Bay Smart

A CITIZEN'S GUIDE TO MARYLAND'S CRITICAL AREA PROGRAM

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Critical Area Commission
for the
Chesapeake and Atlantic Coastal Bays

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ACKNOWLEDGEMENTS

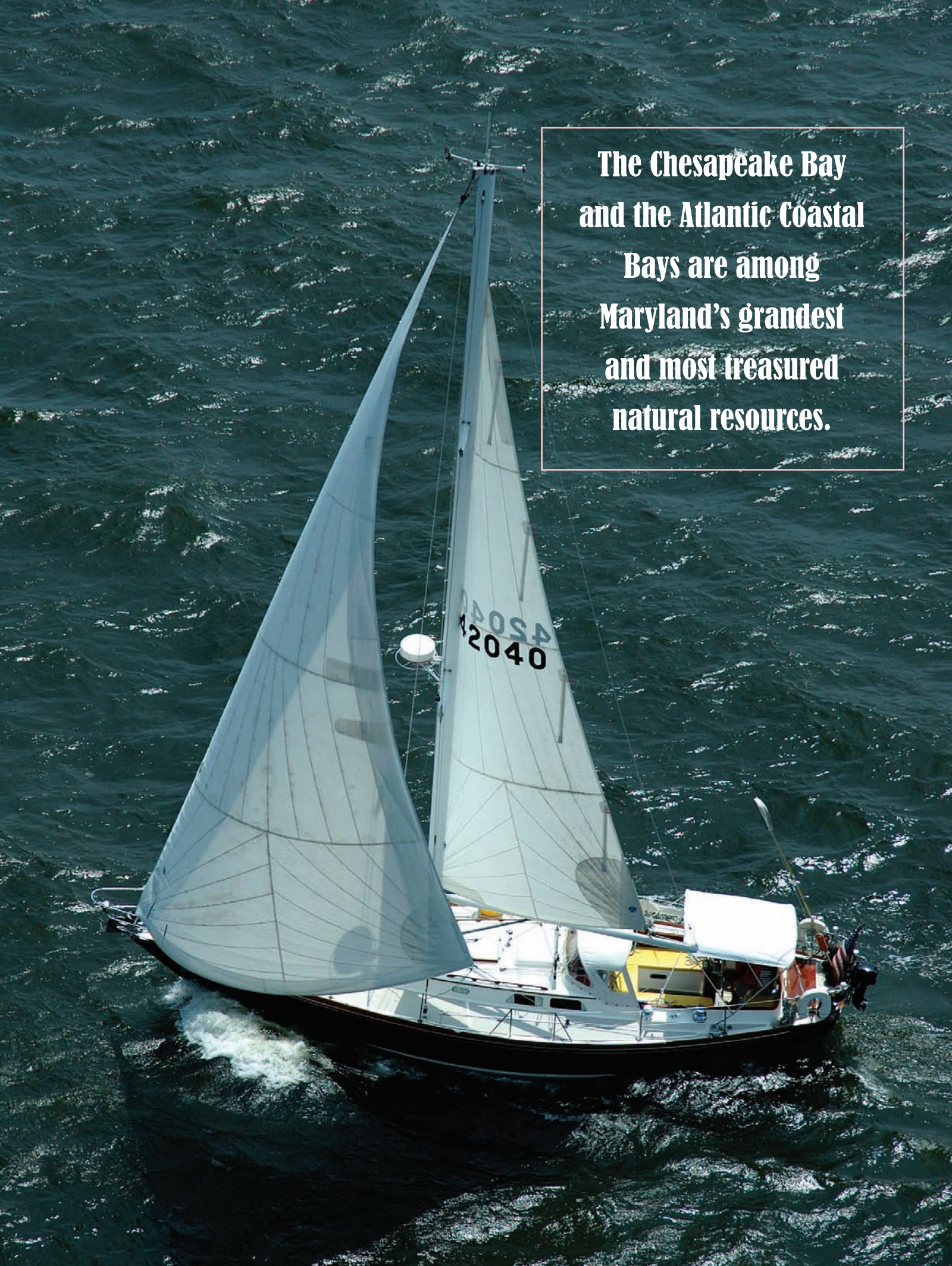
This publication has been prepared by the Critical Area Commission for the Chesapeake and Atlantic Coastal Bays as a guide to Maryland's Critical Area Program for all citizens. The Chesapeake Bay Critical Area Protection Act was enacted in 1984 to help reverse the deterioration of the Chesapeake Bay and the surrounding environment. The Act included the creation of a unique partnership between the State government and the 64 jurisdictions surrounding the Bay. It was amended in 2002 to add the Atlantic Coastal Bays and portions of Worcester County and Ocean City. Each jurisdiction has adopted its own local Critical Area Program based on Criteria promulgated by the Commission. This publication is intended to provide general information about the Critical Area Act and Criteria and to outline how local land use programs, regulations, policies, and ordinances are used to implement them. This guide also provides basic information for all Marylanders about the importance of protecting and preserving some of Maryland's most important natural resources – the Chesapeake Bay, the Atlantic Coastal Bays, and their watersheds.

This citizen's guide is a comprehensive revision of the Critical Area Commission's first general guide, *Critical Area and You: The Chesapeake's First Line of Defense*. The original document was patterned on *Baybook*, published by the Alliance for the Chesapeake Bay, Inc.; *Watershed: An Action Guide to Improving Maine Waters,* published by the Maine Department of Environmental Protection; and the *Chesapeake Bay Critical Area Program and How It Affects You,* published by the Chesapeake Bay Critical Area Commission. Much of the text in this guide is from the Commission's original publications, and it has been updated to reflect current practices and changes to the Program. Throughout the document, the Critical Area Law and Criteria are summarized and paraphrased in order to provide clear, accurate, and useful information in a reader-friendly style.

The publication of *Bay Smart – A Citizen's Guide to Maryland's Critical Area Program* was made possible by a generous grant from the Coastal Zone Management Administration. In addition to this financial support, Laura Younger at the Department of Natural Resources Coastal Zone Program was instrumental in obtaining and administering the grant funds. Photographs were obtained from many talented individuals including Jerry Adkins, Mark Odell, Scott Smith, and John White. The entire staff of the Critical Area Commission was involved in the various aspects of writing, illustrating, and producing this publication, including Shirley Bishop, Bob Cicconetti, LeeAnne Chandler, Jennifer Delve, Marianne Dise, Lisa Hoerger, Kerrie Gallo, Marshall Johnson, Nick Kelly, Shirley Massenburg, Julie Roberts, Kate Schmidt, Megan Sines, and Amber Widmayer. Margaret McHale, Commission Chair, and Ren Serey, Executive Director, provided the support, direction, and leadership necessary to ensure the completion of this project. The efforts and cooperation of all of these dedicated and professional individuals are gratefully acknowledged.

This book is designed for use as a printed reference guide, and is also available on-line at the Critical Area Commission's web-site, *www.dnr.state.md.us/criticalarea*. This publication is not copyrighted. Readers are encouraged to reproduce it for further distribution. Additional copies are available from the Critical Area Commission, 1804 West Street, Suite 100, Annapolis, MD 21401 or by calling (410) 260-3460.

- Mary R. Owens, Editor



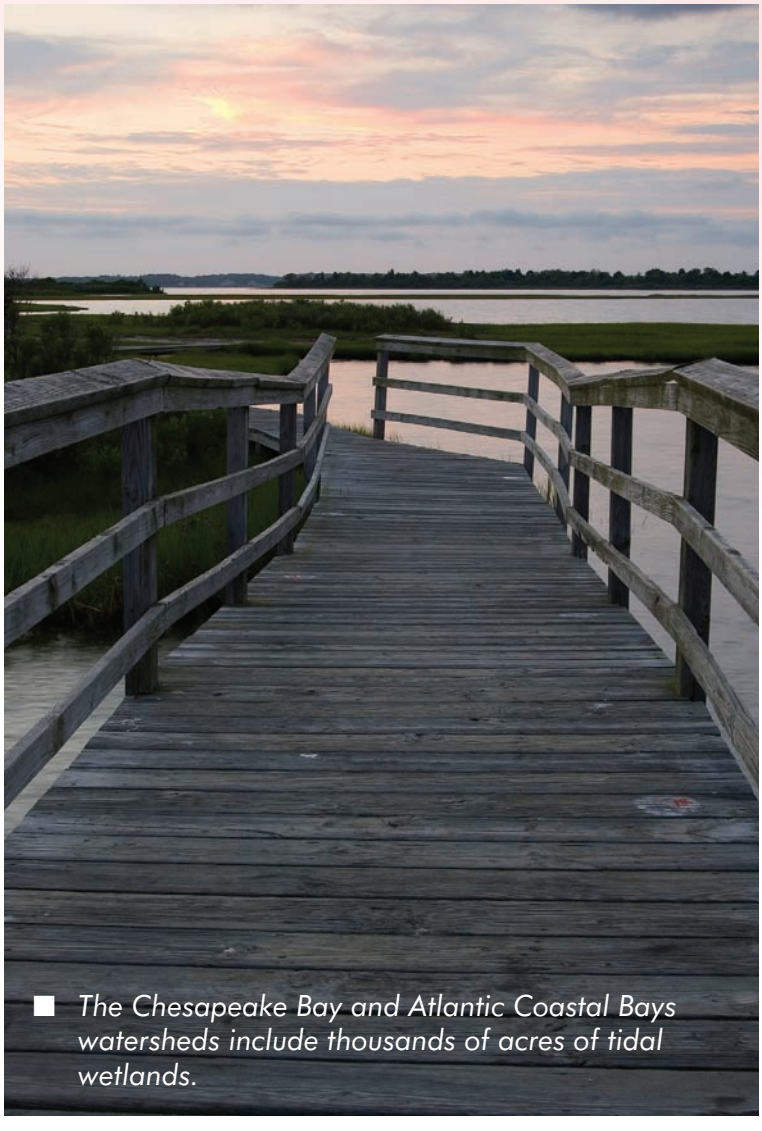
The Chesapeake Bay and the Atlantic Coastal Bays are among Maryland's grandest and most treasured natural resources.

INTRODUCTION

The Chesapeake Bay and the Atlantic Coastal Bays are among Maryland's grandest and most treasured natural resources. The Chesapeake Bay is one of the world's largest and most productive estuaries. Its watershed is home to nearly 16 million people, 5.6 million in Maryland alone, who live on its dozens of rivers and thousands of creeks—people who enjoy the beauty and bounty of this immense estuary. The waters of this 64,000 square mile drainage basin—which encompasses the headwaters of the Susquehanna River in New York and extends to the thriving Bay ports of Baltimore, Maryland, and Hampton Roads, Virginia—provide us with tremendous food, economic, and recreational resources.

The Atlantic Coastal Bays in Worcester County and Ocean City have many similarities to the Chesapeake Bay. Among these similarities are their rich biodiversity, as well as the increasing pressure of the multi-million dollar tourism industry that brings countless visitors to the Eastern Shore annually. Visitors come to fish, boat, swim, and enjoy the natural beauty of the area, and new residents are drawn there for the same reasons. The area's farms, forests, marshes, and beaches define the culture and character of the region, and increasing human activity in these areas creates additional stress on the watershed's fragile and delicately balanced ecosystems. In order to preserve all of Maryland's diverse estuaries to the fullest extent possible, the Coastal Bays were added to the Critical Area Protection Program in 2002.

The beauty and tranquility observed along vast stretches of the shoreline of the Chesapeake and Atlantic Coastal Bays can be deceiving. Above and beneath that beautiful surface, scientists have been documenting disturbing changes that many citizens have likewise experienced: declines in



The Chesapeake Bay and Atlantic Coastal Bays watersheds include thousands of acres of tidal wetlands.

The beauty and tranquility observed along vast stretches of the shoreline of the Chesapeake and Atlantic Coastal Bays can be deceiving.

■ *Habitat degradation, including the filling of wetlands, continues to stress the watersheds of Maryland's Bays.*

living resources such as submerged aquatic grasses, striped bass, shad, oysters, clams, and waterfowl. Less apparent, but nonetheless very significant, are changes in water quality, including increases in nutrient concentrations, turbidity, and toxic chemicals and decreases in dissolved oxygen.

Less apparent, but nonetheless very significant, are changes in water quality, including increases in nutrient concentrations, turbidity, and toxic chemicals and decreases in dissolved oxygen.

The Environmental Protection Agency's 1983 study titled *Chesapeake Bay: A Framework for Action* directly linked the precipitous decline in the Chesapeake Bay's once bountiful populations of anadromous fish, crustaceans, wildlife, and waterfowl to a parallel decline in the quality of its water and the destruction of natural habitat – a consequence of ever increasing human activity within its vast watershed. The study determined that significant and increasing levels of nutrients were entering the Bay system from nonpoint sources (urban, suburban and agricultural runoff and atmospheric deposition). Population growth within the basin, as well as changing farming practices, were causing increased nutrient and sediment loads contributing to the eutrophication of the Bay. Elevated levels of toxics (heavy metals and toxic organic compounds) were being found in increasing quantities in Bay water and sediments. Habitat degradation, such as overcutting of forests, filling of tidal and nontidal wetlands, and the development of open fields and meadows, was occurring at an alarming rate.

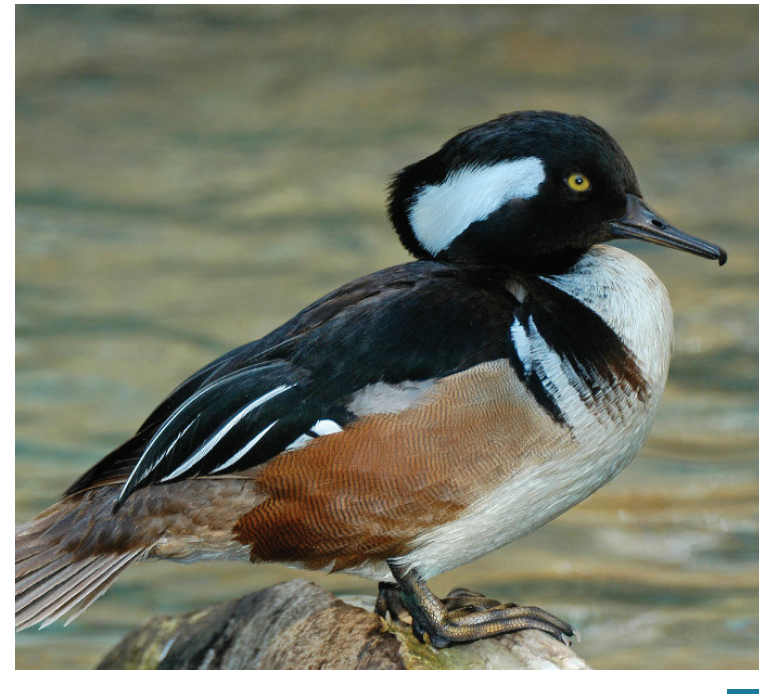
As the keystone of the multifaceted 1983 Chesapeake Bay Program, the Chesapeake Bay Critical Area Protection Act was enacted in 1984 by the Maryland General Assembly to help reverse the deterioration of the Bay's environments. The Law created the Critical Area Commission, which was charged with creating

a land and resource management program that would reverse the adverse impacts of water pollution from runoff and the loss of habitat associated with growth and development. The Law also directed the Commission to develop specific "Criteria" as a framework for zoning, land use, and development regulations to be used by counties and municipalities in the development and implementation of their individual Critical Area programs.

Although many people dream of having the Chesapeake Bay, its tributaries, or the Atlantic Coastal Bays and their tributaries in their own backyard, only a small percentage of Maryland citizens live on or near these waters. As uses of the lands immediately surrounding these Bays and tidal tributaries have a tremendous impact on water quality and natural habitat of the Chesapeake Bay and Coastal Bays systems, those who benefit the most from the beauty and abundance of these resources also bear the heaviest responsibility for their future. The Critical Area Program and regulations affect everyone who owns land in the Critical Area, and Critical Area landowners take on the responsibility of learning about their local Critical Area regulations and abiding by them. If the common goals of restoring the water quality and habitat of the Chesapeake Bay and Coastal Bays and preserving their precious natural environments are to be achieved, it is important that not only those landowners, but all Maryland residents, understand and support the goals, philosophy and regulations of the Critical Area Protection Act for the Chesapeake and Atlantic Coastal Bays.

Because the Critical Area Act and the Criteria result from a pioneering and comprehensive approach to conserving the State's precious natural resources, the Critical Area Program may seem complex, and it is often misunderstood. Thus, this publication is written to present accurate and straightforward information about the Critical Area Program in a user-friendly

Many Maryland residents find the Bays and their tributaries ideal for a variety of recreational activities.



Maryland's Bays and their tributaries and wetlands provide habitat for many species of waterfowl, including the Hooded Merganser.

The William Preston Lane Jr. Memorial (Bay) Bridge, which carries close to 25 million vehicles across the Bay each year, is a constant reminder of the region's population growth.

Protecting the diverse fish, wildlife, and plant species that depend on Maryland's Bays is a tremendous challenge.

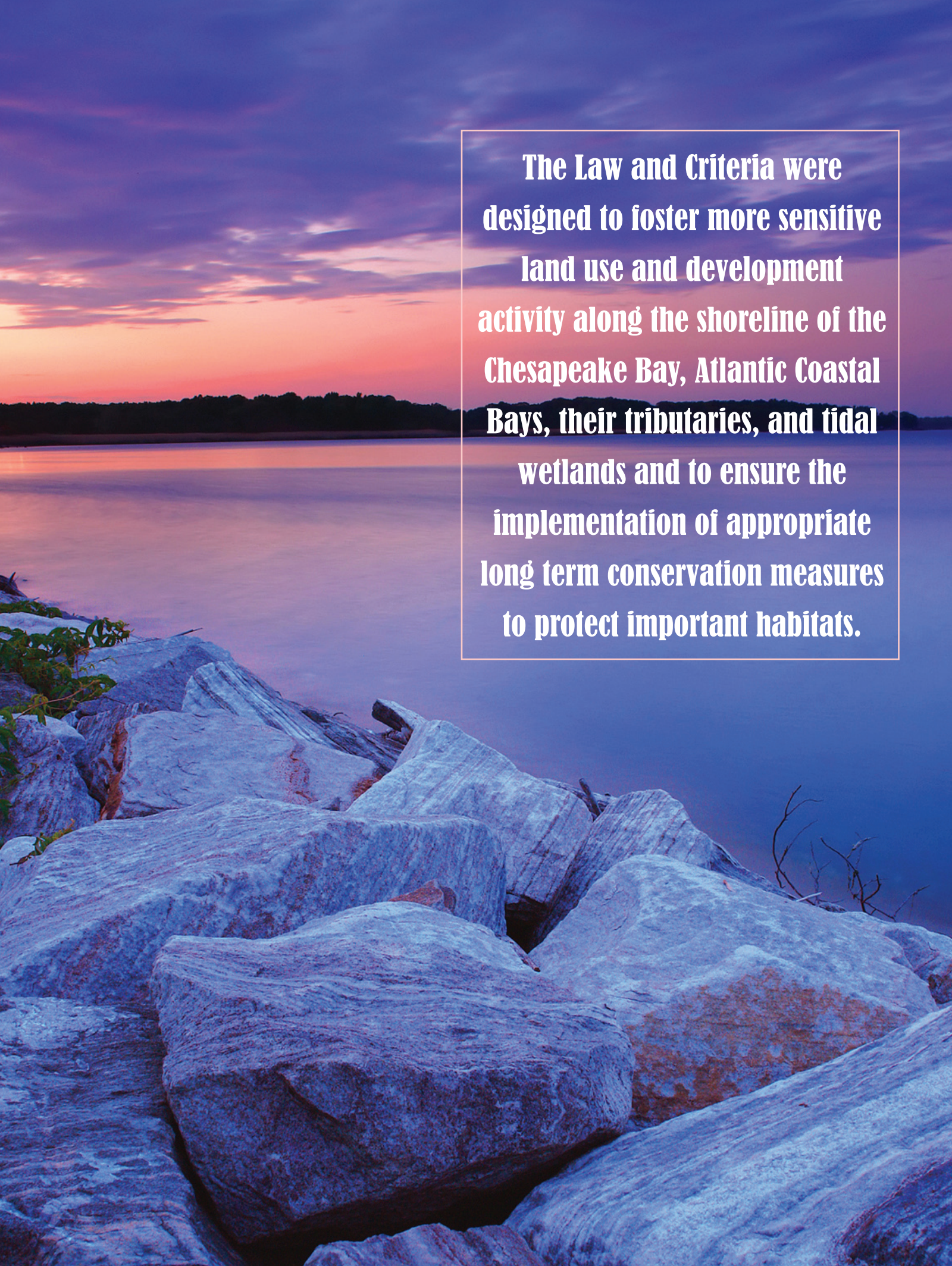
style. It is designed to increase public awareness of, and knowledge about, the Critical Area Program and its requirements so as to promote the restoration of Maryland's ecologically fragile bays.

The first two chapters of this general information guide provide an overview of the history of the Critical Area Law and Criteria and how Maryland's Critical Area Program evolved. Chapter 3 provides detailed information about the three land use classifications and a summary of the regulations affecting each classification. It also covers special provisions that accommodate existing land uses and lots created prior to the adoption of local Critical Area regulations. The fourth chapter deals with special protection measures for plant and wildlife habitats. Growth allocation, a unique component of the Critical Area Program to address the accommodation of future

growth in the Critical Area in an environmentally sensitive manner, is the focus of Chapter 5. Chapter 6 provides information about water-dependent facilities, such as marinas, ports, and public beaches, and Chapter 7 discusses shore erosion control measures and the guidelines for selecting the appropriate measure. Chapter 8 covers land uses and permitted activities in the Critical Area other than development; it also outlines why these uses are encouraged in the Critical Area. The following three chapters relate to enforcement, stewardship, and public participation. They emphasize the importance of not only strong and effective regulations, but public support of, and involvement in, implementation of the Critical Area Program at all levels. Chapter 12 is a summary of the document. The final sections of this guide include definitions and additional resources that provide more specific and complete information about many of the topics covered in this publication. These resources are available in print and on the internet.

Maryland's Critical Area Program includes provisions for public access to the water.

Environmental stewardship efforts at all levels will be necessary to restore Maryland's Bays.



The Law and Criteria were designed to foster more sensitive land use and development activity along the shoreline of the Chesapeake Bay, Atlantic Coastal Bays, their tributaries, and tidal wetlands and to ensure the implementation of appropriate long term conservation measures to protect important habitats.

CHAPTER 1: BACKGROUND AND HISTORY

The Critical Area Law and Criteria were developed in response to serious and far-reaching problems affecting Maryland's water resources. Like any law or regulation directed towards "solving" a complicated problem, the Critical Area Law and Criteria are a comprehensive, complex, and detailed body of legislation and regulations. The Law and Criteria were designed to foster more sensitive land use and development activity along the shoreline of the Chesapeake Bay, Atlantic Coastal Bays, their tributaries, and tidal wetlands and to ensure the implementation of appropriate long-term conservation measures to protect important habitats. To some degree, these regulations affect a significant number of Maryland residents. They may be affected directly because they own land within the Critical Area or they may be affected indirectly because they operate a business or are engaged in activities that involve the development, use, or conservation of land within the Critical Area. In order to understand how the Critical Area Program is implemented, some background information on the history of the Program, the purposes and goals of the Law, and the resulting partnership between the State and local governments is helpful.

Throughout the Critical Area, extensive areas of the shoreline are developed right up to the water's edge.

Origins of the Program

In the summer of 1982, results from a study of the Chesapeake Bay by the United States Environmental Protection Agency (EPA), *Chesapeake Bay: A Framework for Action*, indicated that water quality in the Bay was deteriorating, and the Bay was experiencing a substantial decline in economically valuable biological resources. It was noted that continued population growth in the Baltimore and Washington metropolitan areas and surrounding suburbs was likely to accelerate and intensify the deterioration and decline. The study concluded that a comprehensive and long-term strategy was needed. Unfortunately, in spite of the study's dire

...water quality in the Bay was deteriorating, and the Bay was experiencing a substantial decline in economically valuable biological resources.

■ *Members of the original Critical Area Commission. Standing from left: Sarah J. Taylor, Ph.D. (Executive Director), Mary Roe Walkup, Bill Bostian, John Luthy, Bill Eischbaum, Tom Jarvis, Sam Turner, Florence Beck Kurdle, Shepard Krech, Anne Coates Sturgis, Harry Stine, Parris Glendening, Skip Zahniser, J. Frank Raley, and Barbara O'Neil. Seated from left: Connie Leider, Ron Hickernell, Jim Gutman, Bob Lynch, Lloyd Tyler, Dr. Torrey Brown and Judge Solomon Liss (Chairman).*

predictions, there were no federal funds available to finance a restoration effort. In the fall of 1982, in response to concerns raised by the EPA study and subsequent meetings among various state officials, the Governors of Maryland, Virginia, and Pennsylvania, and the Mayor of the District of Columbia announced that they would convene a Governors' Conference on the Chesapeake Bay in December 1983, and information about a joint state and federal program would be presented.

