated, and tracked in a modern and efficient manner. In 2015, EPA's Animal Agriculture Assessment of Maryland reported that Maryland's AFO program had only 7 full-time employees and that only a little more than half of the program budget came from state funds (none of which were reliable general funds appropriated by the General Assembly).

[66] EPA. Available at: https://www.epa.gov/sites/production/files/2015-09/documents/marylandanimalagriculturepro gramassessment.pdf.
[67] MDE. Annual Enforcement & Compliance Report, Fiscal Year 2015. Available at: https://mde.maryland.gov/Documents/www.mde.state.md.us/assets/document/AboutMDE/FY2015AnnualEnforcementReport.pdf.
[68] MDA. Maryland Agriculture Best Management Practices (BMP) Implementation Reporting Procedures. Quality Assurance Project Plan (QAPP). Last accessed December 2019. Available at: https://www.chesapeakebay.net/documents/Draft_-_MDA_QAPP_Agriculture_BMPs.pdf.

c. Upsets

An upset provision could be described to a layperson as a "loophole" - a provision that tolerates noncompliance for a specific justified reason. If more reasons are listed, or if the justifications are described more broadly, then the loophole grows bigger. The draft permit's language describing when a discharge qualifies as an upset and thus confers the permittee with an affirmative defense to any enforcement action taken based on an alleged violation is impermissibly vague. In neither the definition of an upset in II.HH. or the provision in V.F. describing how to demonstrate that an upset has occurred is there language circumscribing potential factors that would be outside the scope of the upset provision. Importantly, the draft permit does not specify whether precipitation could be the cause of an upset. **We urge MDE to revise the draft permit to include more detail, including some examples of what may or may not be considered the cause of an upset.** And if precipitation may be the cause of an upset, the draft permit should ensure that an affirmative defense is not provided for failure to ensure all structures are designed to the relevant storm design standard, which is a critical pollution prevention element of the permit.

We also urge MDE to clarify the use of the parenthetical reference to "(technology-based) effluent limits" in V.F. Are the parentheses intended to define the scope of the upset provision? Why is the term "technology-based" included in parentheses when neither "technology-based effluent limitations" or the other form of effluent limitations (water quality-based effluent limitations) are discussed elsewhere in the draft permit?

d. Antidegradation

Maryland's antidegradation policy implementation procedures are contained in COMAR 26.08.02.04-1 and state that "an antidegradation review of … discharge permits is required to assure consistency with antidegradation requirements." Thus, a permit applicant that seeks to "discharge to Tier II waters that will result in a new, or an increased, permitted annual discharge of pollutants and a potential impact to water quality, shall evaluate alternatives to eliminate or reduce discharges or impacts. If impacts are unavoidable, an applicant shall prepare and document a social and economic justification. The Department shall determine, through a public process, whether these discharges can be justified." The regulation describes in detail the procedures that must be followed by the permit applicant and the agency.

The draft permit makes no mention at all of antidegradation procedures or requirements for maintaining water quality in state designated Tier II waters. Tier II designation represents the highest quality waters in the state. **The draft permit should, at a minimum, include a section consistent with COMAR 26.08.02.04-1F(1) to require applicants for a new or modified AFO to consult the list of Tier II waters in COMAR and determine if they are located in a catchment or watershed associated with a Tier II water.** Consistent with the suggestion in EPA's CAFO permit manual, **MDE should also require the applicant to adhere to the most stringent "control measures, or other permit conditions" as part of coverage under the general permit or notify the applicant that an "individual permit is necessary."**

In addition to these site-specific requirements for new or modified AFOs, **the draft permit should also establish that any existing AFOs in a Tier II water should designate "maintenance of healthy waters" as a particular resource concern** and additional conservation practices and/or an accelerated

implementation schedule should be assessed by plan writers and reviewed by MDE. Another potential conservation practice that could provide substantial protection to healthy waters would be ensuring that any exported manure is transported out of the relevant Tier II watershed. Without these additional protections, the antidegradation review could be rendered a mere procedural obstacle.

