

# Agricultural Stormwater Management Practices

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EXPERT PANEL ESTABLISHMENT GROUP

RECOMMENDATIONS FROM THE AGRICULTURE WORKGROUP

MARCH 1, 2018

# Ag Stormwater EPEG

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3 Conference Calls & E-mail Correspondence

<b>Member</b>	<b>Affiliation</b>
Tom Schueler	Chesapeake Stormwater Network
Paul Bredwell	U.S. Poultry & Egg Association
David Mister	Maryland Department of Agriculture
Robert Palmer	Beacon Engineering, LLC
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<b>EPEG Support Staff</b>	
Loretta Collins	University of Maryland
Mark Dubin	University of Maryland
Lindsey Gordon	Chesapeake Research Consortium
Jeremy Hanson	Virginia Tech

# EPEG Charge

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- Determine if there is a need for an Agricultural Stormwater Management BMP Expert Panel (EP)
  - If an EP *is recommended*, then:
    - Identify priority tasks for the Phase 6.0 Agricultural Stormwater Management Expert Panel (EP),
    - Recommend areas of expertise that should be included on the Agricultural Stormwater Management EP, and
    - Draft the Agricultural Stormwater Management EP's charge for the review process
  - If an EP *is not recommended*, then:
    - Provide justification for not convening an EP
    - Provide an alternative recommendation to address agricultural stormwater management practices in lieu of an EP



# Definitions

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*Agricultural stormwater (AS)*: runoff generated from structures and paved areas associated with confined animal production such as dairy facilities, poultry houses, hog raising facilities, and similar areas.

*Agricultural stormwater practices (ASPs)*: management practices that are designed, constructed, and maintained to treat stormwater from these animal production facilities, such as ponds, constructed wetlands and grass swales, often configured in a treatment train. **In most cases, ASPs are designed and constructed according to engineering criteria and specifications outlined in state urban stormwater design manuals.**

- *For CBP purposes, ASPs do not include any practices that fall under existing barnyard BMPs nor any practices applied to cropland or pasture sources.*

# EPEG Does Not Recommend EP

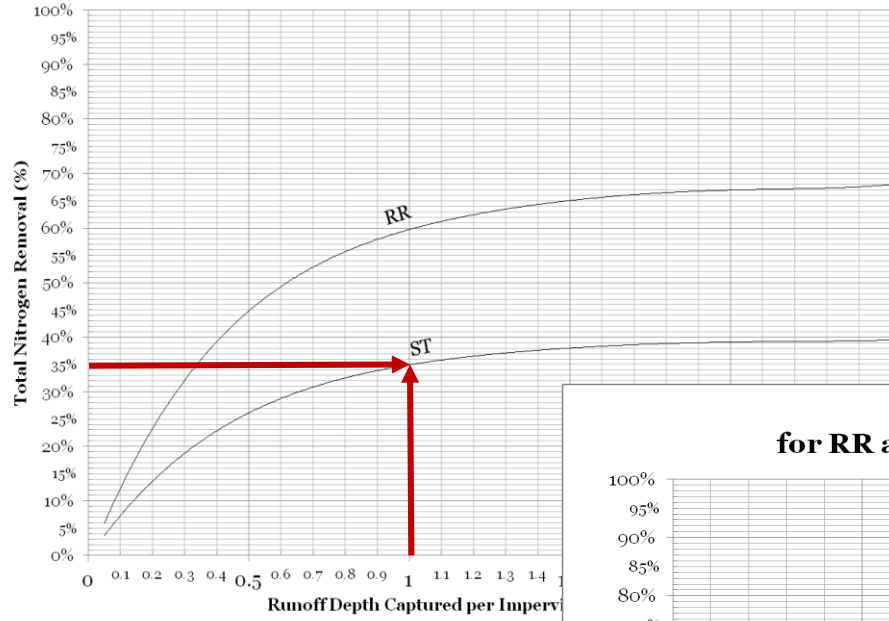
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**Justification:** technical specs for ASPs are similar to urban stormwater management practices