In Maryland in the spring of 1983, representatives from the Governor's Office, the University of Maryland, and various State agencies met to develop an action program that would be announced at the Governors' Conference. This group, which was known as the Wye Group, analyzed and reviewed growth management and shoreline protection programs in the Adirondack Preserve in New York and the New Jersey Pinelands. They also looked at relevant programs in Maryland, North Carolina, Oregon, and California. In the fall of 1983, with assistance from the Wye Group members, legislation was drafted and approved by Governor Harry Hughes. This legislation was presented at the Governors' Conference and called for the establishment of a resource protection program for shoreline areas that would facilitate restoration of the Chesapeake Bay.

In the fall of 1983, with assistance from the Wye Group members, legislation was drafted and approved by Governor Harry Hughes.

As would be expected, the Critical Area Law that was passed by the General Assembly in the spring of 1984, while drawing on concepts found in other plans and programs, was unique in its approach. Of particular significance was the emphasis placed on establishing performance standards for land use and development that would be implemented by local governments through their zoning

■ *Original Commission Chairman, Judge Solomon Liss, making a presentation to City officials in Annapolis.*

ordinances, subdivision regulations, and land use codes. This arrangement would integrate State oversight of Maryland's Critical Area Program with local zoning and land use regulatory authority, providing consistency throughout the affected jurisdictions. The Law called for oversight by a State entity and established a 25-member Commission (increased to 29 members in 2002 as a result of the addition of the Atlantic Coastal Bays to Maryland's Critical Area Program) consisting of elected or appointed local officials, Cabinet-level Secretaries from affected State agencies, and citizens representing "diverse interests."

The 1984 Law itself was general in nature, primarily addressing the purpose of the Chesapeake Bay Critical Area Protection Program, the definition of the "Critical Area," the creation and role of the Commission, the process and procedures for local Critical Area Program development and adoption, and the various administrative functions of the Commission. In enacting the Law, the General Assembly included specific findings in an effort to highlight the importance of the Chesapeake Bay (and later the Atlantic Coastal Bays) as natural resources of great significance to the State and the nation and to emphasize that, without significant changes in land use and development activities along the shoreline, further degradation of water quality and natural habitats was inevitable. The findings also state that Maryland's Bays are particularly stressed by continuing population growth and that restoration of these waters is dependent on minimizing further adverse impacts to water quality and natural habitat of the shoreline and adjacent lands, particularly in the Buffer. One of the most significant findings by the General Assembly states that the quality and productivity of Maryland's tidal waters have declined due to the "…cumulative

■ *In 1984, it was acknowledged that without significant changes to the pattern of development, the quality and productivity of Maryland's tidal waters would continue to decline.*

■ *Maryland's Bays include a wide variety of habitat types, so efforts to conserve fish, wildlife, and plant habitat must address this diversity.*

■ *The water quality of Maryland's Bays has deteriorated in part because of pollutants that are found in untreated stormwater runoff.*

effects of human activity that have caused increased levels of pollutants, nutrients, and toxics…", thereby acknowledging the need for a rigorous, consistent, and comprehensive program addressing all human activities in order to accomplish Maryland's restoration goals.

Defining the Critical Area

The drafters of the Law recognized that the land immediately surrounding the Chesapeake and Atlantic Coastal Bays and their tributaries has the greatest potential to affect the water quality and wildlife habitat of these resources. Therefore, all lands within 1,000 feet of the edge of tidal waters, or from the landward edge of adjacent tidal wetlands, and all tidal waters and lands under those waters and wetlands were designated as a "Critical Area." The 1,000-foot area was delineated on Maryland's 1972 State Wetland Maps. Local governments then transferred the Critical Area boundary line to their own maps.

Although there are many sensitive environmental areas throughout the State of Maryland, including thousands of miles of tributary streams and thousands of acres of nontidal wetlands, the Critical Area Program and regulations only apply to areas officially designated and mapped as "Critical Area." As defined, this 1,000-foot wide "Critical Area" encompasses some 680,000

acres, approximately 10 percent of the land area of Maryland, and spans 64 local political subdivisions (16 counties, 47 municipalities and Baltimore City). Each jurisdiction maintains detailed maps showing the designated Critical Area within the jurisdiction. Seven counties in Maryland -- Garrett, Allegany, Washington, Frederick, Carroll, Montgomery, and Howard – are not part of the Critical Area Program because they do not include any tidal waters.

Critical Area Program Goals

The purpose of the 1984 Law was to establish a "resource protection program" that would foster more sensitive development activity and minimize damage to water quality and natural habitats. The Law stated that each local jurisdiction had the responsibility for developing and implementing its own Critical Area program that would be sufficiently comprehensive to accomplish the following overall goals for the State:

- Minimize adverse impacts on water quality that result from pollutants that are discharged from structures or conveyances or that have runoff from surrounding lands.
- Conserve fish, wildlife, and plant habitat in the Critical Area.
- Establish land use policies for development in the Chesapeake and Atlantic Coastal Bays Critical Area which accommodate growth and also address the fact that even if pollution is controlled, the number, movement, and activities of persons in an area can create adverse environmental impacts.

These original goals are included in every jurisdiction's Critical Area program and function as the cornerstone of the Critical Area Criteria and all related regulations. These goals also serve to guide Critical Area decision-makers, including the Critical Area Commission, local government officials, and State regulatory agencies, to ensure that the Program is effectively implemented.

Local Critical Area programs must address the fact that even if pollution is controlled, the activities of people can create adverse environmental impacts.

The Critical Area Criteria were a pioneering model for regulatory programs designed to conserve and protect natural resources.

Development of the Criteria

The Critical Area Law charged the Commission with establishing a resource protection program that would foster more sensitive development activity and land use practices in order to minimize damage to water quality and natural habitats. The Law also directed the Commission to implement the program on a cooperative basis between State and local governments. Local governments would create their own individual programs and related ordinances that would be implemented in a consistent and uniform manner based on specific State criteria and subject to State oversight. Initially, the Commission's primary responsibility was to develop criteria that local governments would use to prepare their individual Critical Area programs.

The Critical Area Law required the newly formed Commission to develop the criteria by December 1, 1985. The time frame to accomplish this task was very tight because the Commission had to hold public hearings and publish the Criteria in the *Maryland Register* for comment. The Commission formed three subcommittees to focus on developing criteria for "development," "resource utilization activities," and "resource protection." The first draft of the Criteria was published in the *Maryland Register* in June 1985, and copies were widely distributed to members of the General Assembly, local jurisdictions, interest groups, and the general public. Over the next several months, many issues were discussed and numerous changes were made to clarify provisions, eliminate redundancy, and incorporate references to other complementary State regulations.

... the three goals of the Critical Area Program: the protection of water quality, the conservation of habitat, and the accommodation of future growth and development without adverse impacts.

The Criteria used ideas and regulatory antecedents adopted by other coastal states such as New Jersey, New York, North Carolina, Vermont, and California. The land and resource management regulations incorporated into the Critical Area Criteria were a pioneering model for resource conservation programs nationwide and internationally. Work on the Criteria was completed in November 1985, and the complex regulations were submitted to the General Assembly during the 1986 legislative session. Governor Hughes was initially resistant to significant changes to the Criteria as drafted, but following discussion on many contentious issues, several related bills were enacted. Joint Resolutions approving the Criteria and the amendments to the Law were approved by the General Assembly on the last day of the 1986 Session and signed into law on May 13, 1986.

Designed to promote environmentally sensitive use, development, and stewardship of land in the Critical Area, the Criteria address the three goals of the Critical Area Program: the protection of water quality, the conservation of habitat, and the accommodation of future growth and development without adverse environmental impacts. The Criteria include provisions that address development, water-dependent facilities, shore erosion control, resource utilization activities, habitat protection, and variances. Information about the provisions of the Criteria and how these provisions are implemented locally are addressed in detail in Chapters 3 through 8 of this guidance publication.

Changes to the Law During the First Two Decades

Over the course of the first two decades of Program implementation, the Critical Area Law was modified several times. Generally, these modifications involved clarification of the existing regulations or the addition of provisions necessary to accommodate special circumstances that were not anticipated when the

■ *Changes to the Critical Area Law have been made to clarify certain provisions and ensure consistency throughout the Critical Area.*

The Atlantic Coastal Bays, including Assawoman Bay, Isle of Wight Bay and the St. Martin River, Sinepuxent Bay, Newport Bay, and Chincoteague Bay, were added to the Critical Area Program in 2002.

Criteria were developed. The prohibition of structures on piers and the adjustment of impervious surface (changed to "lot coverage" in 2008) limits on small, grandfathered lots are two changes to the Critical Area Law that were determined to be necessary as a result of situations that arose from on-the-ground implementation of local programs. Other modifications of the Law resulted from unfavorable court decisions that the General Assembly found to be contrary to the purpose and intent of the Law, and therefore required clarification of the existing language. In some instances, changes to the Law required that each local government amend its Critical Area program. Unless otherwise specified, these changes were to be implemented within one year or during the required six-year comprehensive review of the jurisdiction's Critical Area program. Possibly the most substantive change to the Law during this time was the addition of the Atlantic Coastal Bays Critical Area to the Critical Area Program in 2002. This change added approximately 30,000 acres to Maryland's Critical Area.

Comprehensive Revision in 2008

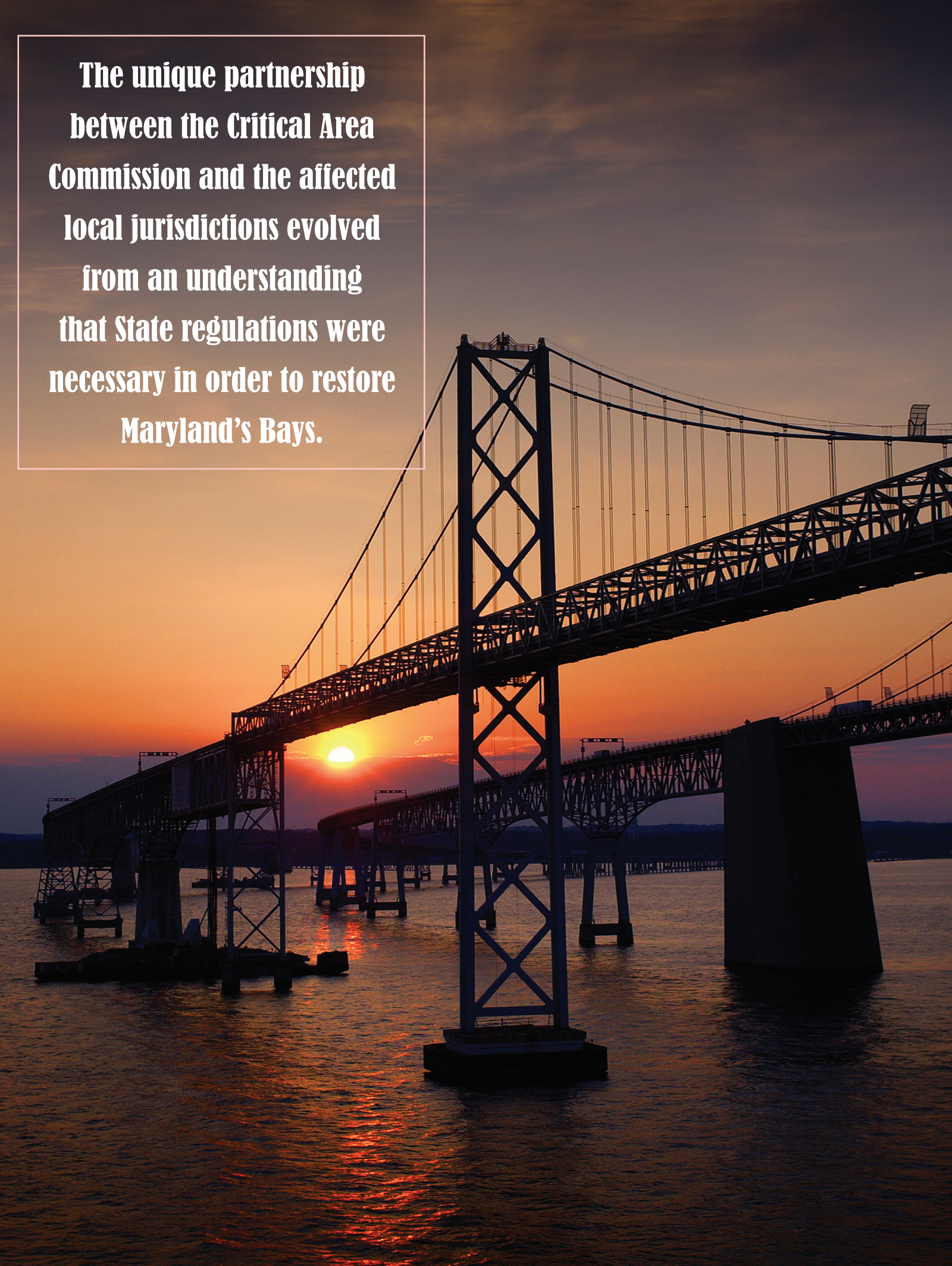
In the spring of 2008, Governor Martin O'Malley and the General Assembly enacted House Bill 1253, which comprehensively revised Maryland's Critical Area Law. The Governor and the General Assembly worked closely with the Critical Area Commission, the Maryland Association of Counties, the Maryland Municipal League, the Maryland State Builders Association, representatives from over 40 environmental organizations, and other stakeholders to craft the 47-page bill. The main purposes of this far-reaching legislation were to: improve the Critical Area Program's operational structure, enhance the coordination between the State and local governments, clarify and strengthen enforcement procedures, increase consistency and fairness, and more effectively protect Maryland's tidal shoreline from the negative impacts of growth and development.

The provisions of the legislation became effective on July 1, 2008; however, certain elements of the legislation will be phased in over time. In addition

In order to improve consistency throughout the Critical Area, "lot coverage" replaced "impervious surface area" as the term used to define and limit the footprint of development activity.

to provisions affecting enforcement, shore erosion control, future growth, the development of new Critical Area maps, and managing the footprint of development activity, the legislation included language allowing the Critical Area Commission to adopt its own regulations. Most State agencies have the ability to adopt regulations, which provide the specificity necessary to implement legislation in a consistent and uniform manner. Providing the Commission with regulatory authority was viewed as essential to streamlining the Critical Area Program and ensuring that the increasingly complex and variable issues affecting Maryland's Bays can be addressed quickly and effectively.

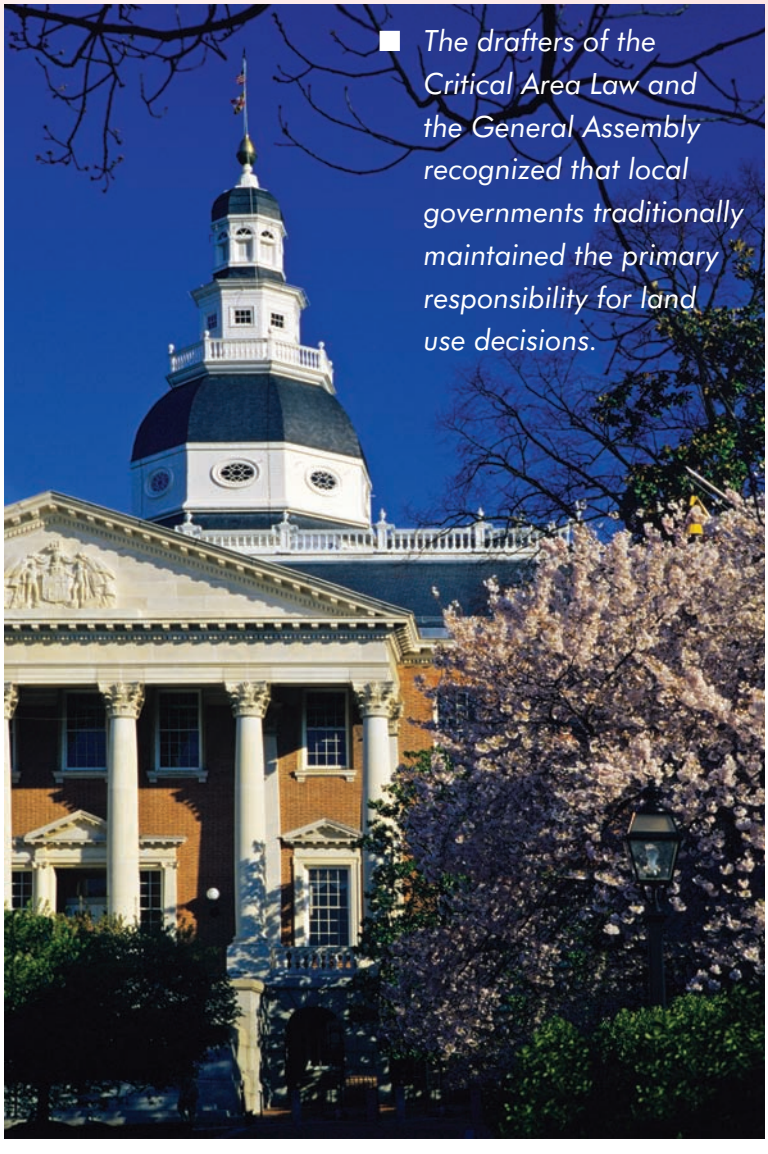
A major focus of the revisions to the Law in 2008 was to strengthen enforcement of the Critical Area regulations.



The unique partnership between the Critical Area Commission and the affected local jurisdictions evolved from an understanding that State regulations were necessary in order to restore Maryland's Bays.

CHAPTER 2: A UNIQUE RESTORATION AND PRESERVATION PARTNERSHIP

Maryland's Critical Area Program is distinctive not only because of the significant resources that it is designed to protect, but because it is one of only a few regulatory land use programs in the country that involve a cooperative implementation effort between State and local governments. The purpose of this arrangement is to provide local governments with the flexibility needed to address the unique physical, economic, and social characteristics of the particular jurisdiction while ensuring that the goals, purposes, policies, and criteria of Maryland's Critical Area Program are implemented in a consistent and uniform manner throughout the State.



The drafters of the Critical Area Law and the General Assembly recognized that local governments traditionally maintained the primary responsibility for land use decisions.

A Partnership Involving the State and Local Governments

The unique partnership between the Critical Area Commission and the affected local jurisdictions evolved from an understanding that State regulations were necessary in order to restore Maryland's Bays. However, it was acknowledged that the key to effective and successful implementation was support at the local government level where plans and programs affecting land use and development activities were traditionally implemented in Maryland. Therefore, the drafters of the Critical Area Law and the General Assembly opted to work toward integrating Maryland's Critical Area Program into existing local plans, programs, and regulations where these already met, or could be modified to meet, the goals and intent of the Program.

What resulted from this approach was that each jurisdiction with its own planning and zoning authority adopted its own local Critical Area program based on the Criteria promulgated by the Commission. The Critical Area Law recognized the primary responsibility of local governments for land use decisions. By implementing the Law in this fashion, local governments were allowed to add to or modify existing zoning and land use regulations, providing the flexibility necessary to accommodate local conditions. As a result, most jurisdictions' Critical Area programs differ substantially from one another. Some jurisdictions incorporate the Critical Area regulations throughout various chapters of their zoning ordinances and codes; others have a separate Critical Area ordinance or Critical Area Manual that functions as a stand-alone document. A third approach is the adoption of specific chapters of zoning ordinances and subdivision regulations dedicated to Critical Area implementation.

■ *The Critical Area Commission acknowledges that each jurisdiction has unique qualities, characteristics, and challenges, and that local programs must be able to address these differences.*

Local Critical Area Program Development

Like the development of the Critical Area Criteria, the development of local programs was also subject to time constraints. Each local government was required to develop and submit a program to the Commission by March 1987; and these local programs were to be reviewed, amended, and approved by the Commission by June 1988. The deadline for submittal to the Commission was extended to August 1987, but many jurisdictions did not meet that deadline because of the difficulties and logistics involved in preparing maps, holding public hearings, and addressing the questions and concerns of thousands of affected property owners. In addition to the sheer amount of work that had to be accomplished, local governments were hampered by a lack of resolution on several key programmatic issues such as mapping, growth allocation, Buffer provisions, and exclusions. Ultimately, after many months of intense effort by the Critical Area Commission and local governments, all jurisdictions that were required to have a local program had one in place by 1990.

Local Critical Area programs were, and continue to be, as different as the jurisdictions that implement them. In every case, the Critical Area Commission makes a concerted effort to acknowledge each jurisdiction's distinctive qualities, characteristics, and challenges, and to provide sufficient flexibility to local officials. This approach allows local governments to continue to make land use decisions affecting the Critical Area autonomously and without undue State involvement. However, through State oversight, the Commission has sufficient knowledge of local practices and decisions, as well as the authority necessary, to ensure that local programs are operating effectively.

The Critical Area Law requires local governments to review their Critical Area programs comprehensively every six years. These reviews are necessary for the Commission to make sure that local programs are kept up to date and that required legislation is incorporated into local codes and ordinances. The reviews also provide an opportunity for local governments to work closely with the Commission to modify provisions of their programs to accommodate new State or local plans or initiatives and to address

any specific implementation challenges that they are facing. Over time, many local governments have made substantive changes to the various elements that make up their Critical Area programs. In 1997, in response to requests from many municipalities attempting to update their local Programs, Commission staff prepared a "model Critical Area Ordinance" which can be used wholly or in part by local governments. The "model" is regularly updated to address changes to the Law and to clarify and interpret provisions that local governments find difficult to implement properly and effectively.

The Critical Area Law requires local governments to review their local Critical Area programs comprehensively every six years.

In addition to changes that are regularly made to local plans and ordinances, many jurisdictions have revised or are in the process of revising their Critical Area maps and converting them to an electronic format. This enables local governments to make use of state-of-the-art technology and provides opportunities to make these resources more accessible to the public. This type of comprehenisve re-mapping provides greater accuracy, enhanced information integration, and allows the maps to be used with other Geographic Information System data layers.

Local Critical Area Program Implementation

In general, for all development activities on private lands or lands owned by a local government, the local planning and zoning department is the primary agency responsible for reviewing and approving building permits, site plans, and subdivision plans. The local governments review these plans for consistency with their ordinances and regulations. Before approvals may be issued, the local permitting authority must ensure compliance with requirements for impervious surfaces, forest clearing, habitat protection and stormwater management, among other factors. Many local jurisdictions have streamlined review processes for minor development activities.

The Commission performs an oversight role with respect to local review of projects. Subdivision plans, site plans, variance applications, requests for special exceptions, conditional use permits, and rezoning requests are forwarded by local governments to the Critical Area Commission for review and comment by the Commission's staff of natural resource planners. Comments and recommendations on these projects are provided to the local government by the Commission in order to aid the local government in the decision-making process.

Many development proposals involve significant disturbance to water and forest resources and can require considerable time to review. The Commission works cooperatively with local enforcement officials to assist them in effectively administering and implementing their local Critical Area regulations. In certain instances, local governments or a citizen may request assistance from the Commission in determining if a particular situation is a violation or in pursuing a violation. The Commission's staff of natural resource planners is available to provide the assistance necessary to ensure that local programs are properly, fairly, and effectively enforced. In 2004, the Critical Area Law was amended to allow local governments to request assistance from the Office of the Attorney General through the Critical Area Commission to provide assistance in pursuing and remediating serious violations.

The provisions of Maryland's Critical Area Program described in the following chapters are intended to provide general information about the basic requirements and standards included in the Critical Area Law and Criteria. However, it should be noted that each local government has its own locally implemented program, and this guide is not a substitute for local ordinances, codes, regulations, and policies that may be more specific and detailed.

Although restoration of the Bays is paramount to preserving vital elements of Maryland's economy, culture, and way of life, population growth and changes in land use continue to affect the Bays' watersheds and ecosystems.

CHAPTER 3: DEVELOPMENT IN THE CRITICAL AREA

The value of Maryland's Bays to its citizens' quality of life and the State's economy is beyond estimation. Although restoration of the Bays is paramount to preserving vital elements of Maryland's economy, culture, and way of life, population growth and changes in land use continue to affect the Bays' watersheds and ecosystems. All human activities that have the potential to affect local waterways and the natural habitat of the Chesapeake Bay and the Atlantic Coastal Bays are significant. Perhaps most significant are human activities that modify the landscape. Therefore, a major focus of the Critical Area Law is the management of land development and land use within the Critical Area. Additional goals include protection of water quality and natural habitat, as well as accommodation of future growth in an environmentally sound fashion.

