

CONTENTS

*Purpose & Goals of the Sediment Task Force <i>Thomas W. Beauduy, Sediment Task Force Chair</i>	1
*Do We Have a Problem in the Basin? Executive Summary <i>Paul O. Swartz, Susquehanna River Basin Commission</i>	4
*Do We Have a Problem in the Basin? <i>Paul O. Swartz, Susquehanna River Basin Commission</i>	6
The Influence of Susquehanna River Sediments on the Chesapeake Bay <i>Jeffrey Halka, Maryland Geological Survey</i>	14
<u>Sediment Loads in the Susquehanna Basin</u>	
Hydrology of the Susquehanna River Basin <i>N. Christian Porse, PPL Holtwood LLC.</i>	16
*Where Did All the Sediment Come From? <i>Lloyd Reed, U.S. Geological Survey</i>	28
*Dams on the Lower Susquehanna <i>Orin L. O'Donel, Safe Harbor Water Power Corp.</i>	32
*Susquehanna River Reservoirs Sediment Dynamics <i>Michael J. Langland, U.S. Geological Survey</i>	36
<u>The Extent of the Problem</u>	
*The Extent of the Sediment Problem: What Do the Monitoring Data Tell Us? <i>Robert E. Edwards, Susquehanna River Basin Commission</i>	37
*What Does the Modeling Tell Us? <i>Gary Shenk, U.S. Environmental Protection Agency—Chesapeake Bay Office</i>	39
Impact of Susquehanna Sediments on the Chesapeake Bay <i>Donald Boesch, Ph.D., Univ. of Maryland, Center for Environmental Studies</i> <i>Jeffrey Halka, Maryland Geological Survey</i>	40

**Article references related document in the Appendix, which is only available in the electronic version of this Proceedings document (Publication No. 216E) and is not attached to this hard copy publication.*

Managing the Sediment Load

Addressing Sediment Impairment in the Basin
Lawrence Tropea, Jr., Pa. Department of Environmental Protection 43

*Addressing Sediment Impairment in the Chesapeake Bay
Richard Batiuk, U.S. Environmental Protection Agency—Chesapeake Bay Office 45

Management Alternatives Considered by the Sediment Task Force
Marshall J. Kaiser, Safe Harbor Water Power Corp. 46

Riverine Management Options

Stream Restoration in the Susquehanna River Watershed
Alan Wood, USDA, Natural Resources Conservation Service 49

Case Studies

*Streambank Erosion Monitoring—South Codorus Creek Watershed Assessment and Restoration Project, York County, Pennsylvania
William Weihbrecht, Skelly & Loy, Inc. 50

*Stream Bank Erosion and Restoration, Bentley Creek—A Case Study
*Michael Lovegreen, Upper Susquehanna Coalition/
Bradford County Conservation District* 51

*Floodplain Dynamics and Sediment Storage Opportunities
Rudy Slingerland, Ph.D., The Pennsylvania State University 53

Land Management Options

*Agricultural Best Management Practices
Donald Robinson, Lancaster County. Conservation District 54

*Forest Sustainability
Kenneth L. Balliet, Penn State Cooperative Extension 56

Mining Best Management Practices

*Relations Between Streamflow, Sediment, and Water Quality in a Coal-Mined Watershed
Charles A. Cravotta III, U.S. Geological Survey 58

**Article references related document in the Appendix, which is only available in the electronic version of this Proceedings document (Publication No. 216E) and is not attached to this hard copy publication.*

*Land Development Best Management Practices and a New Approach to Stormwater Management <i>L. Kenneth Pensyl, Maryland Department of the Environment</i>	59
---	----

Reservoir Management Options

Addressing the Reservoir Sedimentation Problem in the U.S. Army Corps of Engineers District, Pittsburgh <i>Werner C. Lohlein, U.S. Army Corps of Engineers</i>	62
---	----

Characterization of Sediments Behind the Dams

Comprehensive Analysis of the Sediment Retained Behind the Lower Susquehanna River Dams <i>Susquehanna River Basin Commission</i>	68
--	----