e. Environmental Justice

The undersigned commenters are not aware of any meaningful engagement with the Commission on Environmental Justice and Sustainable Communities established under section 1-701 of the Environment Article. Such engagement is not merely a procedural exercise of "checking the box" but rather is an opportunity to allow the Commission to undertake its mission, which includes ensuring "that no group of people, including racial, ethnic or socioeconomic groups should bear a disproportionate share of the negative environmental consequences resulting from … the execution of federal, state, local and municipal programs and policies." Few agency decisions MDE makes could have a larger potential environmental consequence than the issuance of this draft permit given the number of facilities involved, the large geographic distribution of AFOs, the amount of pollution generated, and the demographic characteristics of the areas where the greatest concentrations of AFOs are situated.

Many of the lowest income areas of the state are found in the counties with the greatest concentration of AFOs.[69] And several of the dominant poultry producing counties also have among the highest percentages of minority populations in Maryland. The enormous quantities of pollution that emanates from AFOs poses substantial public health risks, including from nitrate contamination of drinking water wells and emissions of unregulated ammonia and particulate matter. **If MDE consulted with the CEJSC, we urge the agency to describe what actions it took in response to that engagement. If MDE did not engage with the CEJSC, we urge MDE to do so and to conduct meaningful outreach with concerned residents within impacted communities** and one or more public health experts in the state with expertise in understanding the health impacts of pollution from AFOs.

The AFO general permit is a clear example of a state program or policy with the potential to impose disproportionate negative environmental consequences and MDE, at a minimum, must consult with the CEJSC during the process of deliberating over the appropriate provisions for the AFO permit.

f. Monitoring

Part V.A. of the draft permit authorizes MDE to notify and require the permittee to submit a sampling plan to determine whether there is a discharge to waters of the State from land application areas or production areas. Monitoring is an important tool to protect human health and the environment, and we commend MDE for including this provision in the draft permit. However, the language included in the draft permit has no teeth. **We urge MDE to require permittees to submit a sampling plan within a certain period of time after being notified by MDE. MDE should also reserve the right to request and require modifications to that plan to ensure that it is scientifically valid, and it should require all results taken according to**

[69] For more information, please consult the EPA Environmental Justice Screening and Mapping Tool. Available at: https://www.epa.gov/ejscreen.

the plan to be submitted to MDE within a certain period of time outlined in the sampling plan. Monitoring is an important enforcement tool for MDE and for citizens who have the right to enforce the law when the government fails to do so. Failing to include these provisions essentially creates paperwork for the operator but fails to give MDE or the public the tools they need to adequately protect waters of the State. Enhancing monitoring provisions would also allow MDE to analyze the effectiveness of the "no discharge" provisions of the permit and provide this information to the public. Additionally, MDE should require enhanced monitoring whenever resource concerns, Tier II waters, and impaired waters are potentially impacted by an AFO seeking coverage under this permit.

The language in V.A. should also better define "background or legacy levels" and require background or upstream monitoring to characterize those levels. The draft permit only specifies that the monitoring plan "shall address collection of grab samples of surface discharge and overflows or spills from waste storage structures or spray fields." Yet, the very next sentence says that "the purpose of sampling is to determine discharges of pollutants that are the result of the operation of the permitted AFO above background/legacy levels." Background samples must be required in order to achieve this purpose. At best, this should involve sampling before an AFO expands or begins initial operations and before manure is applied to a field. Upstream and downstream samples in waters of the State should also be required and collected to confirm whether or not poultry operations may be contributing to nutrient and bacteria contamination, similar to recent findings by Virginia's Department of Environmental Quality.

The draft permit should be amended to require that all discharges from covered facilities be sampled and analyzed by the permittee, including overflows and spills from waste storage structures. Samples must, at a minimum, be analyzed for the following parameters: total nitrogen, ammonia nitrogen, phosphorus, 5-day biochemical oxygen demand (BOD5), total suspended solids, pH, temperature, pathogens (including fecal coliform), and any pesticides or antibiotics the operator has reason to believe could be in the discharge. Samples collected must be representative of the monitored discharge and consist of grab samples collected from the overflow or discharges from the retention structure.[70] A minimum of one sample must be collected from the initial discharge, within 30 minutes of knowledge of the discharge or as soon as practicable after the first 30 minutes. Grab samples must be taken every 4 hours for as long as the discharge continues. The draft permit should be amended to require that monitoring results be reported to MDE within 15 days of any discharge into the waters of the state.[71]

To the extent that MDE needs to determine whether ammonia emitted by an operation or from land application of waste are impacting waters of the State, **MDE should reserve the right to require the permittee to plan for and conduct monitoring to evaluate whether excessive ammonia air emissions effectively function as a direct discharge to waters of the State.** Ammonia emissions from AFOs do not travel far from their source and can deposit directly into nearby waters of the State.

