

# Grey Literature Review: Agricultural Land Use Loading Rates

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Prepared for the Chesapeake Bay Program through its  
Expert Panel Management Cooperative Agreement with Virginia Tech

**Presentation to the Chesapeake Bay Program Agriculture Workgroup  
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# Timeline

7 week project: February 9<sup>th</sup> – March 30<sup>th</sup>

Task	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7
1. Develop contact list	X	X					
2. Email/phone contacts and collect data	X	X	X				
3. Internet search for sources		X	X	X			
4. Document data			X	X	X	X	
5. Analyze data						X	X
6. Develop report						X	X
7. Submit products and source data							X

# Contacts

- List of contacts included:
  - Recommendations from Ag WG, CBP, VA Tech, contacts
  - CBW-ROC members
  - Relevant authors from articles in Tetra Tech literature review
  - Relevant researchers
- Affiliations of Contacts:
  - Universities/Colleges
    - Penn State, University of Maryland, Virginia Tech, Cornell, West Virginia University, VIMS, Virginia State University, Delaware State, Mississippi State, University of Delaware, University of Arkansas, University of Kentucky, University of DC
  - Research Stations
    - VSU Ag Research Station, UMD Eastern Shore Ag Experiment Station, UMD Wye Research and Education Center, UMCES Horn Point, Smithsonian Environmental Research Center
  - Federal
    - EPA Headquarters, NRCS Headquarters, NRCS East National Technology Support Center, USDA Agricultural Research Service, USGS, Chesapeake Bay Program
  - Other
    - DE Nutrient Management Commission, VA DCR, Penn State Extension, American Farmland Trust

# Responses\*

- 61 people contacted
- 44 people responded (72%)
  - 18 people provided names of additional people to contact
  - 13 people provided data sources (1 or multiple sources)
    - Data sources from 7 people provided relevant data (plus one resulted in additional sources to look into)
    - Data source from 1 person has not been reviewed yet

\* Numbers are preliminary and may change

# Sources

- Reviewed Sources:
  - Provided by contacts
  - Identified through a web search
    - Extension articles for all watershed states, AWRA technical bulletins, Mid-Atlantic Water Program reports, USGS reports, etc.
  - Referenced in another source
- Relevant source types:
  - Peer-reviewed journal article
  - Government report (USGS, USDA NRCS)
  - Water Resources Bulletin from American Water Resources Association
  - Symposium proceedings
  - Report to county government
  - Cooperative Extension newsletter

# Data\*

\* Numbers are preliminary and may change

- Number of relevant sources at this point:
  - Recorded: 15
  - Still need to be recorded: at least 12, possibly more
- Of the 15 sources recorded at this point:
  - **Type:** Monitoring (10) and Modeling (5)
  - **Location:** Chesapeake Bay Watershed (14)
  - **Scale:** Field (6), Farm (2), Watershed (7)
  - **N/P/S:** Nitrogen (11), Phosphorus (9), Sediment (7)
  - **Land Use:** Singular (8), Combined (8)
    - **Singular:** silage corn, pasture, corn-rye cover/small grain, corn, corn-wheat/soybeans, corn/wheat, corn-soybeans, corn-wheat (clover), soybeans, soybeans/wheat
    - **Combined:** cropped (row crops and hay and pasture in rotation with row crops); mixed pasture and cropland; cultivated cropland (row crops, hay and pasture in rotation with row crops, and land in long-term conserving cover); cropland planted primarily in corn and alfalfa; cropland; mixed corn, soybean, alfalfa, hay, and pasture; mushroom growing activities; mixed agricultural activities of dairy cows, row crop, pasture, and livestock operations; mixed row crop, woodland, pasture, and farm buildings
  - **Data:**
    - Annual Loading Rate for Singular Landuse (3)
    - Loading Rate: Annual (10), < Annual, such as storm events (3)
    - Concentration: With Flow (1), Without Flow (2)

# Next Steps

- Finish reviewing and recording data from relevant sources
- Summarize findings in a final report
- Project will be completed on March 30<sup>th</sup>

# Questions?

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