Maps as a Basic Component of Local Programs

To implement the Law, each local jurisdiction was required to map its Critical Area boundaries and to designate existing land uses as one of three classifications. Except for land owned by the State or federal government, all land areas within the Critical Area were designated as Intensely Developed Areas (IDAs), Limited Development Areas (LDAs), or Resource Conservation Areas (RCAs). These designations were based on land uses existing on December 1, 1985. Local governments worked closely with the Commission to refine and finalize their maps. These maps were reviewed and approved by each local government through a local public hearing process, and subsequently the Critical Area Commission approved the maps. It should be noted that these maps are considered an element of a local jurisdiction's Critical Area program. Any local changes to these maps are considered amendments to that jurisdiction's program and must receive formal approval by the Critical Area Commission.

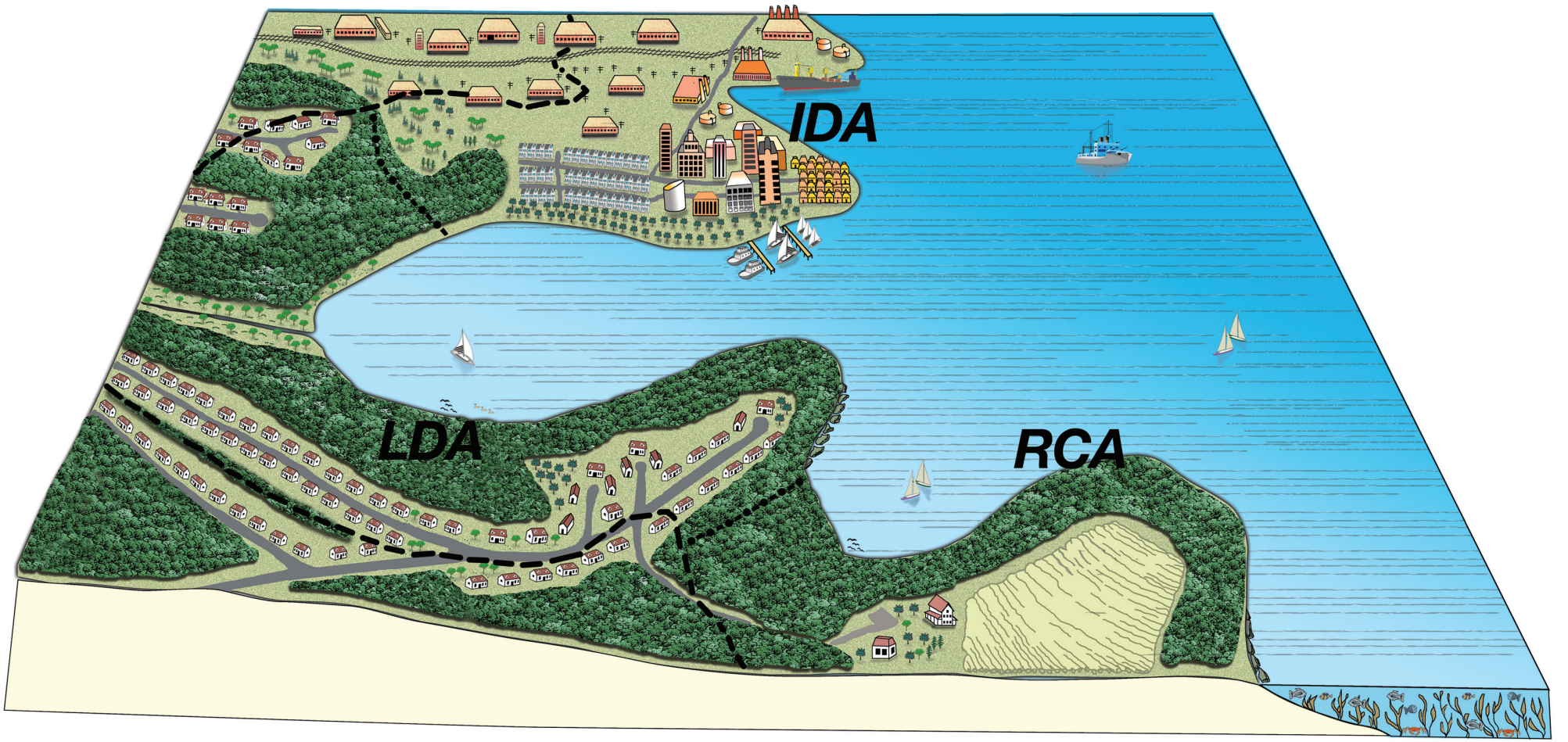
The protection of wildlife habitat, such as heron rookeries, is one of the goals of Maryland's Critical Area Program.

A major focus of the Critical Area Law is the management of land development and land use within the Critical Area.

Interested parties can obtain information about the Critical Area designation of a specific property by contacting the local jurisdiction's planning and zoning office.

Critical Area maps delineating the Critical Area boundary and showing the land use classification assigned to properties are available in each local jurisdiction's planning and zoning offices and the Critical Area Commission office. In some counties and towns, these resources are also available on-line. Landowners interested in obtaining information about a specific property should know the tax map and parcel number of the property, as well as the street address, since most jurisdictions use tax maps as a base for their Critical Area maps. A review of these maps will reveal if a property is located within the Critical Area and what Critical Area land use classification is assigned to it. In some jurisdictions, the Critical Area classification functions as an overlay zone. Other jurisdictions have one or more specific zoning districts that correspond to each of the three Critical Area designations. The classification of the property is significant because the

Land within the Critical Area is mapped and classified based on land uses that existed at the time the local program was adopted.



CRITICAL AREA LAND USE CLASSIFICATIONS

BOUNDARY OF CRITICAL AREA

BOUNDARY BETWEEN LAND USE CATEGORIES

Some provisions of the Critical Area Criteria, such as those relating to the protection of habitat, are applied uniformly throughout the Critical Area regardless of the land classification.

specific provisions of the local Critical Area program and ordinance that apply to the property are based on these classifications.

Legislation passed in 2008 required the 1,000-foot Critical Area boundary throughout the State to be updated based on current aerial imagery; also, the State was required to develop electronic maps appropriate for integration into a Geographic Information System and accurate to a scale of 1:1200 (that is, one-inch equals 100 feet). These maps must be reviewed and updated as necessary at least once every 12 years. As part of the mapping process, a Statewide base map is used to identify the shoreline and landward boundary of tidal wetlands. The 1,000-foot boundary is then digitally generated and georeferenced based on current conditions. As previously stated, all these changes to a local jurisdiction's Critical Area Maps constitute a modification of that local program and must therefore be approved by both the local government and the Critical Area Commission.

Critical Area Provisions and When They Apply

Certain provisions of the Critical Area Criteria apply throughout the Critical Area and are applied uniformly regardless of the Critical Area designation. Other provisions are specific to the land classifications of IDA, LDA and RCA; these result in particular development criteria and performance standards, as described in the three sections that follow this general discussion.

Some development activities are not permitted in the Critical Area because of their potential to affect habitat and water quality adversely. For example, sanitary landfills and solid or hazardous waste collection or disposal facilities are not permitted in the Critical Area unless there is no environmentally acceptable alternative outside the Critical Area. In these cases, it must be demonstrated that the facilities are needed to correct an existing water quality or wastewater management problem. Local governments can also prohibit other uses that they believe would adversely

affect habitat or water quality if located within the Critical Area. Generally, the prohibition or limitation of specific uses within the Critical Area is part of a local government's zoning code or ordinance.

Other general provisions of the Critical Area Program specify that intense development should be directed outside the Critical Area; but when intense development activities are proposed within the Critical Area, these activities should be directed to IDAs. There are also certain land uses and activities that can only be permitted in IDAs. These include: nonmaritime heavy industry; transportation facilities; utility transmission facilities; and sludge handling, storage, and disposal facilities. Project approvals for one of these activities require a demonstration to all appropriate government agencies that there will be a net improvement in water quality in the adjacent water body.

Other regulations that apply throughout the Critical Area, regardless of whether the land is designated IDA, LDA, or RCA, relate to Habitat Protection Areas and to Water-Dependent Facilities. Detailed information about these regulations and how they are implemented is provided in Chapter 4 and Chapter 6.

Intensely Developed Areas (IDAs) are developed areas where residential, commercial, institutional, and industrial land uses predominate.

Intensely Developed Areas (IDAs)

Intensely Developed Areas (IDAs) are where residential, commercial, institutional, and industrial developed land uses predominate and there is relatively little natural habitat. At the time of original mapping, IDAs were designated through a determination that the area had at least one of the following characteristics: a density of development equal to or greater than four dwelling units per acre; the presence of public sewer and water systems with a density of greater than three dwelling units per acre; or a concentration of industrial, institutional or commercial uses. In addition, these areas had

Local governments can also prohibit other uses that they believe would adversely affect habitat or water quality if located within the Critical Area.

to consist of at least 20 contiguous acres or the entire upland portion of a municipality within the Critical Area, whichever was less. Because IDAs are developed areas where there may be little or no natural habitat, the focus of the Critical Area regulations is on improving water quality through stormwater management, the use of permeable surfaces, and the preservation of existing natural forest vegetation.

The policies and standards established by the Criteria for new development or redevelopment in the IDA include:

- New development or redevelopment requires measures to reduce the amount of pollutants entering waterways and to minimize adverse impacts to water quality caused by stormwater.

- Development and redevelopment shall conserve and enhance fish, wildlife, and plant habitats and must comply with the provisions to protect designated Habitat Protection Areas as described in Chapter 4.

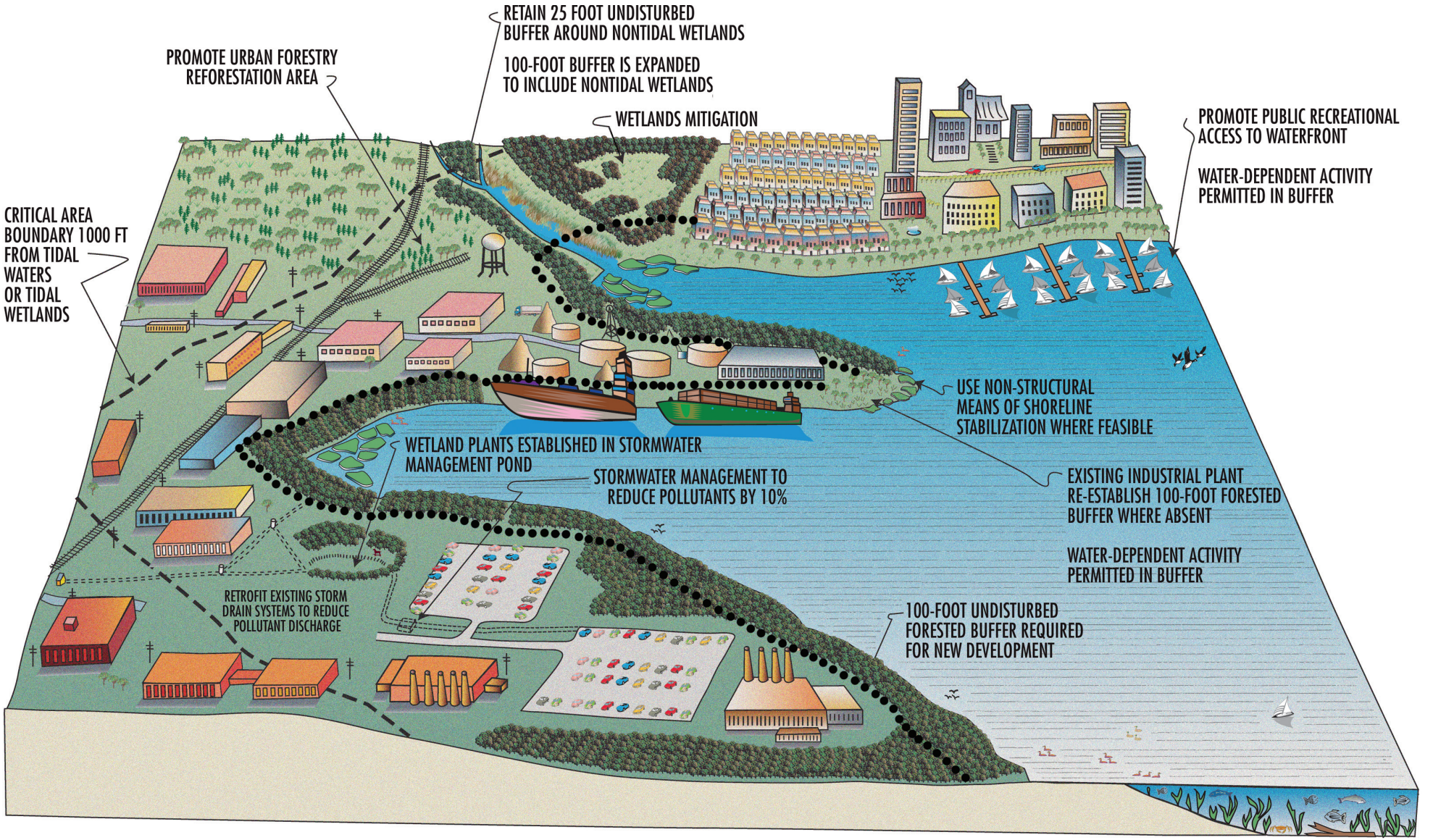
- A 10-percent reduction in stormwater pollutant loading is required for any development activity within an IDA. If this reduction cannot be achieved by providing stormwater treatment practices on site, then alternative measures that result in an improvement in water quality in the local jurisdiction, equal to the 10 percent requirement, must be provided. This requirement, often referred to as the "10% Rule," can be accomplished by reducing impervious surface areas on another project site, implementing urban forestry programs, creating vegetated buffers, and similar techniques.

- Areas of public access to the shoreline, such as footpaths, scenic drives, and other public recreational facilities, should be maintained and new ones encouraged where feasible.

- Permeable areas shall be established in vegetation, and whenever possible existing levels of pollution should be reduced.

- The clustering of future development is strongly recommended as a means to reduce impervious surface areas and maximize areas of natural vegetation.

Within Intensely Developed Areas (IDAs), areas of public access to the shoreline and urban forestry programs are encouraged.



INTENSELY DEVELOPED AREA (IDA)

RESIDENTIAL, COMMERCIAL, INDUSTRIAL AND INSTITUTIONAL USES DOMINATE

Natural vegetation in forests and developed woodland areas must be replaced if it is cut or cleared, so that the acreage of forest cover in the Critical Area is maintained or increased.

- The use of retrofitting measures to address existing stormwater management problems is encouraged.

- When the cutting or clearing of trees in forests or developed woodland areas is part of development activities, local governments shall ensure that development activities minimize the destruction of forest and woodland vegetation and shall establish programs that enhance forest and developed woodland resources such as street tree plantings, bayscaping, urban gardens, and so forth.

An illustration of an Intensely Developed Area (IDA) appears on page 31.

Limited Development Areas (LDAs)

Limited Development Areas (LDAs) are areas developed at low or moderate intensity. They also contain areas of natural plant and animal habitats, and the quality of runoff from these areas has not been substantially altered or impaired. At the time of original mapping, areas having at least one of the following features were classified as LDAs: housing density between one dwelling unit per five acres and four dwelling units per acre; areas not dominated by agriculture, wetland, forest, barren land, surface water or open space; and areas having public sewer or public water or both. Areas with IDA characteristics, but that were less than 20 adjacent acres, were classified as LDA.

The policies and standards established by the Criteria for new development or redevelopment in the LDA include:

- Additional low or moderate intensity development is permitted but should conform to the prevailing character, type, and intensity of land use currently established. Housing density and permitted land uses shall be those permitted by local zoning regulations.

- The quality of runoff and groundwater entering the Bays and their tributaries must be maintained or improved.

Limited Development Areas (LDAs) are developed areas that include residential and some light commercial uses, as well as natural areas, wetlands, forests, and developed woodlands.

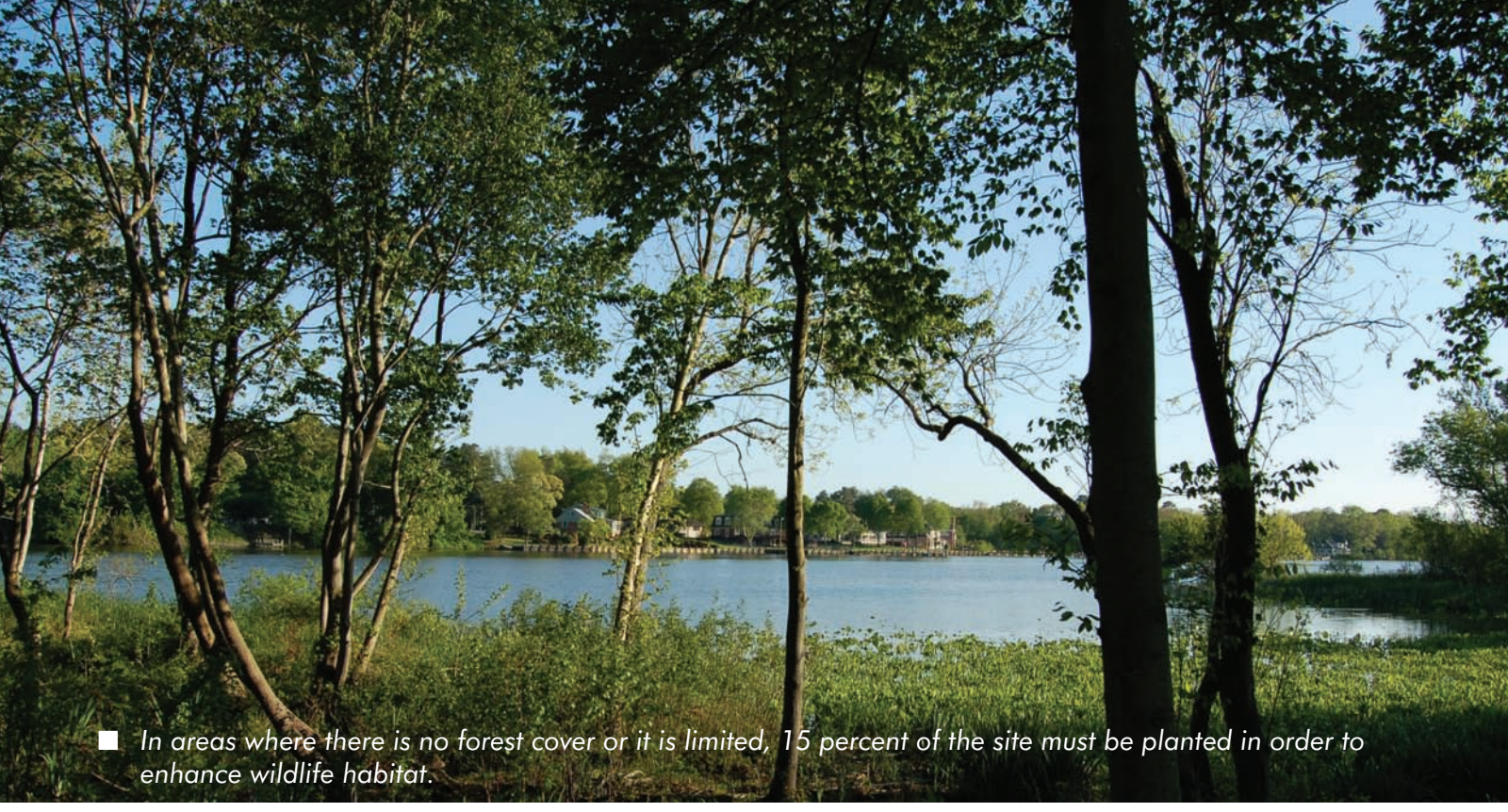
- Existing areas of natural habitat should be conserved.

- Wildlife corridors that connect undeveloped and vegetated tracts within and adjacent to the site must be incorporated into development plans to provide for continuity of wildlife and plant habitat.

- The total acreage of forest cover within the Critical Area shall be maintained or increased.

- Any clearing of forest cover for new development or redevelopment must be replaced so as to ensure that the total acreage in forest cover within a jurisdiction in the Critical Area is maintained and preferably increased. Up to 20 percent of forest acreage on a project site may be removed but must be replaced on an equal area basis. If between 20 percent and 30 percent of forest acreage is removed, reforestation must be provided at 1.5 times the total forest acreage cleared. If greater than 30 percent of forest acreage is removed, reforestation must provide forest coverage at three times the removed acreage.

The protection and conservation of natural habitat within LDAs is accomplished through restrictions and performance standards that regulate development.



■ *In areas where there is no forest cover or it is limited, 15 percent of the site must be planted in order to enhance wildlife habitat.*

- If reforestation cannot take place at prescribed rates, local jurisdictions are required to collect fees in lieu of reforestation; these "fees-in-lieu" are used to establish forest cover elsewhere in the local jurisdiction's Critical Area or in other locations beneficial to the Critical Area.

- In areas of new development or redevelopment where no or limited forest cover exists, 15 percent of the area must be planted with trees or developed woodland vegetation as part of a project approval.

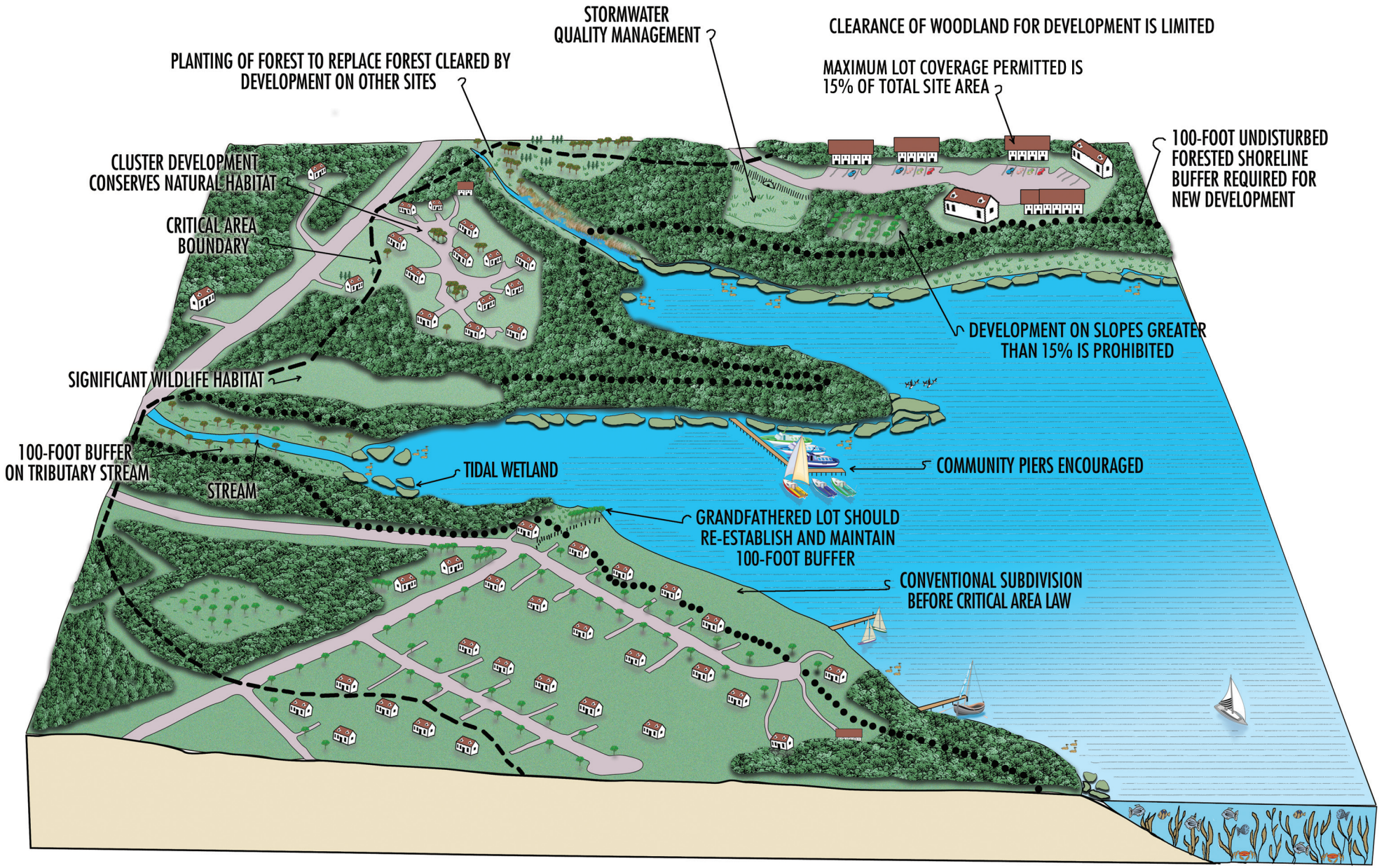
- No development is allowed on slopes greater than 15 percent unless that development is shown to be the only effective way to maintain or improve the stability of the slope.

