

# INTRODUCTION

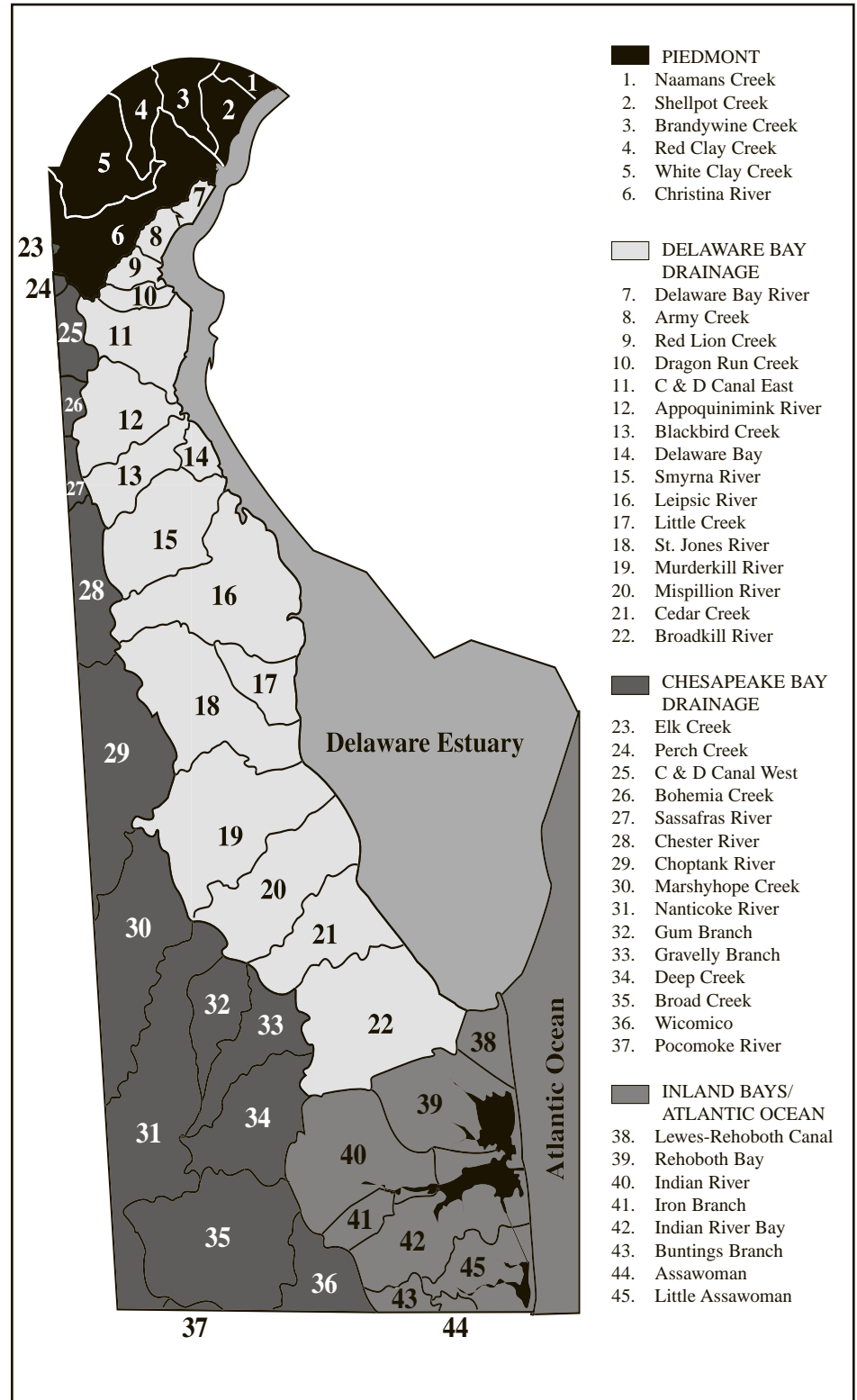
The *Whole Basin Management* approach developed by the Department of Natural Resources and Environmental Control (the Department) focuses on protecting Delaware's environment by managing it in a comprehensive and coordinated fashion. Using major drainage basins as the chief management units, the Department is bringing together the expertise of all its divisions (Air and Waste Management, Fish and Wildlife, Parks and Recreation, Soil and Water Conservation, Water Resources, and Office of the Secretary) to assess, monitor, and protect the health of Delaware's environment.

The basis for developing this report comes from the Department's realization that virtually every activity that takes place in the environment impacts multiple resources or land-use activities. For example, improper disposal of hazardous substances on land can contaminate more than simply surface soils. Contaminants can leach into ground water or be transported to streams and other surface waters during storms, thus potentially affecting public drinking-water supplies, aquatic life, and recreational fishing. Additionally, abandoned contaminated sites challenge state and local governmental agencies to find ways to make these areas safe and attractive for industrial uses and other needs. Managing the complex and dynamic natural world we call "the environment" requires the Department to examine, from multiple perspectives, the many resources that comprise the environment.