Finally, section 2 of Chapter 760 of 2019 requires MDE to "study and make recommendations regarding the feasibility of requiring the installation and use of on–site water quality monitoring equipment at certain

[70] The sample shall be collected and analyzed in accordance with EPA-approved methods for water analysis listed in 40 CFR 136.
[71] NRDC, Sample State Pollution Control Permit, available at: https://www.nrdc.org/sites/default/files/cafos-dont-know-hurting-us-sample-permit.pdf

concentrated animal feeding operation (CAFO) sites as a condition for issuance of a CAFO discharge permit." This study is to be conducted by December 1, 2021, during the five-year term of the draft permit. As such, and given that requiring the installation and use of on-site water quality monitoring equipment would be a significant change compared to the status quo, **the draft permit must be amended to reference the possibility that MDE may require such monitoring in the future** in order to provide ample notice of this possibility, the legal authority for it, and the process for determining where monitoring will take place and how it will be conducted. For instance, groundwater testing at waste storage sites should be conducted by permittees annually.

IX. Pasture and Organics

The New Source Performance Standards ("NSPS") do not authorize discharge of pollutants, even in a 25-year, 24-hour storm.[72] Similarly, a new source must utilize best available demonstrated control technology, as opposed to the lesser standard of best available technology economically achievable.[73] The NSPS are representative of the greater CWA goals – to not only prevent further environmental degradation, but to make substantial improvements in water quality. Current practices required by MDE include standard treatment area BMPs within the production area, including a stormwater pond, vegetated forebay or wetland, and vegetated swales between the poultry houses to prevent or reduce wastewater and nutrient runoff. However, Part II.Z. of the draft permit currently exempts "Poultry Pasture" areas from the production area, "if vegetation is sustained in the normal growing season."

Practices that allow the narrow spaces in between poultry houses for use as outdoor pasture areas creates two fundamental problems: first, it utilizes nutrient and waste treatment areas (swales) for pasture area, thereby directly depositing waste onto the treatment swales; and second, utilizing swales as pasture areas allows the birds to claw, peck and forage (for invertebrates) on the previously vegetated treatment areas. Such a practice ensures near-term failure to properly manage waste and nutrients within the production area and also mislabels tiny outdoor areas between poultry houses as open pasture for the purpose of qualifying the operation as a USDA National Organics Program operations. Part.IV.D.3. further requires that "Organic" operations comply with the USDA National Organics Program standards, including practices to ensure manure and wastewater are not discharged from Poultry Pasture. The draft permit should properly and appropriately identify pasture areas that do not interrupt the treatment areas of any operation, and further should identify the appropriate minimum grazing acreage required per bird and ensure that pasture areas comply with federal rules for organic operations (see 7 CFR 205).

X. Other Needed Permit Clarifications

a. Part II.C.

"Approved Alternative" is defined as "in reference to setbacks, a 35-foot vegetated filter strip or other best management practices or systems described in the "Maryland Setback Standards and Approved Alternatives" document on the Department's website or as jointly approved by the Maryland Department of Agriculture (MDA), the Department, and the NRCS, in consultation with the University of Maryland Extension and listed on the Department's website." This provision is both unclear and problematic and **we**

[72] Waterkeeper Alliance v. U.S. Envtl. Prot. Agency 399. F.3d 486, 524 (2d Cir. 2005); GP, *supra* note, 5, at Part IV.E.2.
[73] Waterkeeper Alliance, 399, F.3d at 492.

urge MDE to clarify what constitutes an "Approved Alternative" either with a precise definition in the permit or through a clear reference to a guidance document that includes both the date of the document's publication and a direct web link to the document.