- Roads, bridges, and utilities that must cross the 100-foot Buffer or other Habitat Protection Areas must be located, designed, constructed, and maintained so as to control erosion and minimize negative impacts to wildlife, aquatic life, and their habitats. Natural hydrologic processes and water quality must be maintained.

- Development activities that cross or affect streams must be designed to: reduce increases in the frequency and severity of flooding that may be caused by the project, retain tree canopy so as to maintain stream water temperature, provide a natural substrate for streambeds, and minimize adverse water quality and quantity impacts associated with stormwater runoff.

- Lot coverage is generally limited to 15 percent of the site and includes the area of all structures, accessory structures, parking areas, driveways, walkways, and roadways. Areas covered with gravel, stone, shell, impermeable decking, pavers, permeable pavement, or any man-made material are also part of lot coverage calculations. There are specific exceptions for walkways and stairways through the Buffer that provide access to a pier and for decks with gaps to allow water to pass freely.

- There are two exceptions to the 15 percent limit. First, for lots one acre or less within a subdivision recorded after December 1, 1985 (or June 1, 2002 in the Coastal Bays Critical



LIMITED DEVELOPMENT AREA (LDA)

LOW OR MODERATE INTENSITY DEVELOPMENT IS PERMITTED

LOT/PARCEL SIZE (SQUARE FEET)	LOT COVERAGE LIMIT
0 – 8,000	25% of Parcel + 500 SF
8,001 – 21, 780	31.25% of Parcel
21,781 – 36,300	5,445 SF
36,301 – 43,560	15% of Parcel

Area), there is no lot coverage limit for each individual lot; however, the total lot coverage for the entire subdivision, including roads and community facilities, may not exceed 15 percent. The second exception is for smaller, grandfathered lots where a local government may use the lot coverage limits shown in the table above as long as water quality impacts are minimized and appropriate mitigation is provided.

An illustration of a Limited Development Area (LDA) appears on page 35.

Resource Conservation Areas (RCAs)

Resource Conservation Areas (RCAs) are areas characterized by nature-dominated environments, such as wetlands, forests, and abandoned fields, and resource utilization activities, such as agriculture, forestry, fisheries, and aquaculture. At the time of original mapping, areas having at least one of the

■ *Within RCAs, agriculture, forestry, and similar resource utilization activities are considered protective land uses.*

following features were classified as RCAs: a density of one dwelling unit per five acres or less; or, a dominant use of agriculture, wetland, forest, barren land, surface water, or open space.

The policies and standards established by the Criteria for new development or redevelopment in RCAs include:

- The ecological values, biological productivity, and diversity of these areas shall be conserved, protected, and enhanced.

- Breeding, feeding, and wintering habitats for wildlife using the Bays, their tributaries, and other coastal habitats shall be protected.

- The land and water resource base that is necessary to maintain and support agriculture, forestry, fisheries, and aquaculture shall be conserved. Local governments are encouraged to develop incentive programs to promote the continuation of agriculture, forestry, and natural habitats in RCAs.

- Forest and woodland areas shall be conserved for the water quality benefits they provide.

- Agriculture and conservation easements shall be promoted.

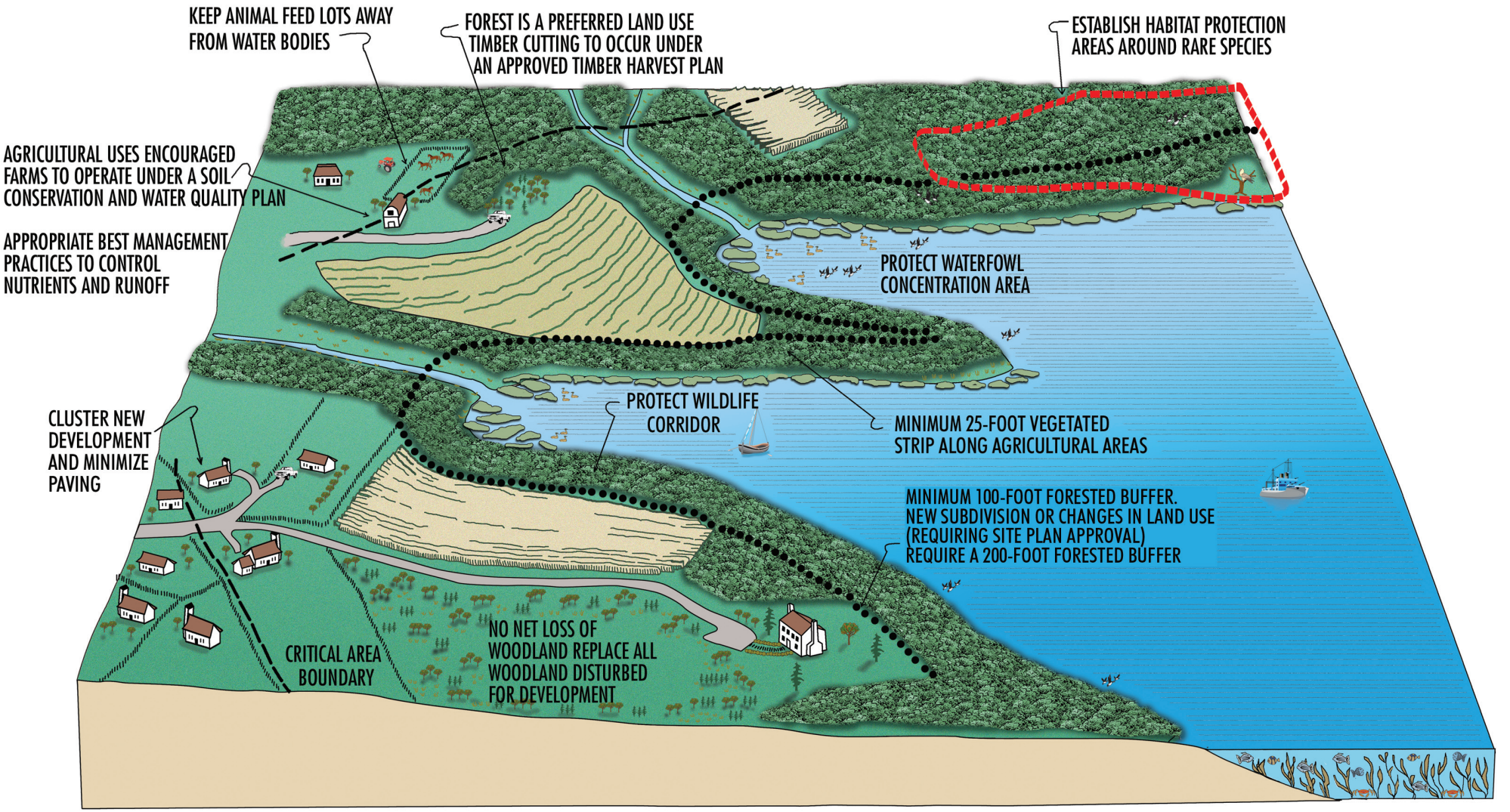
- Land within the RCA may be developed for residential uses at a density of one dwelling unit per 20 acres. Grandfathered properties as described in the following section that are less than 20 acres may be developed with a single dwelling in accordance with the local regulations for these properties.

Maintaining forests and developed woodlands in the Critical Area is integral to the restoration of the health of Maryland's Bays.

- New commercial, industrial, and institutional facilities are not allowed in RCAs. However, "growth allocation" as described in Chapter 5 may be used to change the Critical Area classification to LDA or IDA, which may allow for an intensification of use.

- Development and redevelopment activities within RCAs shall comply with the same standards and regulations for development as those for LDAs.

In 2008, in an effort to enhance the protection of sensitive shoreline areas within the RCA, the Critical Area Law was amended to increase the Buffer width for certain projects. This provision only applies to development projects within the RCA that involve subdividing an existing parcel or a change in land



RESOURCE CONSERVATION AREA (RCA)

NATURAL ENVIRONMENT PREDOMINATES

use requiring site plan approval. It does not apply to the development of existing lots of record or to the conversion of farmland to a homesite for a single family dwelling. On applicable projects, the width of the required forested Buffer adjacent to tidal waters and tidal wetlands is 200 feet. The minimum Buffer for tributary streams is 100 feet. With Commission approval, local governments may allow a Buffer that is less than 200 feet in order to accommodate otherwise permitted density and lots created through the intrafamily transfer provisions.

An illustration of a Resource Conservation Area (RCA) appears on page 38.

Forested stream Buffers provide area for infiltration, improve water quality, and enhance riparian habitat.

Resource Conservation Areas (RCAs) are nature- dominated areas and may include wetlands, surface water, and open space.

The Critical Area Criteria include provisions for grandfathering; however, intensification or expansion is not necessarily permitted.

Grandfathering

Most provisions of the Critical Area Law and Criteria became effective on December 1, 1985 in the Chesapeake Bay Critical Area and on June 1, 2002 in the Atlantic Coastal Bays Critical Area. As part of its Critical Area Program, each local jurisdiction adopted "grandfathering" provisions that allowed certain pre-existing uses to continue even though they were inconsistent with the new law. The grandfathering provisions also allow undeveloped, legally recorded, buildable lots to be developed with a single family dwelling, even if the development exceeds the density provisions in the Criteria.

It is important to understand that a "grandfathered" property is not exempt from the Critical Area regulations. Grandfathering provisions allow local governments to regulate existing development and new development on existing lots in a manner that provides necessary flexibility while still meeting the overall purpose and intent of the Critical Area Program. In some cases, proposed development on grandfathered lots cannot comply fully with the local government's Critical Area regulations. In those instances, an applicant can apply to a local government for a variance from the strict application of a specific provision of the Critical Area ordinance. A hearing examiner or board of appeals usually has responsibility for reviewing and approving variances as described in more detail in the section below on variances.

The Critical Area Criteria include the following conditions that address the grandfathering of existing uses and lots:

- Local governments shall permit the continuation of any use in existence on the date of local program approval unless the use has been abandoned for more than one year or is restricted by other local ordinances. Intensification or expansion of this use is not necessarily permitted; and if the expansion or intensification does not conform to the provisions of a local Program, a variance is required.

- A single-family dwelling may be constructed on any land on which development activity had progressed, by December 1, 1985 (or June 1, 2002 in the Atlantic Coastal Bays Critical Area), to the point of pouring a foundation or the installation of structural members.

- A single-family dwelling can be constructed on any parcel of land that was recorded as a legally buildable lot prior to December 1, 1985 (or June 1, 2002 in the Atlantic Coastal Bays Critical Area).

- In the Chesapeake Bay Critical Area, a single-family dwelling can be built on any land that

A local government may grant a variance if, without a variance, an applicant would be denied reasonable and significant use of the entire property.

was subdivided into recorded, legally buildable lots where the subdivision received the local jurisdiction's final approval between June 1, 1984 and December 1, 1985.

The grandfathering provisions allow properties that do not comply with the Law's density provisions to be developed. However, these properties still must comply with the development standards and resource protection measures that are included in the Criteria and incorporated into all local programs. If an applicant cannot fully comply with these standards and measures, then a variance for the specific development activity must be requested and approved by the local government.

Variances

In preparing their local Critical Area programs, local governments were required to make provisions for the granting of variances. A hearing examiner or board of appeals generally reviews requests for variances. An application for a variance must be sufficiently detailed in order to enable the reviewing authority to determine that the request meets all of the following variance standards:

- A literal enforcement of the Critical Area regulations would result in an unwarranted hardship to the applicant. Unwarranted hardship means that without a variance, an applicant would be denied reasonable and significant use of the entire parcel or lot for which the variance is requested.

- There are special conditions or circumstances that are unique to the land or structure and that denial of the variance would result in an unwarranted hardship.

- The literal enforcement of the Critical Area regulations will deprive the applicant of rights commonly enjoyed by other properties in similar areas within the Critical Area.

- Granting a variance will not confer on an applicant any special privilege that would be denied on other lands or structures affected by the Critical Area regulations.

- The variance request is not based on conditions or circumstances caused or created

by the applicant or related to any condition on a neighboring property.

- Granting the variance will not adversely affect water quality or adversely impact fish, wildlife, or plant habitat, and approval of the variance request will be in harmony with the general spirit and intent of the Critical Area Law and local regulations.

Local governments are required to send all applications for variances to the Critical Area Commission for review and comment. In general, prior to the date of the decision by the board of appeals, the board's designee (in the case of administrative variances), or hearing examiner, the Commission will review the variance request and provide comments to the local government on the application. The Critical Area Commission does not approve variances; however, in some instances, Commission staff may testify at a hearing regarding an application. If the variance request is approved, the board of appeals, board's designee, or hearing examiner will usually require mitigation in the form of plantings, stormwater quality treatment, or other water quality or habitat enhancement measures in order to offset adverse environmental impacts associated with the approval of the variance.

Intrafamily Transfers

When the Critical Area Law and Criteria were being developed, the General Assembly recognized the importance of the unique cultural and social geography of Maryland's tidewater regions. Important elements of this culture are the large number of families who have lived and worked in the region for many generations. Often, these families based their livelihood on the bountiful natural resources of the Chesapeake Bay. The framers of the Critical Area Law, recognizing the historical significance and importance of this cultural geography, made provisions to permit

In reviewing variance applications, the hearing examiner or board of appeals must ensure that the variance will not adversely affect water quality or habitat and may propose alternative locations for the proposed development activity.

If a variance request is approved, mitigation is generally required and may involve planting native species of trees and shrubs.

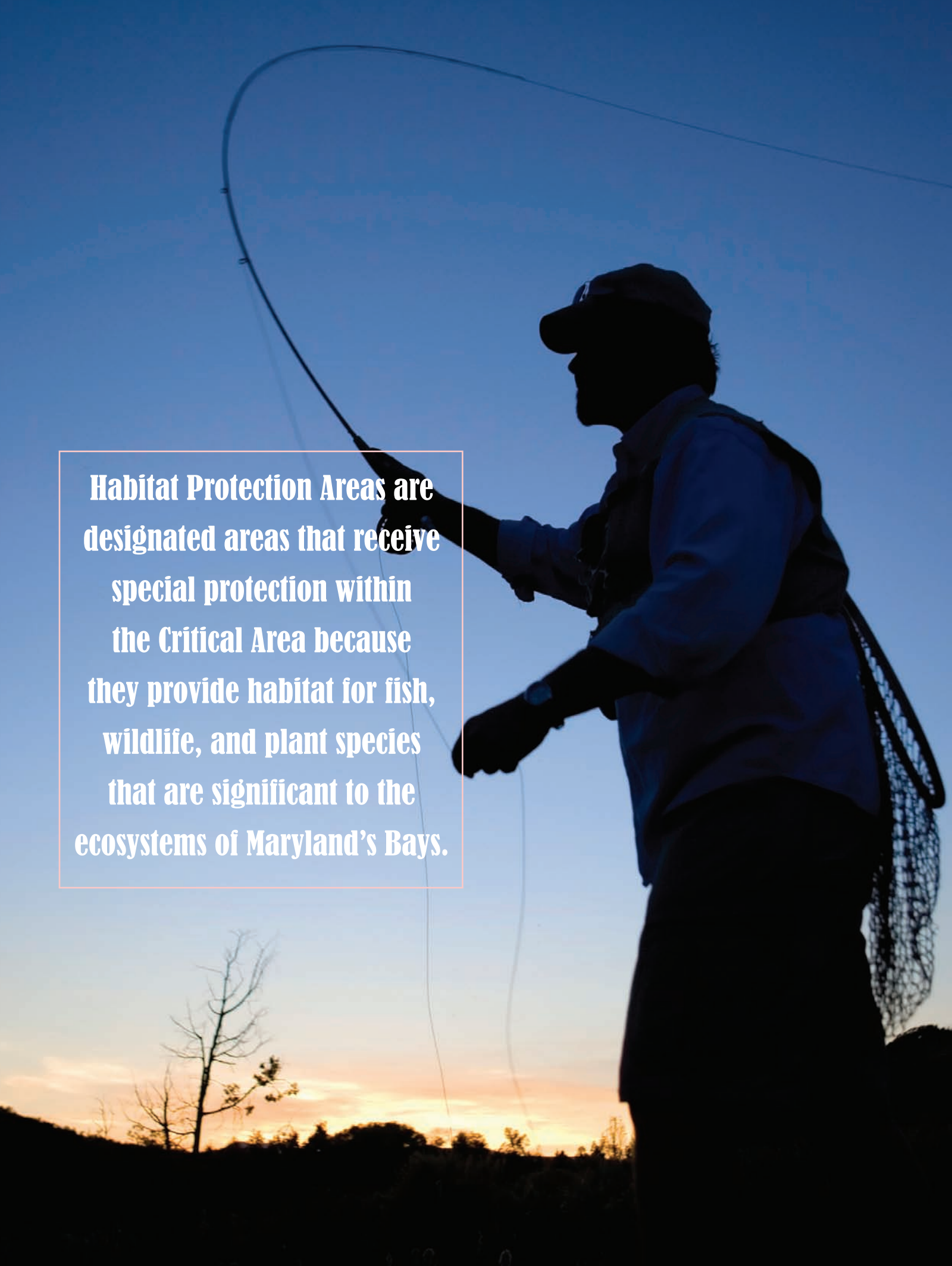
In accordance with the intrafamily transfer provisions of the Critical Area Law, a landowner within the Resource Conservation Area may create a building lot for a family member on parcels between seven and 60 acres in size.

the subdivision of certain lands within the Resource Conservation Area in order to allow a landowner to create lots for family members. Although jurisdictions are not required to incorporate intrafamily transfer provisions into their local Critical Area programs, most, but not all, have done so.

The Critical Area Law, as implemented locally, allows a landowner to subdivide land to provide a building lot for a mother, father, daughter, son, granddaughter, grandson, grandmother or grandfather. The original parcel of land must be recorded as of March 1, 1986 (or June 1, 2002 in the Atlantic Coastal Bays Critical Area), and the property must be at least seven acres and less than 60 acres in size. On qualifying parcels all of the following conditions apply:

- A parcel that is seven acres or more and less than 12 acres in size may be subdivided into two lots.
- A parcel that is 12 acres or more and less than 60 acres in size may be subdivided into three lots.
- The lots may be created at any time.
- No further subdivision of such parcels may be allowed.
- The subdivision must include appropriate plat notes, deed restrictions, and covenants that clearly state that the lot was created through the intrafamily transfer provisions.
- Once a transfer is made to a family member, a subsequent transfer cannot be made unless it is to a member of the owner's immediate family or the owner can demonstrate that a change of circumstances occurred. The local jurisdiction is required to review the change of circumstances and determine that it warrants an exception.

An applicant interested in this type of subdivision should contact the local planning office to ensure that this option is available and to find out about any additional local requirements.



Habitat Protection Areas are designated areas that receive special protection within the Critical Area because they provide habitat for fish, wildlife, and plant species that are significant to the ecosystems of Maryland's Bays.

CHAPTER 4: HABITAT PROTECTION

One of the three goals of all local Critical Area Programs is to conserve fish, wildlife, and plant habitat. "Habitat Protection Areas" are designated areas that receive special protection within the Critical Area because they provide habitat for fish, wildlife, and plant species that are significant to the ecosystems of Maryland's Bays. These special protection measures must be adequate to provide for the conservation and long-term preservation of various species and their habitats. Habitat Protection Areas can be found in areas designated RCA, LDA, and IDA. They are located in both counties and municipalities and may be found in the water, in wetlands, and in upland areas. Due to the unique nature of these species and the sensitivity of their habitats, forest clearing, stormwater runoff, grading, hydrologic changes, and human activity can adversely impact Habitat Protection Areas. The Critical Area Law requires that each local jurisdiction identify and provide for the protection and maintenance of Habitat Protection Areas. These areas include:

- The 100-foot Buffer.
- Nontidal wetlands.
- Habitats of threatened and endangered species and species in need of conservation.
- Significant plant and wildlife habitats.
- Anadromous fish spawning areas.

The 100-Foot Buffer and Its Functions

The State Critical Area Law and Criteria define the term "Buffer" as "an existing, naturally vegetated area or an area established in vegetation and managed to protect aquatic, wetlands, shoreline, and terrestrial environments from manmade

Many songbirds require large riparian forests, exceeding 50 acres, in order to breed, nest, and raise young successfully.

One of the three goals of all local Critical Area Programs is to conserve fish, wildlife, and plant habitat.

A variety of wildlife species use riparian forests.

disturbances." "Natural vegetation" means "those plant communities that develop in the absence of human activities." Generally, this is considered to be forest vegetation. Vegetated buffers can be an effective natural system that works to reduce sedimentation and erosion and filter stormwater runoff. In addition to providing water quality benefits, buffers are also a vital part of shoreline ecosystems and provide fish, wildlife, and plant habitat.

The Criteria and all local Critical Area programs require the establishment and maintenance of a minimum 100-foot Buffer adjacent to all tidal waters, tidal wetlands, and tributary streams. When the Criteria were developed, the Critical Area Commission determined that 100 feet would generally be adequate to fulfill the Critical Area goals of improvement and protection of water quality and enhancement and conservation of natural habitats. However, the Buffer is expanded beyond 100 feet in areas where there are adjacent sensitive resources such as steep slopes or highly erodible or hydric soils. In the case of steep slopes (slopes of 15 percent or greater), the Criteria require that the Buffer be expanded four feet for every one percent of slope or to the top of the slope, whichever is greater. In the case of erodible soils and hydric soils, expansion of the Buffer is somewhat discretionary and is dependent on whether disturbance or development in these areas will adversely affect streams, wetlands, or other aquatic environments. The Buffer is measured from mean high water, from the landward edge of tidal wetlands, and from the edge of tributary streams.

Although a Buffer width of 100 feet generally serves to promote the water quality improvement and habitat protection goals of the Critical Area Program, scientific studies show that wider buffers can optimize these functions. In 2008, the Buffer provisions were amended to require a minimum width of 200 feet on certain properties proposed for development activities involving subdivision or a change in land use (requiring site plan approval, other than the conversion of agricultural land to a homesite for a single family dwelling without subdividing). This requirement is only applicable to RCA lands that are to remain RCA, and it is intended to enhance the ecological values of RCA lands as part of the overall watersheds of Maryland's Bays.

Standing water, buttressed tree trunks, and watermarks usually indicate that an area is a nontidal wetland.

The Criteria require local jurisdictions to designate the Buffer as an undisturbed vegetated area between upland land uses and tidal waters, wetlands or tributary streams. This Buffer is required to remain in natural vegetation and is protected from development activities involving building structures, grading of the natural land surface, or removal of vegetation. Development activity in the Buffer is permitted only if it is: associated with a water-dependent structure or use, such as access to a pier; necessary for and associated with the installation of a shore erosion control measure; an activity for which a property owner has obtained a variance; or an activity such as pruning or the removal of invasive plants, when authorized under an approved Buffer Management Plan.