Analysis of Lower Susquehanna River Sediment Samples for Selected Metals <i>Robert Mason, Ph.D., Chesapeake Bay Laboratory, Univ. of Maryland</i>	69
--	----

Characterization of Bed Sediment Behind the Lower Three Dams on the Susquehanna River	71
<i>James M. Hill, Ph.D., Maryland Geological Survey</i>	

Phosphate Geochemistry and Microbial Activity in Surface Sediments From the Conowingo Reservoir and Susquehanna Flats, Md. <i>Nancy S. Simon, Ph.D., U.S. Geological Survey</i>	73
--	----

Phosphate Geochemistry and Microbial Activity in Surface Sediments From the Conowingo Reservoir and Susquehanna Flats, Md.: Summary of Findings <i>Nancy S. Simon, Ph.D., U.S. Geological Survey</i> <i>Jenefir Isbister, George Mason University</i>	75
---	----

*Placement and Beneficial Uses of Dredge Sediments <i>Visty P. Dalal, Maryland Department of the Environment</i>	83
---	----

Management Recommendations—Forum

What the Basin Needs—Understanding, Protection, Stewardship <i>Richard Weismiller, Ph.D., University of Maryland</i>	84
---	----

The Bay’s Needs <i>Thomas Simpson, Ph.D., University of Maryland—MDA</i>	85
---	----

*Article references related document in the Appendix, which is only available in the electronic version of this Proceedings document (Publication No. 216E) and is not attached to this hard copy publication.

The Educational Component <i>Ronald Smith, Susquehanna Electric Company</i>	86
Susquehanna Sediment Modeling Needs <i>Richard Batiuk, U.S. Environmental Protection Agency-Chesapeake Bay Office</i>	88
Monitoring Needs <i>Robert Edwards, Susquehanna River Basin Commission</i>	90

APPENDIXES

(Only available in electronic version.)

- A. Sediment Task Force Findings
Thomas W. Beauduy, Chair
- B. Do We Have a Problem in the Basin?
Paul O. Swartz, Susquehanna River Basin Commission
- C. Historical Sediment Trends
Lloyd Reed, U.S. Geological Survey
- D. Dams on the Lower Susquehanna
Orin L. O'Donel, Safe Harbor Water Power Corp.
- E. Susquehanna River Reservoirs Sediment Dynamics
Michael J. Langland, U.S. Geological Survey
- F. The Extent of the Sediment Problem: What Do the Monitoring Data Tell Us?
Robert E. Edwards, Susquehanna River Basin Commission
- G. What Does the Modeling Tell Us?
*Gary Shenk, U.S. Environmental Protection Agency—
Chesapeake Bay Office*
- H. Addressing Sediment Impairment in the Chesapeake Bay
*Richard Batiuk, U.S. Environmental Protection Agency—
Chesapeake Bay Office*
- I. South Branch Codus Creek Watershed Assessment and Restoration Project
William Weihbrecht, Skelly & Loy, Inc.
- J. Streambank Protection and Restoration, Bentley Creek, Bradford County,
Pennsylvania
*Michael Lovegreen, Upper Susquehanna Coalition/
Bradford County Conservation District*

- K. A Conservation Catalog – Practices for the Conservation of Pennsylvania’s Natural Resources
Pennsylvania Conservation Partnership
- L. Floodplain Dynamics and Sediment Storage Opportunities
Rudy Slingerland, Ph.D., The Pennsylvania State University
- M. Current Trends Towards Forest Sustainability
Kenneth L. Balliet, Penn State Cooperative Extension
- N. Relations Between Streamflow, Sediment, and Water Quality in a Coal-Mined Watershed
Charles A. Cravotta III, U.S. Geological Survey
- O. Maryland’s Erosion and Sediment Control Program
L. Kenneth Pensyl, Maryland Department of the Environment
- P. Placement and Beneficial Uses of Dredge Sediments
Visty P. Dalal, Maryland Department of the Environment
- Q. Sediment Symposium Program