As it stands, MDE could re-define an Approved Alternative as just about anything and at any time by changing the contents of the "Maryland Setback Standards and Approved Alternatives" document on its website. The undersigned commenters presume that, based on the detailed process of consultation and approval with the other agencies and academic organizations described in section II.C. of the draft permit, that any changes to what may be considered an "Approved Alternative" would be part of a rigorous and thoughtful process. Assuming that is the case, **MDE must include at least a date of publication in its reference to that document to give the public and permitted facilities confidence that the standards have not changed after the date that the general permit was issued and the facility was registered under the permit.**

This clarification applies to any and all documents that are incorporated by reference and under the control of MDE or a state agency. The Maryland Administrative Procedures Act and the Division of State Documents both provide standards and procedures for incorporations by reference given the tensions among competing policy issues that naturally arise when agencies include shortcuts in the regulatory process through referencing documents outside of the regulations. At a minimum, MDE should simply place the date of publication of the "Maryland Setback Standards and Approved Alternatives" next to the reference to that document in II.C. of the permit. **We would also urge MDE to consider removing any reference to a separate standard from the definition of an "Approve Alternative."** While the process of obtaining joint approval and consulting with academic experts can go a long way toward alleviating any concerns about the rigor involved in the process of devising this standard, it nevertheless provides unnecessary regulatory uncertainty to the public and permitted entities to specifically authorize MDE to develop a separate standard in the middle of the permit term without any public participation or feedback from regulated entities.

b. Part II.K.

The definition of "field ditch" includes a reference to "perennial or intermittent." Given ongoing litigation and substantial uncertainty regarding what is considered to be an intermittent or ephemeral waterway, **we urge MDE to provide additional clarity regarding what is or is not covered by the definition of "field ditch."** Perhaps removing the words "perennial or intermittent" would be the simplest solution to addressing this uncertainty.

c. Part II.JJ.

The definition of "Waters of the State" is unclear. In paragraph 1 the definition includes "public ditches, tax ditches, and public drainage systems." The definition does not discuss "field ditches" (a defined term) or "conduits" which is a general descriptor that encompasses ditches of all kinds and is used elsewhere in the draft permit. **We urge MDE to amend the definition to describe which sorts of ditches and conduits are covered by or excluded from this definition.**

d. Part IV.B.8.

In this section that establishes protocols for the land application of manure and wastewater the draft permit requires animal waste to be prevented from entering "field ditches, adjacent properties, and other waters of the State, or conduits to waters of the State, except floodplains." This language is confusing as drafted. Why is the word "other" used before "waters of the State" if "field ditches" are not included in the draft permit's definition of waters of the State? Why is the word "or" included before "conduits to waters of the State" if conduits such as public ditches are already included within the draft permit's definition of "Waters of the State"? Tile drains are included elsewhere in the permit, but not in this section. Are tile drains considered to be either ditches or conduits? Why is the phrase "except floodplains" included in this section if flood plains are specifically included in the draft permit's definition of "Waters of the State"? Does this language mean that waste shall be prevented from flowing into waters of the State (including floodplains) from and through ditches, but that it is authorized for waste to flow through a ditch to a floodplain even if the floodplain is otherwise a water of the State? If so, why is that distinction being made? **We urge MDE to clarify this important permit requirement, and we also urge MDE to ensure that AFO wastes are not applied in floodplains given the obvious risk that poses to water quality.**

We are also confused as to why this section is drafted to state that waste "shall be prevented" from flowing into waters of the State. This section appears to describe a prohibition rather than an affirmative requirement or duty. As such, a statement that "waste ***may not flow*** into Waters of the State" would be more natural and succinct. In its current form, it is not clear what a permitted entity is supposed to do to prevent waste from flowing into waters of the State. EPA has long urged state permit writers to ensure that Clean Water Act permits are clear, measurable, and enforceable. This language would be difficult to enforce because it is not clear when a permitted entity has met its duty to "prevent" waste from flowing into a water of the State. **We urge MDE to clarify or rephrase this section.**

In paragraph 8.a., **we again urge MDE to either delete reference to an "intermittent" stream or add the words "ephemeral" and "perennial"** since it is difficult or impossible for any permitted entity or member of the public to understand from both a legal and technical perspective which classification any particular stream falls within. Similarly, we once again urge MDE to properly reference the "approved alternatives" within this paragraph.

e. Part IV.B.1.