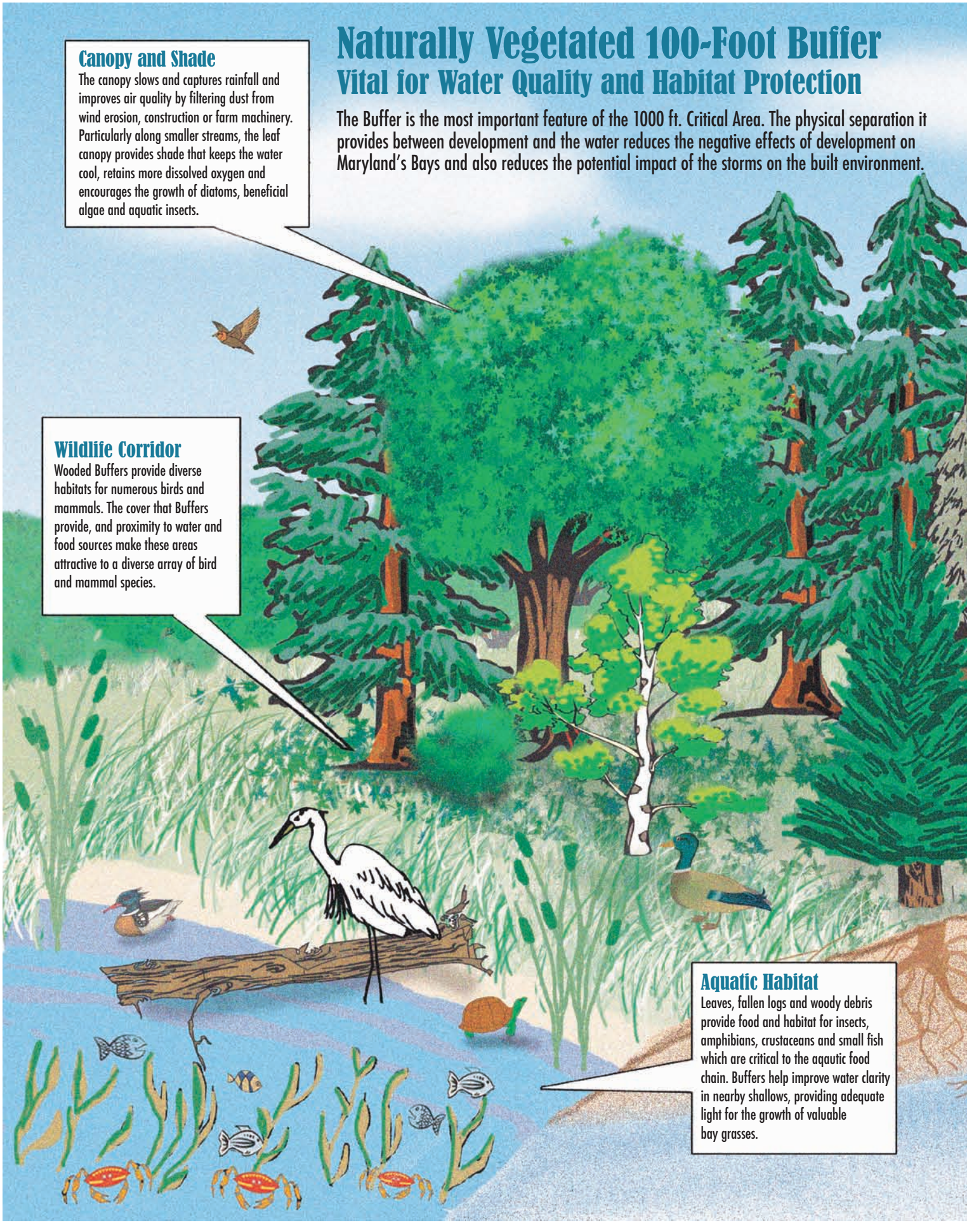
There are a number of significant environmental benefits identified by the provisions of Maryland's Critical Area Program requiring a permanently protected Buffer between upland land uses and tidal waters, tidal wetlands, and tributary streams. These benefits include:

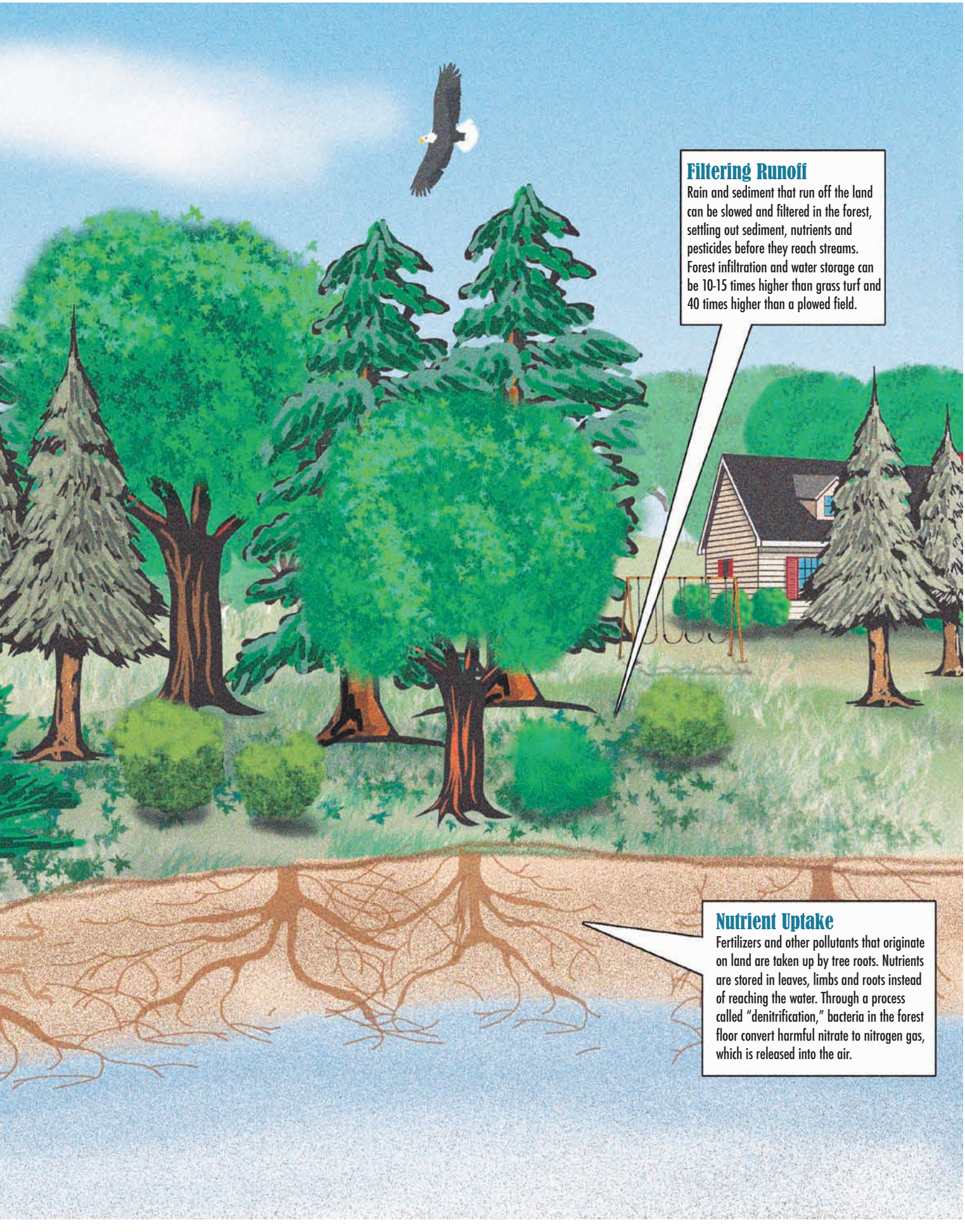
The Critical Area Criteria require that a forested Buffer be established or maintained adjacent to tidal waters, tidal wetlands, and tributary streams.

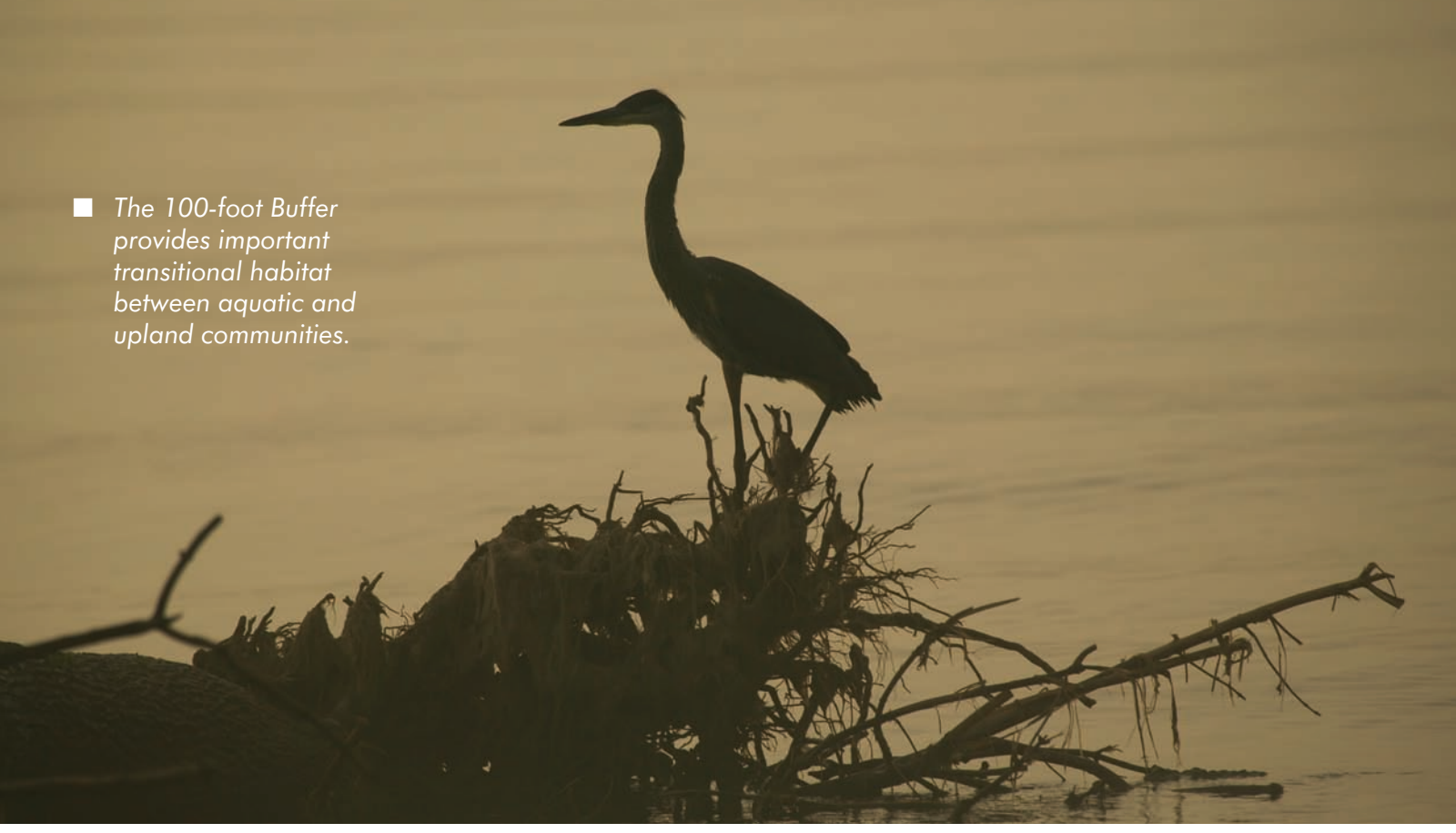
Naturally Vegetated 100-Foot Buffer

Vital for Water Quality and Habitat Protection

The Buffer is the most important feature of the 1000 ft. Critical Area. The physical separation it provides between development and the water reduces the negative effects of development on Maryland's Bays and also reduces the potential impact of the storms on the built environment.




Filtering Runoff
Rain and sediment that run off the land can be slowed and filtered in the forest, settling out sediment, nutrients and pesticides before they reach streams. Forest infiltration and water storage can be 10-15 times higher than grass turf and 40 times higher than a plowed field.
Nutrient Uptake
Fertilizers and other pollutants that originate on land are taken up by tree roots. Nutrients are stored in leaves, limbs and roots instead of reaching the water. Through a process called "denitrification," bacteria in the forest floor convert harmful nitrate to nitrogen gas, which is released into the air.



■ *The 100-foot Buffer provides important transitional habitat between aquatic and upland communities.*

- The removal or reduction of sediments, nutrients, and potentially harmful or toxic substances in runoff entering the Bays and their tributaries.

- Minimization of the adverse effects of human activities on wetlands, shorelines, stream banks, tidal waters and aquatic resources.

- Maintenance of an area of transitional habitat between aquatic and upland communities.

- Maintenance of the natural environment of streams.

- Protection of riparian wildlife habitat.

These Buffer functions can be grouped into three general categories: water quality management, riparian habitat protection, and management of human activities. In an undeveloped and naturally vegetated Buffer, these functions serve to protect the Bays' ecosystems from many of the adverse consequences associated with land use and development activities in the watershed. For this reason, the prohibition of development activities within the Buffer is considered an essential element of the Critical Area Program. However, there are some instances where disturbance to the Buffer can be permitted because it is either necessary for a certain type of activity or because the condition of the Buffer is such that it no longer performs its identified functions. Properly designed structures and facilities that require a location at or near the shoreline can be developed in such a way as to minimize their effects on the functions of the Buffer. In situations where the Buffer is not functioning because it is already intensely developed, permitting certain development and redevelopment activities can provide an opportunity for restoration. Implementing a vegetated setback from the water's edge, requiring mitigation plantings, and addressing water quality management can serve to replace and restore some of the Buffer functions.

WATER QUALITY MANAGEMENT

A considerable amount of the Chesapeake and Atlantic Coastal Bays' major pollutants (sediments, nutrients, and toxins) reach tidal waters through surface runoff from surrounding upland areas. The Buffer provides water quality protection against these

pollutants through natural physical, biological, and chemical processes. Vegetation within the Buffer traps and filters sediments, nutrients, and chemicals from surface runoff and shallow groundwater. The leaves and branches of mature trees within the Buffer slow the velocity of falling rain so water reaches the ground with less energy. The leaf litter of a forest floor slows runoff velocity and captures sediments and the compounds (such as pesticides, oil and other chemicals) attached to it. Roots keep the soil porous so water can be absorbed instead of rapidly running off. When runoff is infiltrated, excess nutrients or other potentially harmful substances found in stormwater can be bound to soils or biologically processed by plants and soil organisms. Roots can also hold soil in place, preventing sediments and any pollutants attached to sediment particles from entering adjacent waterways. Trees and shrubs with deep root systems absorb nutrients into their woody biomass for long-term storage. Similarly, microbes inhabiting the organic soils of the forest floor help convert nitrates in stormwater into nitrogen gas. The natural processes performed by vegetation within the Buffer from the deepest roots to the tops of the trees significantly reduce pollutant loadings to the Chesapeake and Coastal Bays.

RIPARIAN HABITAT PROTECTION

Contiguous with wetlands, tidal waters, and streams, an ecologically important transition zone functions to connect these aquatic environments to the adjacent land. This transition zone (in its natural state) has notable variation in hydrology, soils and topography. This range of physical features creates an environment for a diverse array of plant, fish, and animal species making riparian areas (both aquatic and upland) one of the most biologically diverse and ecologically important habitats within the Chesapeake and Coastal Bays watersheds. The creation and maintenance of a naturally vegetated Buffer protect and enhance this habitat area and maintain the diverse fish, wildlife, and plant communities along the shoreline.

Aquatic species, including economically important

The Critical Area Criteria require that a forested Buffer be established or maintained adjacent to tidal waters, tidal wetlands, and tributary streams.

The broad range of physical features of the watersheds of Maryland's Bays contributes to the biological diversity of the region.

Wetlands, open water, and wooded Buffers provide the different landscape features that promote biological diversity.

fish and crabs, benefit from Buffers in numerous ways. In addition to the water quality benefits previously described, Buffers provide coarse woody debris, leaves, and other vegetation used as food sources for the insects and invertebrates at the bottom of the aquatic food chain. Wooded Buffers also provide shade and moderate water temperatures for important fishery nursery areas. Long-term viability of the aquatic species of Maryland's Bays depends upon quality nursery habitat.

Buffers are also especially important to a wide variety of bird species. These include raptors such as Bald Eagles and Osprey and colonial waterbirds such as Great Blue Herons, who often establish groups of nests in mature trees within the Buffer. Numerous species of migratory birds depend on coastal riparian areas to rest and feed during their long migratory flights from Central and South America. A range of mammal, amphibian and reptile species also use these near shore areas, though the number and variety of species are highly dependent on the amount and type of vegetation within the Buffer. The more natural the state of the Buffer, the greater the number and variety of species that will use it. A manicured lawn that leads down to a bulkheaded shoreline provides none of the important habitat benefits found in a naturally vegetated Buffer.

A range of mammal, amphibian and reptile species also use these near shore areas, though the number and variety of species are highly dependent on the amount and type of vegetation within the Buffer.

MANAGEMENT OF HUMAN ACTIVITIES

In passing the Critical Area Law and implementing local Critical Area Programs, the General Assembly and local government officials recognized that human activities within Maryland's Chesapeake and Coastal Bays' watersheds contributed to the documented decline of these resources. They recognized that development activities in shoreline areas can have a particularly immediate and adverse impact on water quality and natural habitats. They also acknowledged that the cumulative impacts of development within the Buffer are contrary to the restoration of the Bays' resources.

The Buffer, when viewed from the land toward the water, is the last 100 feet of the Critical Area and thus represents the last opportunity to minimize the adverse effects of human activities on the Chesapeake and Coastal Bays. The Buffer's physical separation between development and the water or wetlands provides the last chance for infiltration of runoff or settling out of sediments. It also provides a physical separation between the built environment and the natural one. This physical buffering effect minimizes disruption to the habitat and behavior of many important species. The Buffer softens the impact of development within the watershed. The physical barrier alone, especially when forested, makes a huge difference in how many species inhabit an area. While human activities and associated development within the watersheds will continue, providing and maintaining a naturally vegetated Buffer is one of the simplest yet most significant ways to minimize their cumulative effects on the Chesapeake and Coastal Bays.

PERMITTED ACTIVITIES IN THE BUFFER

There are a limited number of circumstances where the Critical Area Program allows some disturbance within the Buffer. The most common are water-dependent structures or activities. These structures and activities, such as a boat ramp or a stormwater outfall, must be located within the Buffer because of their function. Access paths to the water (perpendicular to the shoreline or the shortest distance possible) are also allowed, although any associated clearing must be the minimum necessary. Similarly, some removal of

■ *The Buffer is the last 100 feet of the Critical Area and represents the last opportunity to minimize the adverse effects of human activities on tidal waters, tidal wetlands, and tributary streams.*

■ *Grass lawns adjacent to a revetted shoreline do not provide the same habitat benefits as forested Buffers, and, as a result, the numbers of many species have declined in the last 20 years.*

natural vegetation may be permitted if, for example, a tree is in danger of falling and would potentially cause harm to existing structures or exacerbate erosion.

Generally, all vegetation removed within the Buffer must be replaced at a minimum one-to-one ratio under a Buffer Management Plan that is approved by the local jurisdiction. The installation of shore erosion control measures frequently involves disturbance and, in some instances, significant alteration to the Buffer. These activities can be permitted in the Buffer when they are necessary to control erosion. Shore erosion control measures are encouraged where necessary to protect rapidly eroding portions of the shoreline – that is, those that erode two feet or more per year.

■ *A wide variety of terrestrial and aquatic species depend on fully functioning vegetated Buffers for food and cover.*

Nonstructural measures, which typically involve the use of natural vegetation and sills or groins, are to be used in areas where they would be practical and effective. Additional information about shore erosion control can be found in Chapter 7.

Some resource utilization activities, such as farming or timber harvesting, are also allowed within the Buffer, provided that appropriate approvals and plans are in place to protect adjacent waterways and other natural resources. This additional flexibility is permitted for these uses because of the environmental stewardship

■ *In order to ensure that the Buffer is maintained in natural vegetation, a Buffer Management Plan is generally required before starting any alteration to the Buffer, such as installing an erosion control measure or a pier.*

■ *Many plant and animal species are uniquely adapted to live in the wet or saturated environments of nontidal wetlands.*

that necessarily accompanies these types of resource utilization activities. If agricultural use of the Buffer ceases and the land is developed, the 100-foot Buffer must be established in natural forest vegetation.

BUFFER EXEMPTION AREAS

Some areas around the Chesapeake and Coastal Bays are characterized by intense shoreline development that existed before the Critical Area Law was passed. Examples include Baltimore Harbor, the city dock area of Annapolis, most of Ocean City, the community of Ocean Pines, and many municipal waterfront areas. The original drafters of the Critical Area regulations recognized these existing land uses, as well as shoreline areas that had been previously divided into very small lots, by allowing for the designation of Buffer Exemption or Buffer Management Areas by the local jurisdictions. The designation of these areas is considered a map amendment to a local Critical Area program and must be approved by the Critical Area Commission following local approval. The term "exemption" is somewhat misleading in that the affected properties are not "exempt" from the Buffer provisions, but rather alternative regulations apply in these areas. Because Buffer disturbance in many of these areas is unavoidable in order for any development to occur, Buffer Exemption Area provisions allow for reasonable development and redevelopment, while ensuring that necessary water quality and habitat enhancements are provided.

In these areas, development activities are permitted within the Buffer without a variance from the regulations. The setback from the water for development may be modified from 100 feet to the zoning setback instead. However, mitigation, usually at a two-to-one ratio, and planting of the setback area are required to compensate for any adverse impact that may be created. Mitigation may take the form of additional tree and shrub planting within the Buffer; the removal of an existing structure, paving, roadway, or walkway in the Buffer; or the installation of water quality treatment measures.

- *Painted Turtles can be found in shallow freshwater ponds and wetland areas where they feed on aquatic plants, insects, and other organisms found in these areas.*

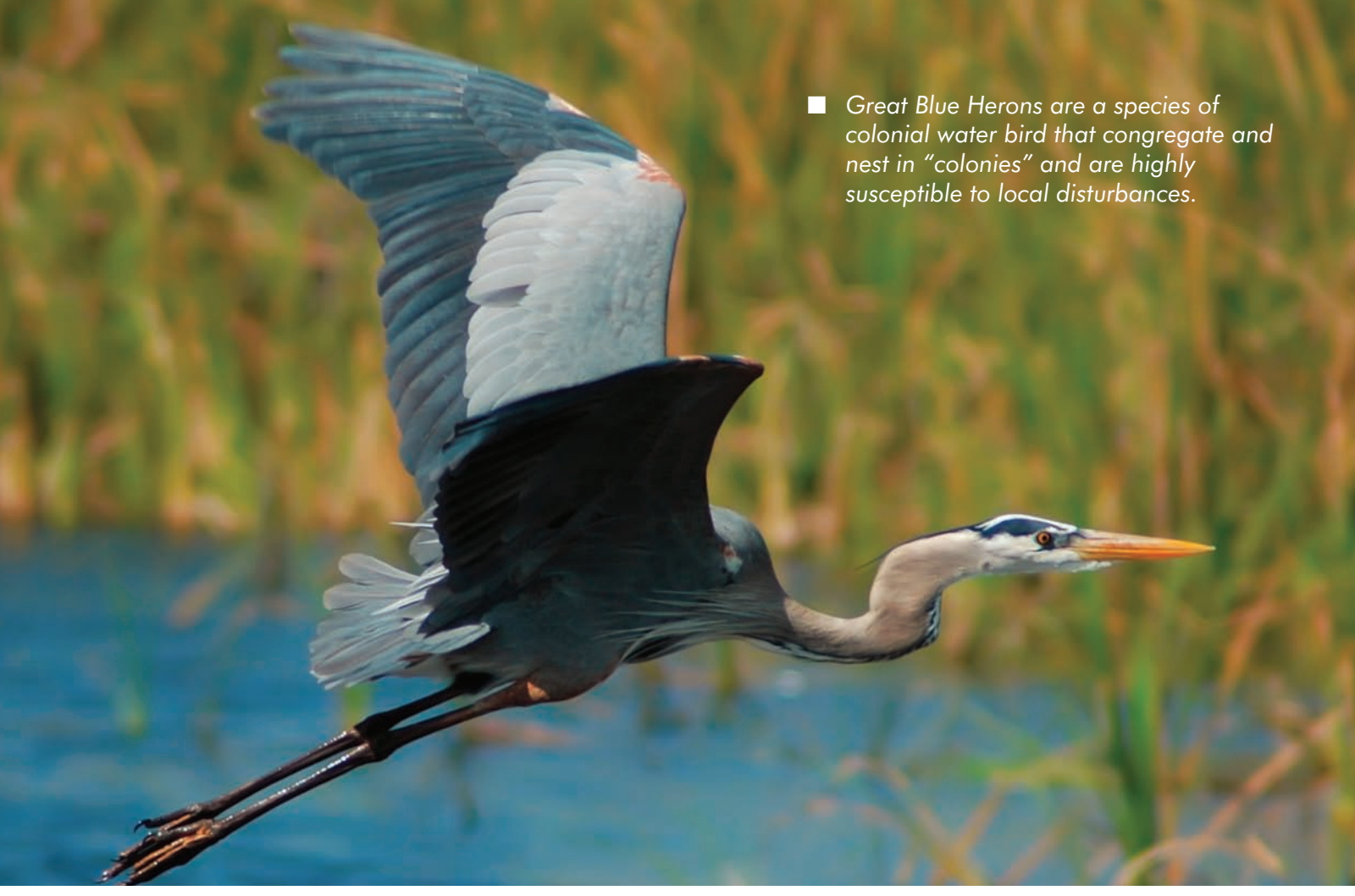
- *Disturbance to nontidal wetlands and the 25-foot nontidal wetland buffer requires authorization from the Maryland Department of the Environment.*

Nontidal Wetlands

Nontidal wetlands are unique areas that are covered with, or saturated by, water for all or part of the year. These areas are identified by hydric or poorly drained soils, plant species that are uniquely adapted to living in wet or saturated environments, and evidence of hydrologic patterns and processes that indicate the area is frequently wet or flooded. Examples of wetlands are marshes, swamps, bogs, and streams that are not influenced by tidal waters. Nontidal wetlands are valuable areas for fish and wildlife habitat, are vital to the maintenance of water quality, and provide flood control benefits. Protection of these areas is important to the maintenance of the biodiversity and resilience of the ecosystems of Maryland's Bays.