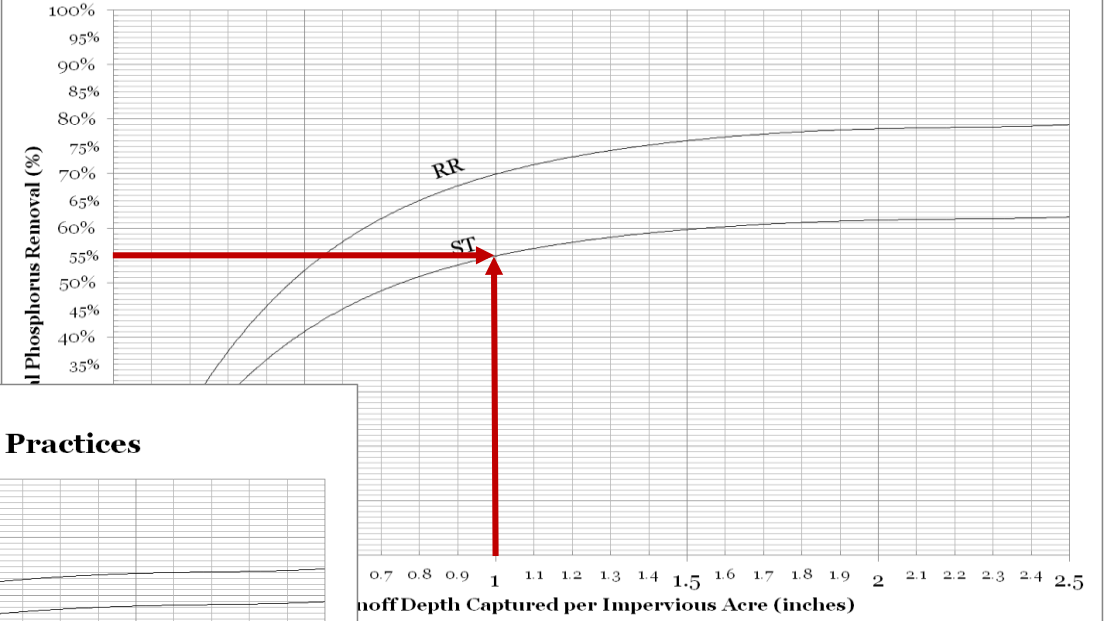
Alternative Recommendation: Use USWG-determined stormwater treatment adjustor curves for TN, TP, and TSS.

*“When a GIT or source sector Workgroup determines a request is sufficiently similar to a previously approved practice, they will document the basis for their recommendation and route it through the Watershed Technical Workgroup (WTWG) to the WQGIT for approval. Once approved, a letter to the requestor describing the resolution of their request will be sent by the GIT or source sector Workgroup Chair. Should the recommendation fail to be approved by the WQGIT or GIT, the request will be returned to the appropriate source sector Workgroup for reconsideration of an Expert Panel.”*

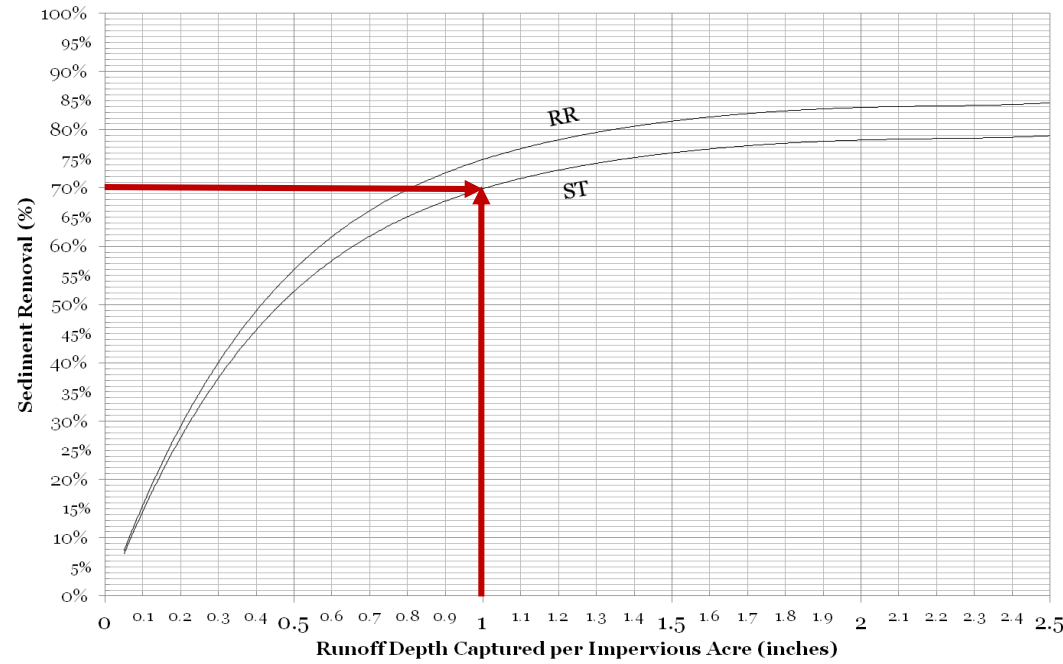
**Total Nitrogen Removal  
for RR and ST Stormwater Retrofit Practices**