## 1.1 DELAWARE'S DRAINAGE BASINS

The Department's *Whole Basin Management* approach aims at managing all the biological, chemical, and physical environments of geographic areas in Delaware. These geographic areas have been delineated on the basis of drainage

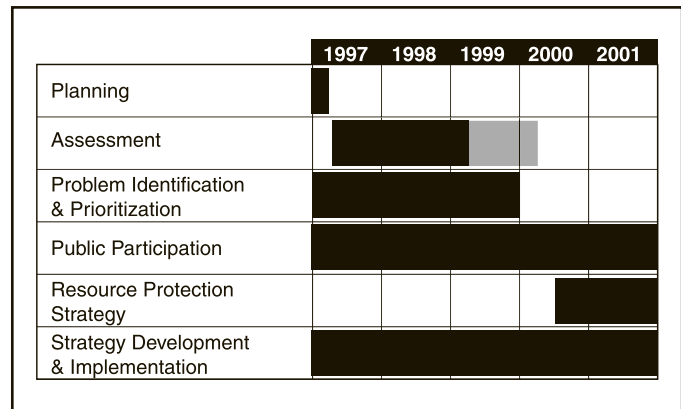
**Figure 1.1-1**  
DELAWARE'S BASINS AND WATERSHEDS



**Table 1.1-1**  
**WHOLE BASIN MANAGEMENT PLAN PROCESS**

|  |  |
|--|--|
| <b>PHASE I: Planning (Months 0 – 4)</b>  |  |
| ◆ Assemble team.   |  |
| ◆ Select team leader.  |  |
| ◆ Conduct training on consensus and team building.   |  |
| ◆ Develop outline for assessment.  |  |
| ◆ Develop Stakeholder Involvement Plan.  |  |
| <b>PHASE II: Assessment (Months 5 – 28)</b>  |  |
| ◆ Inventory existing data and information.   |  |
| ◆ Assess status and identify trends.   |  |
| ◆ Identify specific issues of interest/concern.  |  |
| ◆ Make recommendations for focus and integration.  |  |
| ◆ Identify data gaps.  |  |
| ◆ Determine how issues and concerns are related to other media.  |  |
| ◆ Determine targeted indicators and how they should be monitored in the future.  |  |
| ◆ Determine if additional indicators need to be monitored in the future.   |  |
| <b>PHASE III: Intensive Problem Identification and Prioritization (Months 16 – 20)</b>   |  |
| ◆ Incorporate existing white papers on key issues relevant to the Basin into the draft assessment and submit draft to external editor. |  |
| <b>PHASE IV: Public Participation (Months 0 – 60)</b>  |  |
| ◆ Perform agency and public review of draft assessment.  |  |
| ◆ Address public concerns and incorporate appropriate recommendations into assessment.   |  |
| <b>PHASE V: Resource Protection Strategies (Months 42 – 60)</b>  |  |
| ◆ Develop pollution protection and watershed restoration strategies and management options.  |  |
| <b>PHASE VI: Strategy Development and Implementation (Months 0 – 60)</b>   |  |
| ◆ Monitor, collect, analyze and/or organize (database development) information.  |  |
| ◆ Identify the roles and responsibilities of agencies involved in the priority issues.   |  |
| ◆ Modify Department monitoring programs to meet characterization needs (if necessary).   |  |
| ◆ Solicit public input on what should be done about the issue/problem.   |  |
| ◆ Select appropriate management options.   |  |
| ◆ Update Project Planning Document.  |  |

**Figure 1.1-2**  
**CHESAPEAKE BASIN TIMELINE**



patterns. As shown in *Figure 1.1-1*, four major drainage basins encompass the state: the Piedmont, Chesapeake Bay, Inland Bays/Atlantic Ocean, and the Delaware Bay and Estuary basins. Each basin consists of smaller management units, or sub-basins, known as watersheds. A watershed represents the area drained by a river, stream, or creek — in simplest terms, the area “shedding the water” to a given water body. There are 45 watersheds in Delaware.

Whole Basin Management utilizes a phased approach to effectively assess the health of a targeted basin, and to develop an implementation plan to address environmental problems (refer to *Figure 1.1-2* and *Table 1.1-1*). The paramount objectives of the process are to protect the environment, improve relations within and outside the Department, maximize wise resource use, and promote environmental education and stewardship. For more information, see the *Whole Basin Management Framework Document*, available in the Department’s Office of the Secretary.

**1.2 THE CHESAPEAKE BAY BASIN ASSESSMENT**

The Chesapeake Basin is the second basin being assessed by the Department under *Whole Basin Management*. *Figure 1.2-1* shows Delaware’s geographical location with respect to the Chesapeake Bay. The Delaware portion of the Chesapeake Basin is located in western New Castle, Kent, and Sussex counties. The Basin is named for the area into which it drains: the Chesapeake Bay. In Delaware, the Basin drains approximately 769 square miles and encompasses the following watersheds: Elk Creek, Perch Creek, Chesapeake & Delaware Canal, Bohemia Creek, Sassafras River, Chester River, Choptank River, Marshyhope Creek, Nanticoke River,

Gum Branch, Gravelly Branch, Deep Creek, Broad Creek, Pocomoke River, and Wicomico River (see *Map 1.2-1 Chesapeake Basin Watersheds*).

The *Chesapeake Basin Assessment Report*, written by the Chesapeake Basin Team, representing every division in the Department, depicts the current state of the Basin, issues of concern, and assessment needs.

The assessment phase required gathering and assessing existing information for the Chesapeake Basin from each division within the Department as well as from outside agencies. Specific goals of the assessment phase are contained in *Table 1.1-1*. This report should provide the “state of the environment” for the Chesapeake Basin. At a minimum, it should answer these basic, but essential, questions:

- ◆ *What do we know about the Chesapeake Basin?*
- ◆ *What don't we know?*
- ◆ *What do we need to know?*

The report identifies immediate actions that may be taken to improve the Chesapeake Basin’s health and makes recommendations for additional or enhanced monitoring of specific environmental indicators. Additionally, the report identifies data trends and gaps, areas of programmatic overlap, initiatives that may be integrated, areas requiring additional focus, environmental stressors, and other findings germane to promoting management of the ecosystem. This assessment will serve as the catalyst for identifying and implementing priority recommendations — the next phase in the Department’s *Whole Basin Management* approach for the Chesapeake Basin.

**Figure 1.2-1**  
REGIONAL LOCATION OF DELAWARE’S CHESAPEAKE BASIN