In the original Critical Area Criteria, nontidal wetlands were identified as Habitat Protection Areas and specific protection measures for nontidal wetlands were included. Since that time, the responsibility for regulating the protection and conservation of nontidal wetlands has been transferred to the Maryland Department of the Environment (MDE) and is addressed in the Environment Article of the Annotated Code of Maryland. The nontidal wetland regulations require a 25-foot protective buffer around all wetlands and some wetlands that have been identified as Wetlands of Special State Concern must be protected by a 100-foot buffer. Any activity that will disturb, fill, or alter a nontidal wetland or the required buffer requires authorization from MDE.

In addition to any permit issued by MDE, many jurisdictions strictly regulate nontidal wetlands as Habitat Protection Areas and require that applicants for development activities obtain a Critical Area variance if nontidal wetlands or the nontidal wetland buffer will be disturbed or altered by development activity. These jurisdictions generally prohibit the filling, alteration, or development of nontidal wetlands. If an applicant obtains a variance, then substantial mitigation measures are required to replace the affected wetlands and provide for water



Great Blue Herons are a species of colonial water bird that congregate and nest in "colonies" and are highly susceptible to local disturbances.

quality benefits and habitat protection equal to or greater than that provided by the original wetlands.

Habitats of Threatened and Endangered Species and Species in Need of Conservation

Local jurisdictions within the Critical Area are required to protect and conserve all federal and State listed threatened and endangered species and their habitats. In addition, the Critical Area Program requires the protection of "species in need of conservation," which are those fish and wildlife whose continued existence as part of the State's resources is in question. These species are officially designated in accordance with the Natural Resources Article of the Annotated Code of Maryland.

For some species, such as Bald Eagles, specific protection measures have been developed to provide for buffer zones around nest sites. Within

The Critical Area Commission works closely with the Department of Natural Resources and local governments to ensure that Bald Eagle nest sites are protected by buffer zones that prohibit and limit certain activities.

The Delmarva Fox Squirrel is an endangered species found in many counties on the Eastern Shore, and protection and conservation plans for this species are usually developed on a site-by-site basis. (Photo courtesy of USFWS)

Many threatened and endangered species have specific habitat requirements like the Northeastern Beach Tiger Beetle, which is found on sandy beaches backed by eroding cliffs. (Photo courtesy of USFWS)

these buffer zones, land disturbance activities may be prohibited or limited to certain times of the year. For other species, such as the Delmarva Fox Squirrel and the Puritan Tiger Beetle, local governments must coordinate closely with the U.S. Fish and Wildlife Service and the Department of Natural Resources (DNR) to develop an appropriate protection and conservation plan that is specific to the particular site and species.

Many plant species are also identified as endangered or threatened in the State of Maryland. Because plants are not mobile, the continued presence of these species is often dependent on specific soil conditions and hydrologic regimes that can be affected by a variety of land use and development activities. Identifying these plant species is often difficult and in some cases can only be accomplished during certain months of the year when the specific species is flowering. DNR's staff can provide assistance to landowners regarding the identification and protection on these species.

The limited distribution of the habitats of threatened and endangered species and species in need of conservation makes protection and preservation of these areas a significant component of efforts to restore and protect the Chesapeake Bay and Atlantic Coastal Bays. Many of these species are highly

susceptible to local land disturbances. The Critical Area Program allows for a variety of measures and approaches for the protection of these species, including designation of protective buffer zones around essential habitat, establishment of conservation easements, and land acquisition. Threatened and endangered species provisions vary among local Critical Area programs; however, in all cases, coordination with the DNR is required.

Significant Plant and Wildlife Habitat

The Critical Area Program requires that local governments provide for the conservation of certain plant and wildlife habitats that are important from a State-wide or local perspective because of their unique characteristics or their significance to the ecosystems of Maryland's Bays. These habitats can be found in areas designated RCA, LDA, or IDA, and they include upland areas, wetlands, rivers, creeks, and streams. Working with the DNR, local governments have identified the following habitats for protection within the Critical Area:

- Colonial water bird (e.g., heron, egret, and tern) nesting areas.

Significant plant and wildlife habitats can be found in areas designated RCA, LDA, or IDA.

Threatened and endangered plant species often depend on specific soil and water conditions and are highly vulnerable to eradication as a result of changes in land use and development activities.

- Historic waterfowl staging and concentration areas.

- Riparian forests, identified as forested areas of 300 feet in width along streams, tidal waters, and wetlands.

- Forest Interior Dwelling Species (FIDS) habitat, identified as relatively undisturbed, large forest tracts (50 acres or more) which support breeding populations of forest interior dwelling birds (e.g., vireos, warblers, flycatchers, and woodpeckers).

- Natural Heritage Areas, officially designated sites consisting of communities of plants and animals that are considered to be among the best State-wide examples of their kind.

- Areas of local significance, as identified by each jurisdiction.

Forest Interior Dwelling Species (FIDS) habitat consists of large forested tracts, which are not fragmented by roads, homesites, or open fields.

Natural Heritage Areas are officially designated areas that are protected from alteration due to development activities or cutting or clearing, so that the structure and species composition of the areas are maintained.

The DNR has identified and mapped these areas, and, in most cases, these maps are available at the DNR main office in Annapolis and at each local planning office. Applicants for new development projects on undeveloped sites are required to submit the proposal to the DNR for review and comment as part of the local development review process. This ensures that when new habitats are discovered, they are appropriately protected from the adverse impacts of human activities. In order to ensure that these areas are properly identified and protected, local governments generally use one or all of the following approaches:

...when new habitats are discovered, they are appropriately protected...

- Designation of protection areas around a habitat where disturbance (such as new development or

Local governments can use a variety of approaches to ensure that Habitat Protection Areas are conserved and remain viable for the species that depend on them.

the cutting of trees) is prohibited, unless it can be shown that the disturbance would not cause adverse impacts on the habitats or species being protected. In some cases, these activities may be limited only during certain times of the year because they disrupt nesting or the rearing of young.

- Development of a Habitat Protection Area Plan for a specific site as part of the development approval process, where disturbance may be restricted to certain areas of the site and specific conservation or protection measures may also be required. In some cases, if adverse impacts are anticipated, mitigation measures either on the site or elsewhere are required.

- Implementation of broad-scale protection programs, including the acquisition of land, conservation easements, cooperative agreements with landowners, or other similar measures.

As development pressure in the watersheds of Maryland's Bays continues to increase, broad scale protection programs such as land acquisition and conservation easements will be necessary to adequately protect significant habitats within the Critical Area.

■ *Anadromous fish, such as Yellow Perch, are species that travel from their primary ocean habitat to spawn or breed in freshwater areas.*

Anadromous Fish Spawning Areas

Anadromous fish spawning waters are those tributary streams where species spawn, such as rockfish, yellow perch, white perch, shad, and river herring, or where such spawning has occurred in the past. These fish travel from their primary ocean habitat to spawn or breed in freshwater areas. Anadromous fish are valuable recreational and commercial species and also are an important component in the Chesapeake and Atlantic Coastal Bays ecosystems. The Criteria require that local governments implement the following standards:

- Prohibit the installation or introduction of concrete rip-rap or other artificial surfaces onto the bottom of natural streams, unless it can be demonstrated that water quality and fisheries habitat can be improved.

- Prohibit the channelization or other physical alteration of streams that may change the course or circulation of a stream and interfere with the movement of fish.

- Minimize development activities or other land disturbances in the watershed.

■ *The channelization or physical alteration of anadromous fish spawning waters is prohibited in the Critical Area.*

Maintaining the economic benefits provided by recreational fishing in Maryland depends on protecting water quality in all Maryland waterways.

- Maintain or improve the water quality in streams.
- Minimize, to the extent possible, the discharge of sediments into streams.
- Maintain or increase the natural vegetation in the watershed.

In addition, local governments are required to address and implement other State laws and regulations. These provisions prohibit the construction or placement of dams or other structures that interfere with the movement of spawning fish or larval forms; they also prohibit construction, repair, and maintenance activities associated with roads, bridges, and utilities between March 1 and May 15.

The protection of anadromous fish spawning waters is accomplished by minimizing development activities and other land disturbances within the watershed.

Through rigorous and thoughtful application of the growth allocation provisions, this element of the Critical Area Program can foster more sensitive development activity that minimizes impacts to water quality and conserves natural habitats.

CHAPTER 5: GROWTH ALLOCATION

Throughout the early stages of development of Maryland's Critical Area Program, the drafters of the legislation recognized that future growth in Maryland was inevitable. Likewise, it was clear that growth and development are essential elements in maintaining a vibrant, healthy, and diverse economy. In order to provide for this necessary and anticipated growth and to manage the amount and location of this growth within the Critical Area properly, a regulatory tool called "growth allocation" was incorporated into the Law.

Growth allocation involves the reclassification of a certain area and acreage of land from one Critical Area designation to another, more intense classification. Growth allocation allows for the expansion of Intensely Developed Areas (IDAs) and Limited Development Areas (LDAs). Growth allocation can be used to change Resource Conservation Area (RCA) land to LDA or IDA and to change LDA land to IDA. Each county has a finite amount of growth allocation acreage that can be used, and this acreage was determined at the time of original Critical Area mapping by calculating 5 percent of the RCA acreage (excluding federally-owned lands and State tidal wetlands). There are no provisions in the Law or Criteria addressing increases in or adjustments to a jurisdiction's growth allocation acreage. There is language in the Criteria that directs counties to coordinate with municipalities to establish processes to accommodate the growth needs of the incorporated towns.

Accommodating Future Growth

Local governments carefully consider the use of growth allocation on a project-by-project basis. Like a rezoning, each use of growth allocation involves a local review and approval process that usually involves one or more public hearings. As part of this review, the Critical Area Law requires each

■ *Local governments must review projects involving the use of growth allocation and often consider the economic merits and public benefits that may be associated with the project.*

...growth and development are essential elements in maintaining a vibrant, healthy, and diverse economy.

jurisdiction to consider specific provisions regarding where in the jurisdiction the growth allocation will be located and how it will be configured. The intent of these provisions is to facilitate growth in a way that accommodates the needs of the human population, but fosters environmentally sensitive development.

Because growth allocation is a finite commodity, many local governments have also developed specific regulations to guide local decision-makers and ensure that growth allocation is used for the type of development desired by the jurisdiction. These provisions address the type of land use, intensity, aesthetic appearance, economic merits, resource protection measures, and public benefits of a growth allocation proposal. Different jurisdictions have adopted varying mechanisms of appraising the merits of applications for growth allocation, including design competitions, point systems, and annual quotas.

Growth Allocation Review Process

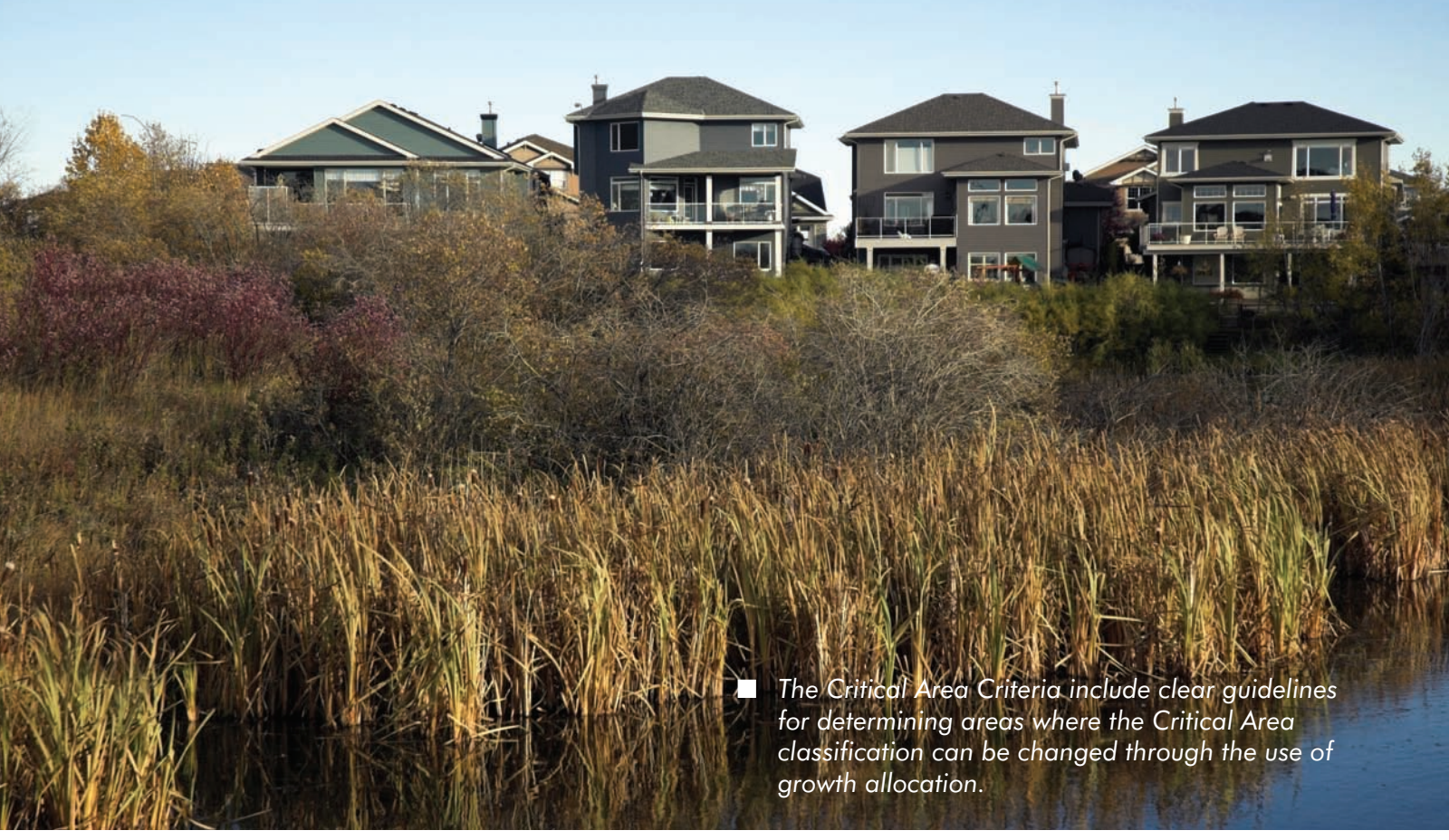
When considering an application for the use of growth allocation, local jurisdictions must use the following standards and must demonstrate to the Critical Area Commission that these standards have been applied in the decision-making process:

- Locate a new IDA within an existing LDA or adjacent to an existing IDA.
- Locate a new LDA adjacent to an existing LDA or IDA.
- Locate a new LDA or IDA in a manner that minimizes impacts to Habitat Protection Areas and optimizes benefits to water quality.
- Locate a new LDA or IDA in an RCA at least 300-feet beyond the landward edge of tidal wetlands or tidal waters or propose alternative measures for enhancement of water quality and habitat that provide greater benefits to these resources.
- Locate a new LDA or IDA where it will minimize impacts to the defined land uses of the RCA, such as agriculture, forestry, and fisheries.

In some instances, local governments can propose alternative standards; however, these alternative standards must be reviewed and approved as part of the local program.

Local governments and the Commission are also required to evaluate and consider the long-term and regional ecological and environmental impacts of changing and intensifying land use within the Critical Area on a broader scale. As part of its review of growth allocation applications, the Law requires the Commission to consider the following factors for all growth allocation requests: consistency with a jurisdiction's comprehensive plan; the use of existing infrastructure; consistency with protection policies for threatened and endangered species, both on- and off-site; impacts on designated protected agricultural lands; environmental impacts associated with wastewater and stormwater; and the effects of the project relative to a location in a coastal hazard area or an area prone to flooding.

Jurisdictions are required to apply certain standards when reviewing growth allocation projects.



The Critical Area Criteria include clear guidelines for determining areas where the Critical Area classification can be changed through the use of growth allocation.

For growth allocation requests involving a new IDA, the Commission must consider: if the project is to be served by a public wastewater system; if the density of the project is at least 3.5 units per acre; whether the project is located in a priority funding area; and whether the project will have a demonstrable economic benefit to the area.

For growth allocation requests involving a new LDA, the Commission must consider if the project: is to be served by a public wastewater system or a septic system that uses best available nitrogen removal technology; involves the completion of an existing subdivision; involves expansion of an existing business; or will be "clustered," thus leaving portions of the project site in a natural state.

Jurisdictions are also subject to limitations on the amount of growth allocation that can be used to change RCA lands to a more intense classification and on the amount of growth allocation that can be located in areas where the site is not adjacent to LDAs or IDAs. Growth allocation projects must also comply with all of the purposes, policies, and goals of the Critical Area Law and Criteria. Through rigorous and thoughtful application of the growth allocation provisions, this element of the Critical Area Program can foster more sensitive development activity that minimizes impacts to water quality and conserves natural habitats.

Commission Consideration

Following the local review and approval process, the Critical Area Commission must also review and approve all growth allocation proposals as a map amendment to a local government's Critical Area program. The Commission's review process may involve a public hearing on the proposal in order to facilitate a complete and thorough understanding of the project and its effect on the jurisdiction's Critical Area program. The Commission also reviews the proposal relative to the standards and factors set forth in the previous section and evaluates the local government's application of these standards and factors. The Commission's role is to ensure that the local government's use of growth allocation properly comports to the purposes, policies, and goals of the Critical Area Law and Criteria and that growth allocation map amendments are accomplished in a consistent and uniform manner throughout the State.

Maryland's Critical Area Program encourages public access to the water, and the State and local governments work closely together to locate, design, and construct these facilities in an environmentally sensitive manner.

CHAPTER 6: WATER-DEPENDENT FACILITIES

Description

Water-dependent facilities are those structures and works associated with industrial, maritime, recreational, educational, or fisheries activities that must be located at or near the shoreline within the 100-foot Buffer. An activity is water-dependent if it is dependent on the water as part of the intrinsic nature of its operation. Examples of water-dependent facilities include ports, marinas, community piers, public beaches and recreational areas, and fisheries. Restaurants, restrooms, and concession stands are not water-dependent. (Note that private individual piers, while water-dependent, are not regulated under the water-dependent facilities provisions of Maryland's Critical Area Program.) Water-dependent facilities may be located within the Buffer as long as the local Critical Area program includes the following requirements for these facilities:

- The facility must be water-dependent.
- The facility must meet a recognized private right or public need.
- Adverse effects on water quality and fish, plant, and wildlife habitat are minimized.
- Nonwater-dependent structures associated with water-dependent projects are located outside the Buffer.
- The facility meets specific requirements in the local Critical Area program that are used to identify and plan areas that are suitable for water-dependent activities.

■ *New and expanded water-dependent facilities must be sited and designed to avoid adverse effects on water quality and important commercial fish and shellfish species, such as oysters.*

An activity is water-dependent if it is dependent on the water as part of the intrinsic nature of its operation.

■ *Proposals to develop or expand water-dependent facilities require the evaluation of many factors, including water circulation patterns, flushing, salinity regimes, and aquatic resources.*

General Requirements for Water-Dependent Facilities

Local governments are required to work closely with the appropriate State agencies to ensure that new or expanded water-dependent facilities are located, designed, constructed, and operated in a way that does not create adverse impacts to the Bays' water quality and ecosystems. Many jurisdictions have addressed the siting of new water-dependent facilities in their comprehensive plans and have mapped appropriate areas for this type of development. Other local governments review applications on a project-by-project basis; however, the expansion of existing facilities is generally preferred over the development of new facilities.

In evaluating proposals to develop or expand water-dependent facilities, the Critical Area Program requires that a variety of factors be evaluated. Existing water circulation patterns, salinity regimes, and flushing characteristics of the water body must be analyzed. Potential impacts of the proposed water-dependent

■ *The expansion of existing marinas is generally preferred over the development of new facilities.*

In general, new marinas and other commercial maritime facilities must be located in LDAs or IDAs.

activities on wetlands, submerged aquatic vegetation (SAV), shellfish beds, and other aquatic habitats must be identified and assessed. Potential water quality impacts associated with water-dependent activities, such as stormwater runoff, sewage discharge from land activities or boats, and pollution from boat cleaning and maintenance operations, must be considered and rigorously managed.

In many cases, the construction or expansion of water-dependent facilities will involve dredging to increase water depths to improve accessibility for a wider variety of vessels. When dredging is proposed, it must be conducted in a manner that causes the least disturbance to water quality and aquatic and terrestrial habitats. Dredged material, even if it is determined to be free of any pollutants or contaminants, cannot be placed in the Buffer unless it is part of a shore erosion control measure, is part of a beach nourishment project, or will be placed on a previously approved channel maintenance disposal area. By carefully considering and evaluating all impacts associated with water-dependent facilities, regulatory agencies and local officials can ensure that these facilities are sited in areas where they are necessary, where water quality impacts can be minimized and managed, and where adverse impacts to aquatic and terrestrial habitats can be avoided.

Specific Requirements for Certain Facilities

In addition to the general criteria outlined above for permitting water-dependent facilities in the Buffer, specific categories of water-dependent facilities may have additional considerations. In general, water-dependent facilities can be located in Resource Conservation Areas (RCAs), Limited Development Areas (LDAs), and Intensely Developed Areas (IDAs). However, some types of uses, because of the nature

and intensity of the use, may have locational restrictions or additional water quality considerations. These requirements are summarized as set forth below.

INDUSTRIAL AND PORT FACILITIES

Industrial and port facilities, such as container-ship loading docks and power plant cooling facilities, may only be located in IDAs that are designated as Buffer Exemption Areas.

MARINAS AND OTHER COMMERCIAL MARITIME FACILITIES

In general, commercial marinas and similar facilities may not be located in RCAs unless they provide public access or if they involve the expansion of an existing facility. Expansions must demonstrate that the project will not affect water quality and will result in an overall net improvement in water quality at or leaving the site. All facilities must meet the State's sanitary requirements and include a method for minimizing the discharge of bottom wash waters into tidal waters.

COMMUNITY PIERS AND OTHER NON-COMMERCIAL BOATING FACILITIES

Non-commercial boating facilities can be located in RCAs, LDAs, and IDAs; however, these types of uses cannot involve the sale of goods or services, such as food or fuel. They must also provide adequate and clean sanitary facilities. Generally, these facilities are associated with a residential subdivision and are established and operated for the community's benefit. Community piers must be designed with a single point of access through the Buffer and must be located and configured to minimize disturbance to the Buffer. If a project includes a community pier, then individual private piers are not allowed. The Critical Area Law specifies the number of slips that may be permitted as part of the facility, which is based on the linear feet of shoreline and the number of platted lots or dwellings in the Critical Area.

PUBLIC BEACHES AND OTHER PUBLIC WATER-ORIENTED RECREATION OR EDUCATION AREAS

Public facilities that provide beach access or accommodate recreational or educational activities can be located in RCAs, LDAs, and IDAs. Maryland's Critical Area Program encourages public access to the water, and the State and local governments work

Community piers can provide access to the water and recreational opportunities, but they cannot involve the sale of goods or services.

The Critical Area Commission works closely with the Maryland Department of the Environment to review applications involving the expansion of existing marinas.

The construction or expansion of water-dependent facilities often involves dredging, which can only be permitted in areas where aquatic habitat will not be degraded or destroyed.

together closely to locate, design, and construct these facilities in an environmentally sensitive manner. In order to minimize adverse impacts associated with human activity at the shoreline, when these facilities are located in LDAs and RCAs, there are additional requirements. Adequate sanitary facilities must be provided, service facilities must be located outside the Buffer, permeable surfaces should be used where practicable, and disturbance to natural vegetation must be minimized.