**Total Phosphorus Removal  
for RR and ST Stormwater Retrofit Practices**



**Sediment Removal  
for RR and ST Stormwater Retrofit Practices**



# Summary of Recommendations: Reporting and Verification

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- 10-year credit duration for ASP BMPs (applied to feeding space acres)
- Verification by multi-year visual assessment, per approved AgWG BMP verification guidance
- Field inspections to be conducted at least every 5 years to maintain credit, with acknowledgement of individual state discretion regarding how inspections are implemented
- States may use urban stormwater regulatory agencies to determine appropriate reporting, tracking, and verification procedures for ASP BMPs

# Load Comparison: Urban vs. Ag

Load Source	Unit	2013 Progress with Allocation Air	lbs N EOS	lbs P EOS	lbs Sediment EOS
Non-Permitted Feeding Space	acres	9,855.67	13,230,130.27	457,237.90	82,331,122.28
Permitted Feeding Space	acres	2,988.92	3,653,826.46	176,426.98	17,015,508.39
<b>Total</b>	<b>Total</b>	<b>12,844.59</b>	<b>16,883,956.73</b>	<b>633,664.88</b>	<b>99,346,630.67</b>
			<b>N lbs/ac/yr</b>	<b>P lbs/ac/yr</b>	<b>Sediment lbs/ac/yr</b>
			<b>1314.48</b>	<b>49.33</b>	<b>7734.51</b>

Geography	Sector	Load Source	Allocation	Unit	Amount	NLoadEOS	PLoadEOS	SLoadEOS
Chesapeake Bay Watershed	Developed	MS4 Buildings and Other	Waste Load Allocation	acres	473229.343	6726105.5	322632.4	712429059.1
Chesapeake Bay Watershed	Developed	MS4 Roads	Waste Load Allocation	acres	219829.842	3547813.3	184436.8	311701579.6
Chesapeake Bay Watershed	Developed	MS4 Tree Canopy over Impervious	Waste Load Allocation	acres	97426.1923	1426454.8	68104.6	135747845.2
Chesapeake Bay Watershed	Developed	MS4 Tree Canopy over Turfgrass	Waste Load Allocation	acres	346231.245	2411949.2	258988.4	134428423.6
Chesapeake Bay Watershed	Developed	MS4 Turf Grass	Waste Load Allocation	acres	815927.422	7889055.5	749713.5	459167237.7
Chesapeake Bay Watershed	Developed	Non-Regulated Buildings and Other	Load Allocation	acres	522560.98	7553767	369755.7	1074514785
Chesapeake Bay Watershed	Developed	Non-Regulated Roads	Load Allocation	acres	336443.304	6024187.3	289955.2	772944948.7
Chesapeake Bay Watershed	Developed	Non-Regulated Tree Canopy over Impervious	Load Allocation	acres	123618.316	2082137.4	92747.6	262502796.1
Chesapeake Bay Watershed	Developed	Non-Regulated Tree Canopy over Turfgrass	Load Allocation	acres	464426.648	3514847.4	384823.9	290010470.7
Chesapeake Bay Watershed	Developed	Non-Regulated Turf Grass	Load Allocation	acres	1794330.38	18008235	1898484.1	1290335286
				Total	5194023.68	59184552.4	4619642.2	5443782432
						<b>N lbs/ac/yr</b>	<b>P lbs/ac/yr</b>	<b>Sediment lbs/ac/yr</b>
						<b>11.4</b>	<b>0.9</b>	<b>1048.1</b>

(Data pulled from CAST Dec 2017)