This provision describing adequate storage capacity for waste storage structures includes a reference to a "25-year, 24-hour storm." As previously noted, we object to this standard as it is clearly insufficient to protect the Chesapeake Bay and local waters and communities. But regardless of which storm design standard is included, **the draft permit should provide a proper reference to this standard**, either as a definition in the draft permit, a citation to state or federal laws or regulations, or incorporated by reference from another document such as the NOAA precipitation frequency atlas.

f. Part V.B.1.

Part of the information that the draft permit requires to be in the Annual Report submitted by AFOs includes the number of animals kept "on any given day." **This language is unclear and must be amended to describe a clear standard.** For example, if MDE is looking for the average number, it should specify the

"mean" or "median" number of animals. If MDE is looking for the greatest number of animals that might be confined at any one time, it should specify the "maximum number." As it stands, a permitted entity would have no idea what number to include and neither MDE, nor the interested public would have any confidence about the reliability of the reported information.

g. Part VII.A.

This standard language requiring a permittee to "comply at all times with the terms and conditions of this permit" is virtually meaningless, as it is obvious and therefore redundant. However, a similar provision found in other permits, including MDE's municipal separate storm sewer system (MS4) permits, provides more meaningful language by stating that a lack of financial capacity is not an excuse for permit noncompliance. Additional language like this would not only be far more meaningful than the contents of this section at present, but would also remedy a previous and related issue impacting AFO permittees and would provide clear expectations for the future. In the past, applicants to construct new or expanded facilities were allowed to ignore certain requirements if sufficient state funds from the Maryland Agricultural Cost Share program were not available.[74] This never should have been allowed to take place both because this cost share program is authorized to be used only to reduce pollution, not to facilitate the establishment of new facilities that generate vast quantities of additional pollution, and because MDE should never waive any pollution control requirements under any permit simply because taxpayer subsidies are not available to assist a private entity in forming their business in a way that ignores pollution prevention laws. To help ensure such an egregious public policy failure does not occur again, **we urge MDE to include language that either broadly states that a lack of financial capacity cannot excuse noncompliance or that specifically addresses the issue of subsidies for new or expanded AFOs.** The undersigned commenters are fully supportive of the MACS program and, in fact, believe that it should be significantly expanded to reduce agricultural pollution, along with a significant expansion in contributions by the large private poultry integrators.

h. Part III.A.4.

The language enumerated in paragraph 4.l should not be part of the enumerated items, as it is not one of the items to be included as information in the NOI, but is rather general language in the draft permit authorizing MDE to seek additional information.

i. Table 1 & Part III.A.

Table 1 of the draft permit briefly notes permit requirements prior to construction of any operation. However, the permit does not go on to explicitly prohibit construction prior to receiving a permit to operate. Nor does it define what constitutes construction. Recent Maryland legislation requires that a permit be issued prior to construction. MDE should define construction to include site construction and development, including grading, clearing and other site development and construction, particularly where wetlands occur and/or where applicants must apply for a permit to impact wetlands.

[74] MDE. Temporary Measures to Satisfy Manure Storage and Mortality Management Requirements for New Construction and Expanded Poultry Operations in Response to Limited Maryland Agriculture Cost Share (MACS) Funding. Last accessed December 2019. Available at: https://mde.state.md.us/programs/LAND/RecyclingandOperationsprogram/Documents/MACS112117Final%20rev.pdf.

XI. *Conclusion*

If the draft permit is improved to incorporate the reforms recommended herein we believe that the draft permit could be dramatically improved in a way that is consistent with the pollution reductions assumed in Maryland's WIP, minimizes nutrient, sediment, and bacterial pollution to waters of the State, and mitigates some of the damaging impacts of industrialized poultry operations to surrounding communities.

The undersigned parties thank MDE for the opportunity to submit these public comments.

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