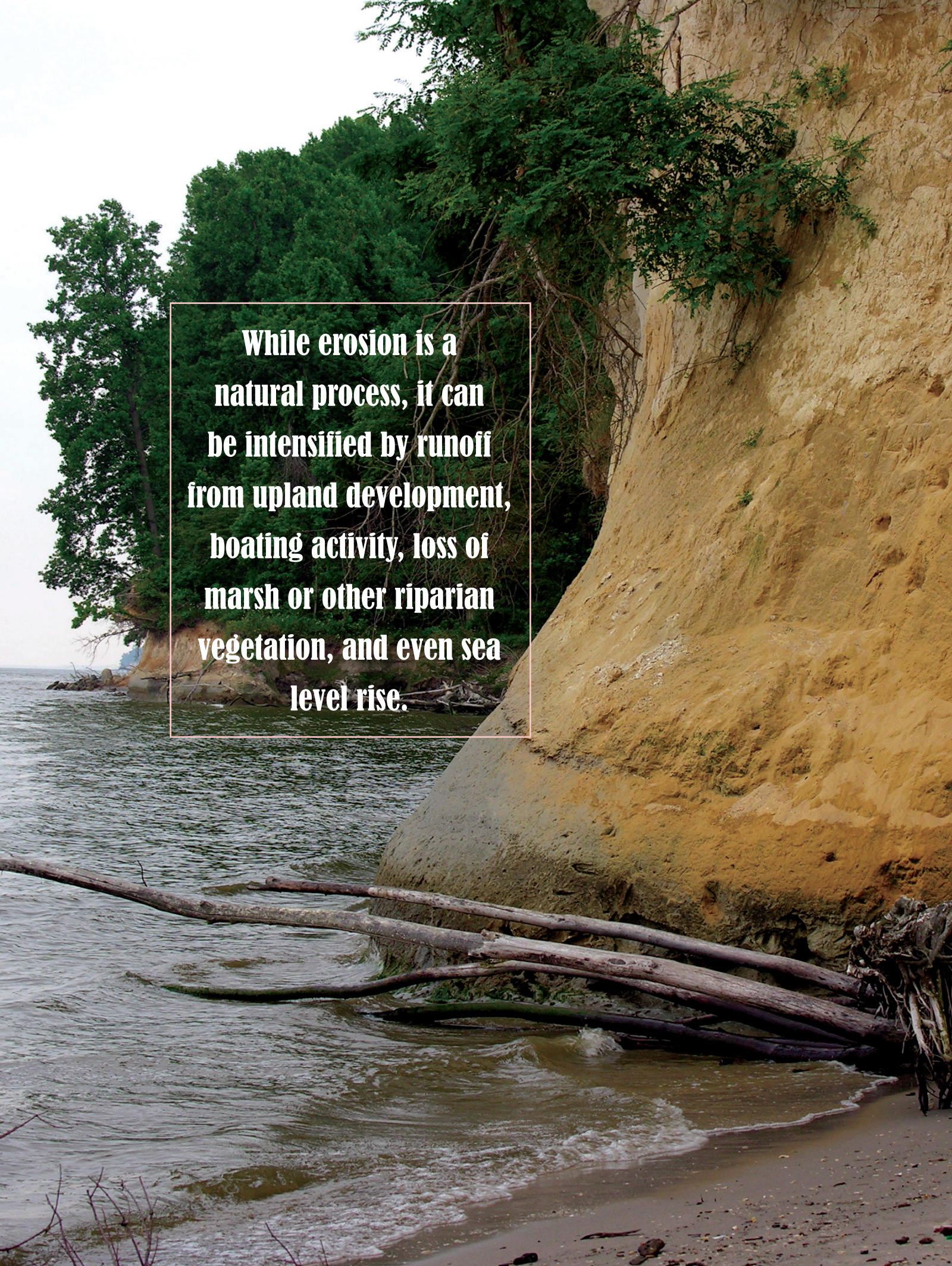
RESEARCH AREAS

Water-dependent research facilities operated by local, State, or federal agencies or educational institutions may be located in the Buffer, regardless of the Critical Area designation. These facilities shall be designed so that nonwater-dependent structures or facilities are located outside the Buffer to the extent possible.

FISHERIES ACTIVITIES

Facilities associated with commercial fisheries, such as structures for crab shedding, fish off-loading docks, shellfish culture operations, and shore-based structures required for aquaculture operations, may be located in the Buffer in RCAs, LDAs, and IDAs. Local governments are encouraged to identify areas with high potential for successful aquacultural activities and to provide necessary and appropriate protection measures so that these areas are protected from degradation by other types of land and water use or by adjacent land and water uses.

Maryland's Critical Area Program encourages public access to the water...



While erosion is a natural process, it can be intensified by runoff from upland development, boating activity, loss of marsh or other riparian vegetation, and even sea level rise.

CHAPTER 7: SHORE EROSION CONTROL

The Critical Area Criteria and local Critical Area programs encourage the protection of rapidly eroding shorelines by private and public property owners. Sediments, a major pollutant in the Chesapeake and Coastal Bays, are generated when land falls off into the water or is battered by wind or waves. Oftentimes, nutrients and other pollutants that are bound to soil particles are also released into waterways when erosion occurs. While erosion is a natural process, it can be intensified by runoff from upland development, boating activity, loss of marsh or other riparian vegetation, and even sea level rise. In addition to the adverse impacts to water quality and habitat created by erosion, it can lead to decreased property values and can threaten the integrity of existing structures, roads, and utilities.

While shore erosion control is encouraged in the Critical Area, the type of control measure that best conserves fish, wildlife, and plant habitat should be used. Maryland's Critical Area Program requires that nonstructural shoreline stabilization measures be used, except in areas designated and mapped by the Maryland Department of the Environment (MDE) as appropriate for structural measures. Nonstructural stabilization measures include: beach nourishment, the installation of marsh vegetation, and various sill and sand fill designs that include planting of low and high marsh vegetation. Nonstructural measures may not be feasible on all sites because of excessive erosion, heavy tides, or the size and configuration of a particular waterway. In these cases, an applicant can apply for a waiver as part of the permit application process.

Types of Erosion Control Measures

Nonstructural erosion control measures are preferred because of the following benefits: maintenance of intertidal habitat and transitional habitat between

Even areas that provide public access to the shoreline and are intensely used can be designed to maintain natural vegetation and avoid alteration of the shoreline in order to minimize erosion.

Intertidal habitat is important to the overall health and ecology of Maryland's tidal tributaries and the Bays...

■ *Nonstructural erosion control measures are practical and effective on many sites and allow for the maintenance of transitional habitat between aquatic and upland communities.*

aquatic and upland communities; enhancement of water quality; utilization of natural and renewable resources; and maintenance of natural wave, tide, and hydrologic patterns and flows. Intertidal habitat is important to the overall health and ecology of Maryland's tidal tributaries and the Bays because it is used by a wide variety of estuarine organisms, many of which provide food for both terrestrial and aquatic species. This area also provides a natural transition between aquatic and upland communities. This transitional area can function to provide protection for young fish and crabs; habitat for burrowing species; water access for amphibious species; and food and nesting areas for a wide variety of aquatic and upland species. The intertidal zone provides significantly better habitat when nonstructural erosion control measures, like a created marsh, are used, as opposed to a hardened structural measures. Vertical wall-type structures eliminate any kind of transition zone by cutting off the upland community, deflecting wave energy downward, and scouring the near shore environment. Revetments, while dispersing some wave energy, provide only limited habitat for a few species and tend to function as a barrier between upland and aquatic habitats. Many species, such as Diamondback Terrapins and Horseshoe Crabs that may use a vegetatively stabilized shoreline for nesting, cannot use shorelines protected by rock revetments.

Nonstructural erosion control measures that use vegetation also provide significant water quality benefits. Vegetated systems filter and trap sediments and debris, promoting water clarity that is conducive to the growth of Submerged Aquatic Vegetation (SAV). SAV beds are an important nursery area for many economically and ecologically valuable species. Vegetated systems also take up and "fix" nutrients, particularly nitrogen and phosphorus. Excess nitrogen and phosphorus contribute to algae blooms, which cloud the water and lead to low dissolved oxygen levels when the algae decomposes. SAV beds are negatively affected by bulkheads and revetments due to deflected wave energy and the resuspension of sediments.

In addition to the water quality and habitat benefits provided by vegetated shorelines, they also utilize natural and renewable resources and mimic natural stable shoreline conditions typically found on Maryland's waterways. In general, shoreline protection measures that "blend" with the natural shoreline through the use of construction methods and materials typical of the area provide more ecosystem functions and control erosion more effectively than other methods.

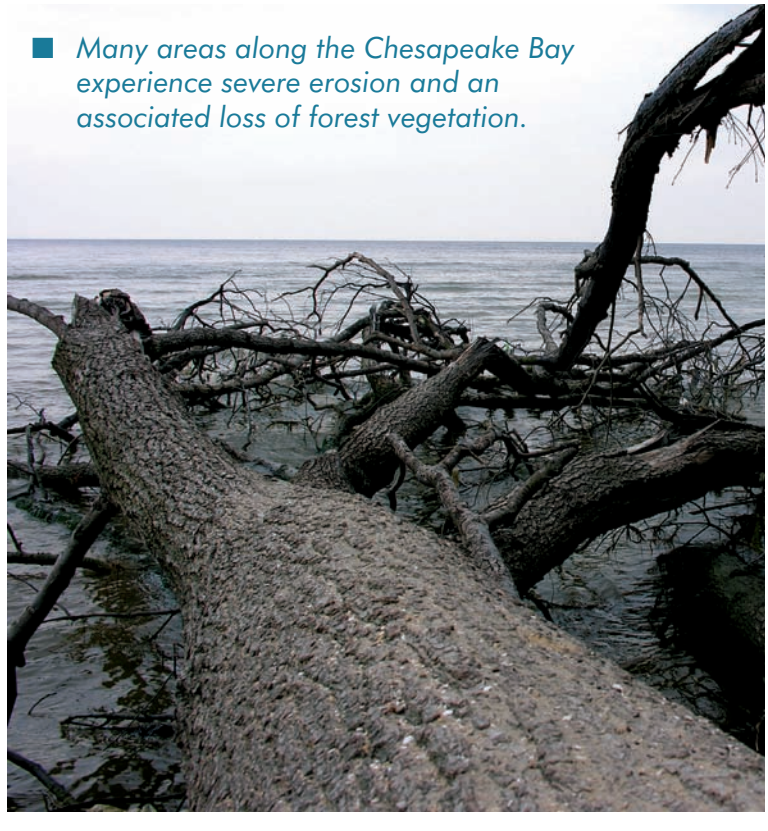
Vegetated shorelines also minimize disturbance to the existing riparian area and alteration of the shoreline, making it possible to maintain natural wave, tide, and hydrologic patterns and flows while minimizing erosion. In most cases, shoreline erosion control measures that allow for the maintenance of normal coastal processes, such as seasonally high tides, the growth and decomposition of organic matter, the exposure of intertidal mudflats, and the accretion and transfer of sand, not only minimize disruption of the ecosystem, but can actually enhance and expand ecosystem functions

Permit and Approval Process

In order to install most shore erosion control measures, appropriate permits or licenses must be issued by MDE, the Maryland Board of Public Works, and the United States Army Corps of Engineers. State regulations pertaining to the issuance of permits can be found in the Code of Maryland Regulations, Regulation 26.24.04.01, and the State and federal government utilize a joint permit application for these projects. In addition to State and federal authorizations, a local permit is usually required because the installation of erosion control measures can significantly impact Critical Area resources, especially the Buffer. In general, permit applications that alter the Buffer or disturb Buffer vegetation must include a Buffer Management Plan. Approval of a Buffer Management Plan ensures that the Buffer functions are maintained or enhanced following installation of a shoreline protection measure.

Disturbance to, and alteration of, the Buffer to install a shore erosion control measure can be permitted, but the project design and construction methods must minimize the disturbance. For example, a single point of access to the shoreline to conduct the work should be used, and, if possible, the shoreline should be accessed from the water. Grading, tree clearing, and the removal of natural vegetation should be minimized so that the Buffer functions are not compromised. After the erosion control measure is installed, all areas disturbed should be fully restored to provide further stabilization and to mitigate for habitat impacts. While some shore erosion control projects include grading and removal of vegetation, shore erosion control cannot be used as a justification for clearing the Buffer or for otherwise circumventing Critical Area requirements.

While erosion is one of the many complex natural processes that comprise the ecosystems of Maryland's Bays, erosion can have detrimental effects on property values; water quality; and fish, wildlife, and plant habitats. The installation of appropriate shore erosion control measures where necessary can minimize these impacts, but careful consideration must be given to design measures that are suitable for a specific site, maximize water quality benefits, and conserve aquatic and upland habitat.



Many areas along the Chesapeake Bay experience severe erosion and an associated loss of forest vegetation.

Agriculture is a protected land use that provides immeasurable economic, aesthetic, and open space benefits in the Critical Area; however, farming practices must be designed and implemented to protect water quality and natural habitats.

CHAPTER 8: RESOURCE UTILIZATION ACTIVITIES

The Chesapeake and Atlantic Coastal Bays watersheds are characterized by a variety of natural resources, and utilization of these resources is an integral part of Maryland's heritage, culture, and economy. Forestry and agriculture are two of the largest industries in Maryland, and these uses predominate many of the scenic landscapes around Maryland's Bays. Maryland's Critical Area Program recognizes these land uses as protective uses that should be encouraged and properly managed so that they continue to provide economic, habitat, and water quality benefits. While surface mining does not utilize resources in the same way as forestry and agriculture, it is a part of Maryland's economy that is directly linked to its physiography. Prudent management and good stewardship are essential to preserving their respective roles in sustaining Maryland's resource-based traditions and ensuring the economic viability of all these activities.

Forestry

One of the goals of the Critical Area Criteria is to provide for the beneficial use of forests while protecting the water quality and wildlife habitat values they provide. In order to promote the continued economic viability of forested lands, hunting, recreational activities, and timber harvesting are permitted activities. However, these activities must be managed in order to avoid adverse effects on streams, wetlands, and significant plant and wildlife habitats and to maintain or enhance the healthy functioning of these resources. The Critical Area Program includes the following goals for forests and developed woodlands:

- Maintain and increase forested vegetation.
- Conserve forests and developed woodlands and provide for expansion of forests.

The Critical Area Criteria allow the harvesting of timber as a means to promote the continued economic viability of forested lands.

Forestry and agriculture are two of the largest industries in Maryland, and these uses predominate many of the scenic landscapes around Maryland's Bays.

A variety of tree stock types can be used to replace forest and trees that are removed for development activities or for timber use.

Forests provide opportunities for a variety of passive recreational activities including hiking, bird-watching, bicycling, and photography.

- Minimize the removal of trees associated with development activities and provide mitigation when trees are removed.

- Recognize forests as a protective land use that should be managed to maintain the maximum value for wildlife, water quality, timber, recreation, and other resources, even though, in some cases, these uses may be mutually exclusive.

Timber harvesting occurring within any one-year interval and affecting one or more acres of forest and developed woodland in the Critical Area must be accomplished under a Forest Management Plan approved by the District Forestry Board in cooperation with the Department of Natural Resources. These plans must include measures to protect surface and ground water quality, as well as any designated Habitat Protection Areas that may be disturbed or otherwise affected.

Maryland's farms vary widely and may involve breeding and raising livestock, growing row crops, and raising vegetables.

An Erosion and Sediment Control Plan is required for all harvests of 5,000 square feet or more in the Critical Area. In accordance with an approved plan, some commercial harvesting of trees may be permitted within the landward 50 feet of the 100-foot Buffer. For these types of harvests, a Buffer Management Plan is required to: avoid disturbance of stream banks and shorelines, include provisions for replanting or regeneration that reestablishes the wildlife corridor function of the Buffer, and ensure that logging roads and skid trails are located outside the Buffer.

Agriculture

From the neatly fenced horse pastures in Charles County across the Bay to the rolling hills of dairy farms in Kent County to the carefully tilled rows of corn in Dorchester County, and the vibrant and productive vegetable fields in Worcester County, agriculture is a predominant land use throughout much of the Critical Area. Agriculture is a protected land use that provides immeasurable economic, aesthetic, and open space benefits in the Critical Area; however, farming practices must be designed and implemented to protect water quality and natural habitats. Therefore, the Critical Area Criteria mandate that farmers work cooperatively with local Soil Conservation Districts to develop and implement Soil Conservation and Water Quality (SCWQ) Plans. These plans, most of which were put in place in the early 1990s, promote the use of Best Management Practices (BMPs) to prevent runoff of soil, nutrients and other harmful materials into waterways. SCWQ Plans include detailed information relating to all aspects of the protection of water quality, such as the location and type of water quality control structures, the type and rate of fertilizer and pesticide application, and the location and type of stream protection measures to avoid adverse water quality impacts from grazing livestock.

In order to ensure that agricultural lands are maintained in agricultural use to the greatest extent possible and that agricultural operations generally

The Critical Area Criteria require farmers to work with local Soil Conservation Districts to design and implement Best Management Practices to protect water quality.

comport with the goals of Maryland's Critical Area Program, the Criteria specify that:

- Agricultural activities shall use BMPs in accordance with an SCWQ Plan approved by the local Soil Conservation District.

- New agricultural lands cannot be created by diking, draining, or filling nontidal wetlands unless appropriate mitigation is provided. Clearing of forests or woodlands on steep slopes or erodible soils, clearing of existing natural vegetation within the Buffer, and clearing that will adversely affect water quality or designated Habitat Protection Areas cannot be undertaken to create new farmland.

- The drainage of nontidal wetlands for agricultural purposes must be performed in accordance with an approved SCWQ Plan.

- Agricultural BMPs for the control of nutrients, animal wastes, pesticides, and sediment runoff shall be used to protect the productivity of the land base and water quality. These practices shall minimize contamination of surface and groundwater, as well as any adverse effects on fish, wildlife, and plant resources.

- Animal feeding operations, including retention and storage ponds, feed lot waste storage, and manure storage, shall minimize the contamination of water bodies.

- Agricultural activities are permitted in the 100-foot Buffer, but a minimum 25-foot vegetated filter strip must be provided adjacent to tidal waters, tidal wetlands, and tributary streams. The filter strip must be expanded four feet for every 1 percent of slope for slopes greater than 6 percent.

- Clearing of existing natural vegetation within the Buffer is not permitted.

- Farming activities, including the grazing of livestock, shall be managed to avoid disturbance to stream banks, tidal

shorelines, and other designated Habitat Protection Areas as described in Chapter 4.

Maryland's farms vary widely in their size and type of operations. Farms in the Critical Area may be involved in the production of row crops, vegetables, nursery plants, and sod, as well as the feeding, housing, and management of cattle, dairy cows, sheep, goats, hogs, horses, and poultry. Because of the diversity of these activities, the SCWQ Plans designed and developed for each specific farm are essential to ensuring that the physiographic characteristics of the specific farm are addressed. These plans must be updated regularly to reflect changes in farmers' operations, crops, equipment, and livestock and to ensure the utilization of state-of-the-art practices that improve water quality and conserve habitat.

Surface Mining

Surface mining and mineral extraction, including the extraction of sand and gravel, may take place in the Critical Area under certain conditions. Local jurisdictions must ensure that mining activities are properly approved and authorized, that the mine operators protect water quality and natural habitat during the mining operation, and that reclamation of the site takes place as soon as possible following the completion of the mining activity.

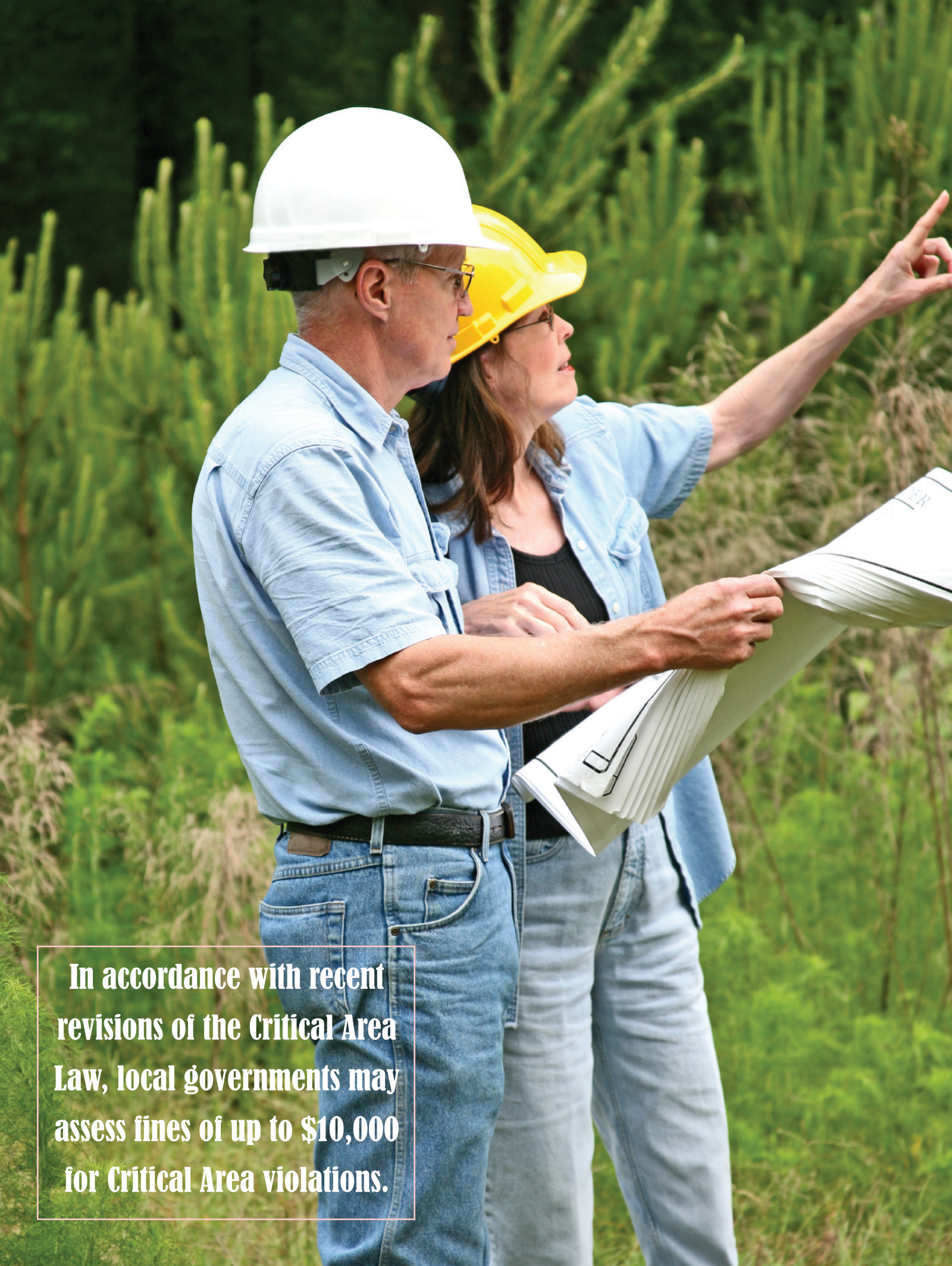
Surface mining activities are prohibited under the following conditions or in the following areas that are unsuitable for sand and gravel extraction:

- Where threatened or endangered species, areas of scientific value, or rare assemblages of species would be adversely affected.
- Where soils are highly erodible.
- If mining activity would result in the substantial loss of long-term productivity of forest or agricultural lands.

Surface mining may take place in the Critical Area but not in areas where there would be a loss in productivity of forest or agricultural lands.

- If mining activity would result in the degradation of water quality or the loss of vital habitat.
- Within the minimum 100-foot Buffer from tidal waters, tidal wetlands, and tributary streams.

In addition to the prohibition of mining activities in these areas, certain aspects of mining operations must be carefully regulated to ensure that there are no permanent or catastrophic water quality problems. Wash plants, including ponds, spoil piles, and equipment, may not be located within the Buffer; wash ponds shall be reclaimed as soon as possible after the cessation of a mining operation; and extraction activities shall be conducted so as to provide a minimum 100-foot Buffer of natural vegetation between the mining activities and tidal waters, tidal wetlands, and streams.



In accordance with recent revisions of the Critical Area Law, local governments may assess fines of up to $10,000 for Critical Area violations.

CHAPTER 9: ENFORCEMENT AND VIOLATIONS

The success of land use and development regulations is largely dependent on effective enforcement. As part of its Critical Area program, a local government is responsible for ensuring that the Critical Area regulations are consistently applied and enforced. While the Commission plays a significant oversight role in ensuring appropriate and effective implementation of the Program across the State, each local government bears the primary responsibility for enforcing its own Critical Area regulations.

Enforcement Responsibilities

Maryland's Critical Area Program is implemented primarily through each jurisdiction's land use codes, subdivision regulations, and zoning ordinances; therefore, the primary responsibility for enforcement is borne by local inspectors. In § 8-1815 of the Natural Resources Article of the Annotated Code of Maryland, local jurisdictions are given considerable authority to address violations, and when a violation is identified they are required to take enforcement action. The Law states, "A person who violates a provision of an order, permit, plan, local program, this subtitle, or regulations adopted, approved, or issued under the authority of this subtitle shall be: subject to prosecution or suit in circuit court or district court by the Chairman or local authorities, who may invoke the sanctions and remedies afforded by State or local law; guilty of a misdemeanor; and on conviction in a court of competent jurisdiction, subject to a fine not exceeding $10,000 or imprisonment not exceeding 90 days or both, with costs imposed in the discretion of the court." See § 8-1815(a)(2)(i).

Recent changes to the Law allow penalty provisions associated with Critical Area violations to be applicable to contractors, property owners, or any

The Critical Area covers over 1,000 square miles, which makes it difficult and time consuming for local governments to identify and investigate all suspected violations.

As part of its Critical Area program, a local government is responsible for ensuring that the Critical Area regulations are consistently applied and enforced.

