



Chesapeake Whole Basin Program

Preliminary Assessment Revisited

Summary prepared by the Watershed Assessment and Management Section
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Background and Overview

Between 1997 and 2005, the Delaware Department of Natural Resources and Environmental Control published preliminary assessment reports for each of Delaware’s four major drainage basins: the Piedmont, Chesapeake, Delaware Estuary, and Inland Bays. Each of these assessment reports contained recommendations for steps that should be taken to improve Delaware’s environment and recreational resources and gather critical data and information. This “Whole Basin” approach used drainage basins as the chief management unit and sought to bring together the expertise of all DNREC Divisions to create a comprehensive and coordinated management effort. In 2013, Division of Watershed Stewardship staff met to evaluate progress towards implementing recommendations that had been laid out in the Whole Basin Assessment Reports. The main objective of this task was to determine the status of the recommendations and highlight potential areas for further progress or evaluation. To accomplish this objective, staff evaluated each recommendation and determined the percentage of recommendations that had been addressed or are being addressed in each of the four reports. The Chesapeake Basin report recommendations were analyzed by category (Figure 1). A more in-depth assessment of recommendations can be found in Figure 2.

Methodology

Each recommendation was given a status of “complete,” “ongoing,” “partially addressed,” or “not addressed” based on research and correspondence with Department staff. Recommendations were then grouped into categories from the Chesapeake Preliminary Assessment Report: Contaminants; Geology, Soils, Sediments; Air Quality; Water Resources; Wetlands; Living Resources; and Land Use. A score was determined for each category by dividing the number of completed and ongoing recommendations by the total number of recommendations. Scores above 75% received a “thumbs up” scoring, scores between 50% and 75% were scored as “thumbs sideways—neutral,” and scores below 50% received a “thumbs down” score.

Category	Score
Air Quality	 63%
Contaminants	 90%
Geology, Soils, Sediments	 100%
Land Use	 89%
Living Resources	 86%
Water Resources	 86%
Wetlands	 86%

Figure 1. Percentage of recommendations addressed by category from the Chesapeake Bay Preliminary Assessment Report.

Category	Implemented/Ongoing	Not Implemented
Air Quality	<ul style="list-style-type: none"> Continued sharing of ozone data with other states and federal agencies. Continued efforts to evaluate status and trends of sulfur dioxide, nitrogen dioxide, carbon monoxide and lead at higher resolutions and lower concentrations. 	<ul style="list-style-type: none"> Explore options for acquiring the needed resources to produce comprehensive periodic inventories of SO₂, PM₁₀, TSP, lead, and toxics. Develop a method to allocate aerial, mobile, and biogenic emissions to geographic basin and graphically portray those emissions.
Contaminants	<ul style="list-style-type: none"> Continued promotion and financial support of conservation planning in the Basin and tracking of Best Management Practices (using the Delaware Environmental Navigator and the Chesapeake Watershed Implementation Plan). 	<ul style="list-style-type: none"> Assess septic system failure rate through remote sensing and verification by ground survey.
Geology, Sediments, Soils	<ul style="list-style-type: none"> Completed recharge-potential mapping statewide. Additional funding received for updating statewide soil survey maps through Web Soil Survey. 	All recommendations from this section were addressed.
Land Use	<ul style="list-style-type: none"> Ongoing work with county and municipal governments to develop and update open space ordinances. Development of recreation facilities in and around population centers as identified in the Statewide Comprehensive Outdoor Recreation Plan. 	<ul style="list-style-type: none"> Implement requirements for buffer zones along streams to protect prehistoric and early historic period archaeological sites.
Living Resources	<ul style="list-style-type: none"> Commercial license requirement for American Eel. Development of brochures on invasive zebra mussels. 	<ul style="list-style-type: none"> Prohibit dredging in the Nanticoke upstream of Rt. 13 in Seaford.
Water Resources	<ul style="list-style-type: none"> Development of depth to groundwater maps that highlight areas with an extremely shallow water table. Efforts in Bucks Branch to determine groundwater system lag time. 	<ul style="list-style-type: none"> Refine regional groundwater flow data with information from all possible sites.
Wetlands	<ul style="list-style-type: none"> Developed baseline wetland losses and identified areas that are losing wetlands due to urbanization and/or agriculture. Promoted establishment of forested wetlands and upland forest by the Pollution Control Strategy and the Watershed Implementation Plan. 	<ul style="list-style-type: none"> Adopt statewide wetland mitigation policy that includes the concept of “land banking.”

Figure 2. Examples of recommendations from the Chesapeake Bay Preliminary Assessment Report.

Moving Forward

The Chesapeake Bay Basin has the highest percentage of recommendation implementation (86%) out of all of Delaware’s four major basins. Additional progress could be achieved by investigating why certain recommendations were not implemented and determining if future action is warranted.