The Critical Area Commission responds to notices from citizens regarding suspected violations and works with local governments on enforcement efforts.

other person who committed, assisted, authorized, or participated in the violation. These changes allow local governments to pursue violations more effectively and to identify and take appropriate action against persistent violators. Licensed home improvement contractors, marine contractors, and tree experts and registered home builders who fail to comply with the terms of a State or local permit, license, or approval in the Critical Area can be reprimanded, fined, or have their license or registration denied or revoked by the appropriate State agency.

Local governments may assess a fine of up to $10,000 for a Critical Area violation. Recent revisions to the Law specify that each violation of the Critical Area provisions constitutes a separate offense and that each day that a violation continues likewise constitutes a separate offense. This allows jurisdictions to assess fines that are appropriate to the nature and scope of the violation and the environmental damage or degradation resulting from it. In determining the amount of a fine for a specific violation, a local government must consider the gravity of the violation, any willfulness or negligence involved, the environmental impact of the violation, and the cost of restoration of the affected resources and mitigation for damages to the resources. In addition, a jurisdiction considers the cost to State or local authorities for performing, supervising, or rendering assistance to the restoration and mitigation effort.

The Law also allows a local government to request assistance from the Commission, including a referral to the Attorney General, to ensure that Critical Area violations are identified and cited and that appropriate enforcement action is taken. Many local governments that have limited enforcement personnel or staff attorneys find that these provisions allow local officials to rely on the experience and expertise of the Commission in resolving the issue or pursuing the matter in court.

Although there are no State-level Critical Area inspectors, the Critical Area Commission does respond to all notices from citizens regarding suspected violations. The Commission coordinates with local governments to report violations so the local government can effectively perform site

inspections, issue citations, and follow up on restoration or mitigation. The Commission's role in these activities is primarily one of oversight and technical assistance; all stop work orders, noncompliance notices, citations, and fines are issued by the local government. However, as a result of recent changes in the Law, the Chairman of the Critical Area Commission may institute an action against a violator in circuit court or district court.

Addressing Violations

The Critical Area covers over 1,000 square miles and includes 5,200 miles of shoreline, and development is widely dispersed. This makes enforcement difficult and time consuming for local governments. Therefore, the Critical Area Commission relies on citizen awareness and monitoring of activities in the Critical Area. Commission staff is available to assist citizens inquiring about suspected violations, and the staff follows up on all reported violations. In some cases, the reported activity may not be a violation, and the issue can be resolved in the field. In other situations, the violation may be quite serious and involve the issuance of a stop work order and a citation.

Recent revisions to the Law specify that each violation of the Critical Area provisions constitutes a separate offense and that each day that a violation continues likewise constitutes a separate offense.

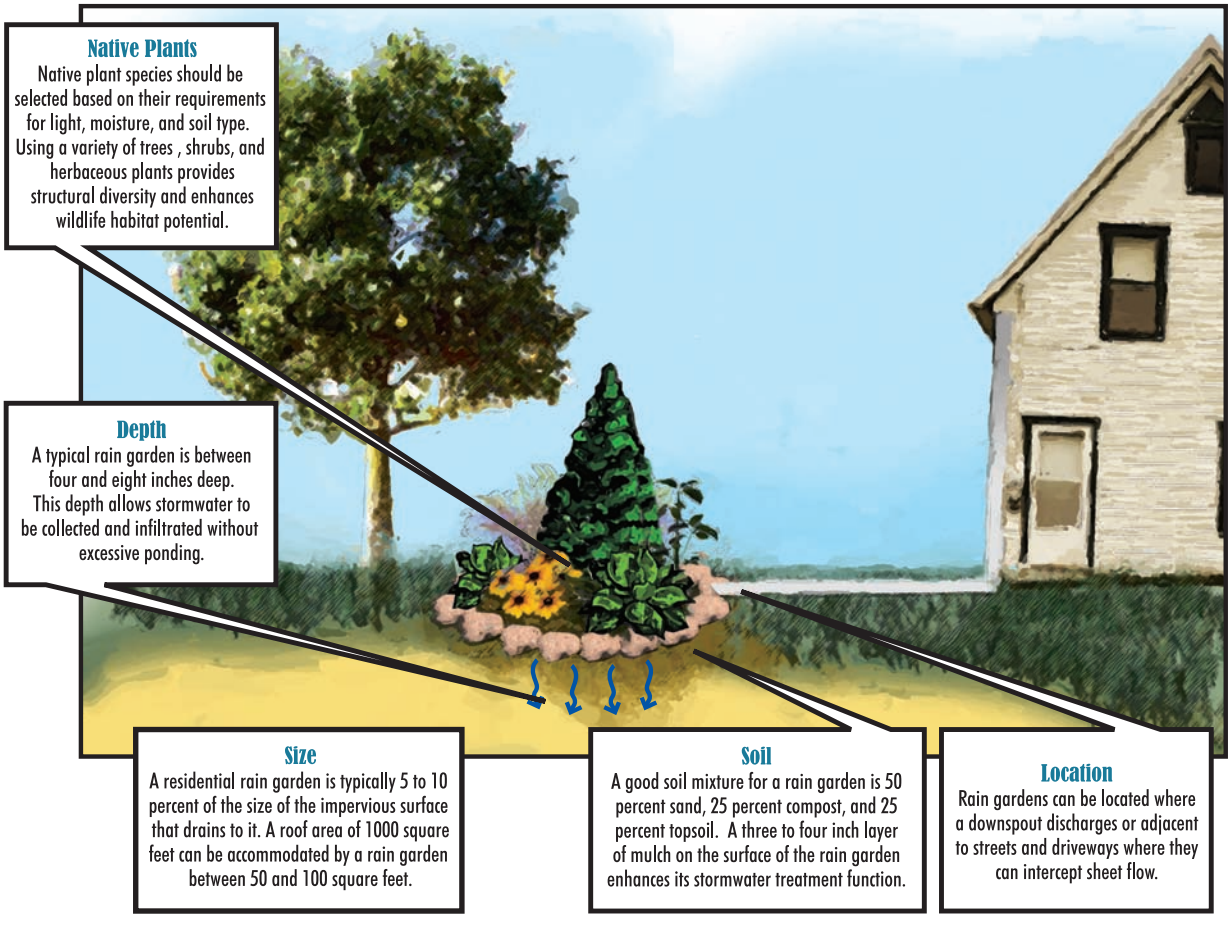
Many violations result from a lack of understanding of the regulations or incorrectly implementing the plans that have been approved by the local government.

One of the most common Critical Area violations involves unauthorized grading and the removal of natural vegetation within the 100-foot Buffer.

When the Critical Area Commission receives a call about a suspected violation, Commission staff needs as much information as possible about the activity from the caller. Knowledge of the street address or location of the violation, the type of activity, whether or not any permits are posted, and the size and scope of the activity is all necessary to ensure that proper action is taken as quickly as possible. Commission staff reports the suspected violation to the appropriate enforcement agency of the local government and follows up after a local inspector has performed a field visit.

Many violations result from a lack of knowledge or understanding of the regulations, while others may be a deliberate attempt to circumvent the regulations and to request "after-the-fact" approval. Most Critical Area jurisdictions prefer to work with property owners to secure compliance with the law, either through the permitting process or through management plans that may include mitigation and restoration. However, local governments are authorized to require the removal of unauthorized structures and the complete restoration of sites that have been cleared or graded without proper authorization or in violation of an approved plan.

While sometimes difficult, reporting a possible violation can help a landowner avoid significant fines and prevent serious damage to water quality and habitat.



■ *Rain gardens are a form of stormwater treatment that can improve water quality and serve as mitigation for a violation.*

Types of Violations

The previous chapters summarize many of the regulations that affect development and land-disturbing activities within the Critical Area. These regulations cover a variety of issues from clearing trees and removing vegetation to limiting lot coverage. Enforcement of these regulations requires attention to detail, and, in some instances, violations are not readily apparent. Generally, a permit or some form of local authorization is required for any activity that disturbs the soil, alters natural vegetation, or results in a new structure within the Critical Area. In many cases, these permits can be obtained quickly and easily. A property owner can avoid the inconvenience of a stop work order or the expense of a citation by contacting the local planning office and getting any necessary permits before starting any construction.

The following activities are those that, without proper approval, such as a building permit, grading permit, variance, or Buffer Management Plan, are considered violations and should be reported immediately to local authorities:

- Clearing, removing, cutting, burning, or bush-hogging vegetation and trees in the Buffer.
- Construction or placement of accessory structures (such as sheds, pools, and gazeboes) in the Buffer.
- Disturbance to the Buffer like grading, filling, stockpiling of construction materials, or dumping.
- Clearing or cutting trees anywhere within the Critical Area or that exceeds approved limits.
- Building or grading within the Critical Area that does not comply with an approved plan or permit.

Although some violations take place in the Critical Area, enforcement action is taken through the Maryland Department of the Environment (MDE) when the unauthorized activity involves direct impacts to water resources and wetlands. Citizens can report the following suspected unauthorized activities to the MDE at (410) 537-3837 or (410) 537-3768.

- Filling of tidal and/or nontidal wetlands without a permit.
- Construction of a pier without a permit.
- Construction of a structure on a pier, such as a gazebo or a boathouse, without a permit.
- Construction of a shore erosion protection measure, including the construction of a wall or the placement of rubble, without a permit.
- Clearing or destruction of marsh vegetation without a permit.
- Any of the above activities that is not consistent with the terms of the permit issued for the activity.

Although it may be difficult or unpleasant to report suspected violations, sometimes a landowner is unaware or unsure of the regulations, or does not understand the limits or restrictions on the permit, or simply underestimates the scope and environmental impact of the project. In these instances, reporting a suspected violation promptly can minimize adverse, and, in some cases irreversible, impacts to habitat and water quality. Prompt inspection of the property, which often leads to a landowner obtaining the necessary permits and bringing the project into compliance, can actually help the landowner to avoid or minimize fines and potentially expensive restoration activities.

Although a violation may involve a relatively small structure in the Buffer, the cumulative impacts of these structures throughout the Critical Area contribute significantly to the degradation of riparian habitats.

■ *A Buffer Management Plan may be required to restore a site following a violation.*

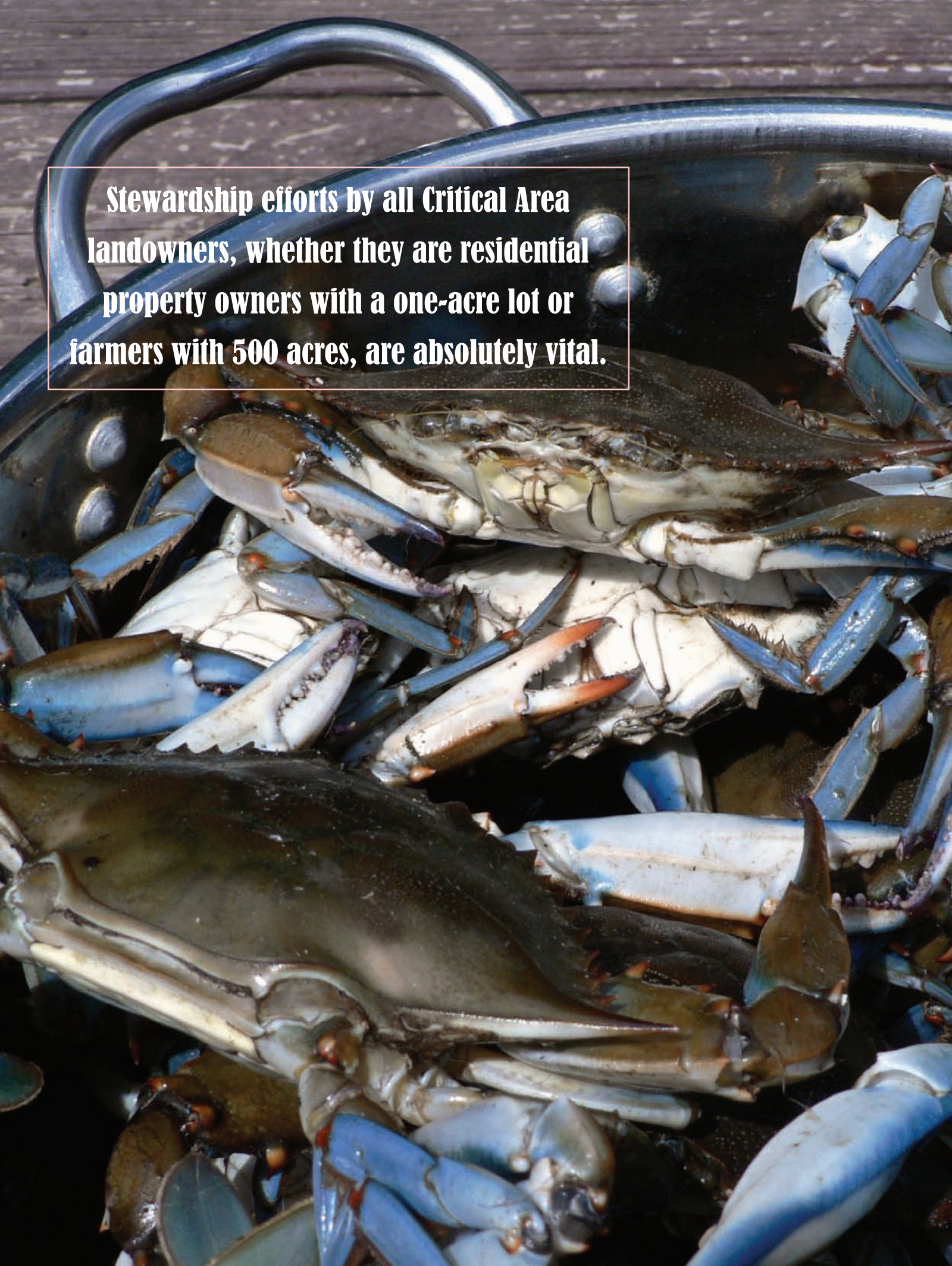
Restoration and Mitigation

If an activity is determined to be a Critical Area violation, local governments are authorized to assess fines, to compel restoration of lands or structures to their condition prior to that activity, and to require mitigation to offset adverse impacts to resources. While local governments may determine the specific amount and procedural requirements associated with the collection of fines, the Critical Area Law requires that violations be appropriately mitigated. The payment of fines is not an alternative to restoring the site and bringing the development activity into full compliance with the local Critical Area regulations. Restoration and mitigation activities may involve a variety of curative measures, such as the removal of structures or paving to comply with lot coverage limits, the relocation of sheds or other structures to locations outside the Buffer or away from steep slopes, the design and installation of stormwater treatment practices, or the planting of trees and shrubs to replace forest vegetation.

Many Critical Area violations involve unauthorized clearing. The Critical Area Criteria require mitigation planting for tree removal or clearing violations at a three-to-one ratio. Many local governments require planted mitigation at three-to-one for many other types of violations as well.

Even though restoration and mitigation activities do eventually provide environmental benefits, they generally do not fully restore or compensate for the ecosystem functions lost as a result of the violation. That is why cutting trees, removing natural vegetation, grading, or filling within the Buffer are such serious offenses, and that is why these activities are generally prohibited unless they are associated with the construction of a water-dependent facility or a shore erosion control measure. For violations involving disturbance to the Buffer, a landowner may be required to develop a Buffer Management Plan, which must include a landscape plan indicating the establishment of the Buffer in natural vegetation (using native species) and maintenance provisions to ensure that the Buffer will be maintained as natural riparian habitat. Through the implementation of the Plan and careful maintenance, it is possible that the functions of the Buffer can eventually be restored.

■ *Restoration and mitigation activities often involve planting.*



Stewardship efforts by all Critical Area landowners, whether they are residential property owners with a one-acre lot or farmers with 500 acres, are absolutely vital.

CHAPTER 10: STEWARDSHIP

Given the many complex and longstanding demands on Maryland's land and water resources, complete restoration of Maryland's Bays can never be fully accomplished by even the most stringent implementation of the Critical Area regulations. There are, however, many opportunities for Maryland citizens to become involved in activities that maximize the amount of restoration that is possible. Stewardship efforts by all Critical Area landowners, whether they are residential property owners with a one-acre lot or farmers with 500 acres, are absolutely vital. Likewise, voluntary citizen actions that promote the concept of living gently on the landscape inside and outside the Critical Area can only serve to promote the goals of the Critical Area Program.

While planting native species and recycling cans and bottles may seem like small steps, cumulatively these acts of environmental stewardship are a meaningful part of the restoration effort. In fact, environmental stewardship by all Critical Area property owners and by citizens who use and enjoy the resources of the Chesapeake and Atlantic Coastal Bays is essential to the success of the Critical Area Program. This stewardship is key to returning Maryland's water resources to their former bountiful and productive state.

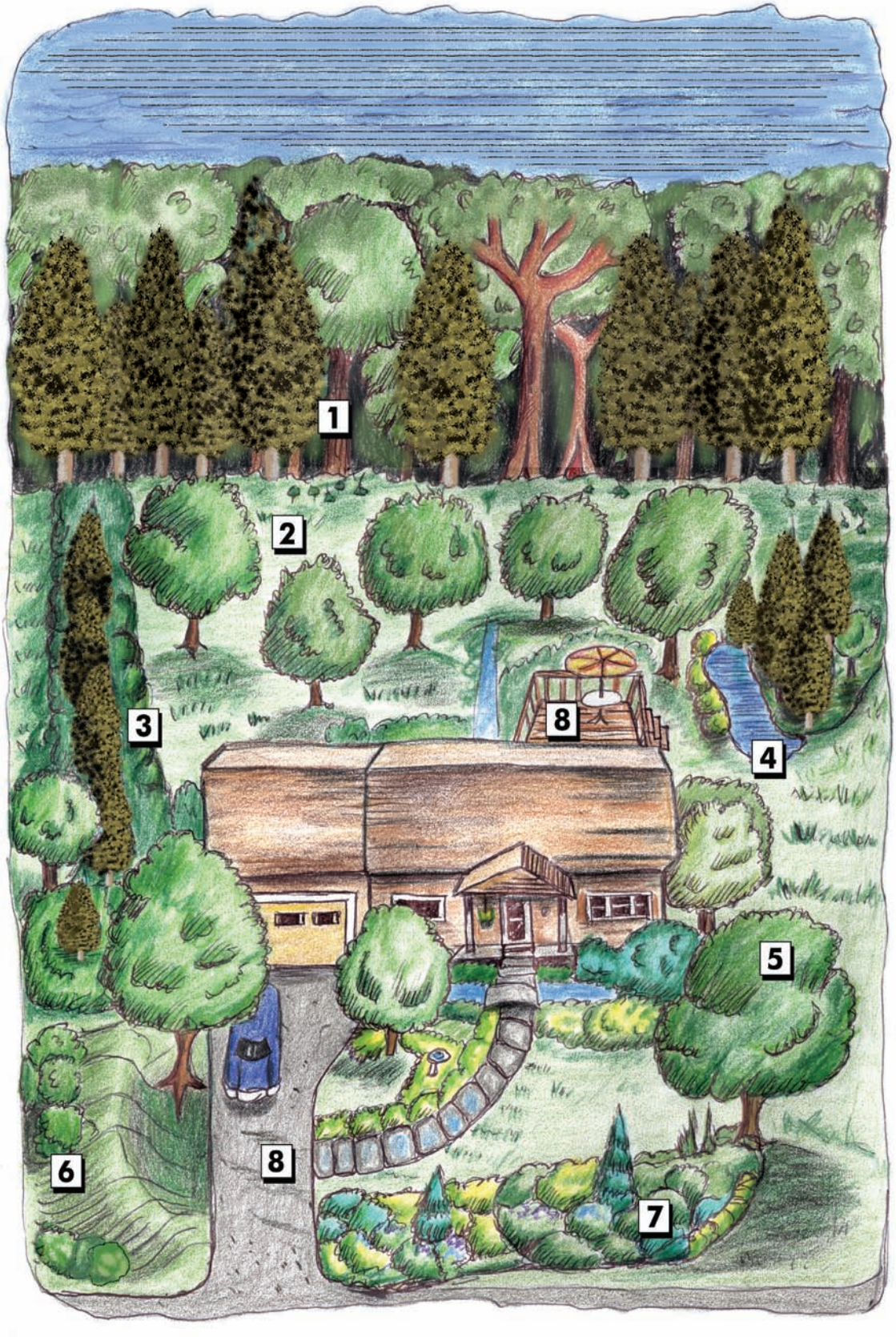
Stream and beach clean-ups provide opportunities for citizens to get involved in restoring Maryland's Bays right in their own communities.

Homeowner Efforts

Residential property owners who live on or near the Chesapeake Bay, the Atlantic Coastal Bays, or their tidal tributaries are fortunate to enjoy the natural beauty and recreational opportunities these resources provide. However, this privilege is accompanied by an important responsibility – that is, to protect and care for this area so as to conserve the important water quality and habitat functions that directly affect the health of the Bays. Homeowners

...cumulatively these acts of environmental stewardship are a meaningful part of the restoration effort.

Environmental Stewardship Begins at Home



1. 100-Foot Buffer
- provides habitat
- filters stormwater
- takes up nutrients
- protects aquatic resources from human activities

2. Small Lawn Area
- minimizes need for fertilizer and pesticides
- reduces maintenance activities including mowing and watering

3. Corridor Plantings
- screen winter winds
- create wildlife habitat and corridors

4. Rain Garden
- treats and infiltrates stormwater
- provides food and cover for wildlife
- reduces stormwater flows into waterways

5. Canopy Trees
- provide shade
- clean the air
- reduce stormwater runoff
- stablize soil

6. Groundcovers
- reduce lawn area
- stabilize steep slopes
- provide habitat diversity

7. Planting Islands
- add privacy and habitat
- reduce high-maintenance lawns

8. Permeable Materials for Decks, Driveways, and Walkways
- reduce stormwater temperature, quantity, and velocity
- provide more area for infiltration
- allow run-off to be absorbed slowly and contribute to groundwater recharge

Homeowners can engage in activities that protect water quality and enhance habitat right in their own backyards.

Planting trees is a stewardship activity that contributes to the improvement of water quality and enhances wildlife habitat. (Photo courtesy of USDA NRCS)

can be effective stewards of Maryland's Bays by knowing about and complying with the local Critical Area regulations, informing others about the Critical Area Program, and actively managing their land to promote the goals of the Critical Area Program.

The sheer number of residential property owners in the Critical Area makes the activities of homeowners significant to the effectiveness of the Critical Area Program. One shed constructed illegally in the Buffer may not seem to have much of an effect on water quality, but when the cumulative impacts of thousands of sheds and other structures are considered, it becomes apparent that successful implementation of the Critical Area regulations must begin in each backyard. Homeowners can educate themselves about Maryland's Critical Area Program by reading this publication and by researching other local resource materials that are available at local planning offices and on the Internet. A property owner who is unclear as to whether a specific activity is allowed or requires a permit is strongly encouraged to contact the local planning office before starting any work.

Landowners can also help to educate others about the Critical Area Program by discussing local regulations with their neighbors and by conspicuously posting any permits or authorizations for activities on their own properties. If a homeowner observes a potential violation on a neighbor's property, it is best to report the suspected violation so that the situation can be rectified. If the person reporting the violation does not wish to be identified, the Critical Area Commission and some local governments will accept anonymous complaints and follow up on them.

In addition to abiding by the Critical Area regulations, the following voluntary actions by

Efforts to restore and improve Maryland's waterways are newsworthy and publicizing them heightens awareness about the condition of Maryland's Bays.

homeowners are strongly encouraged because they promote good stewardship of Maryland's water resources:

- Planting trees, shrubs, and herbaceous plants in the Critical Area provides far greater water quality and habitat benefits than planting turf grass. The United States Fish and Wildlife Service publication titled *Native Plants for Wildlife Habitat and Conservation Landscaping – Chesapeake Bay Watershed* includes pictures and detailed descriptions of more than 400 native tree and plant species that are uniquely adapted to the Chesapeake Bay's ecosystems. Replacing turf grass with native species in a mulched area within the 100-foot Buffer is particularly beneficial because it restores the Buffer's natural water quality and habitat functions.

- Using nonstructural shoreline erosion methods, particularly living shorelines that provide water quality and habitat benefits in addition to controlling erosion, is the preferred method of controlling erosion. These methods involve less disturbance to riparian habitat than structural methods, and they are often less expensive as well.

- Managing stormwater runoff by disconnecting downspouts and providing areas for infiltration provides inexpensive treatment to remove sediments, nutrients, and other pollutants from stormwater. Property owners can install rain gardens that include native plants that are attractive, provide habitat, and treat stormwater.

- By minimizing the use of fertilizers and pesticides and conserving water used for turf grass and landscape plants, property owners can reduce the amount of nutrients and toxic chemicals that end up in Maryland's streams, creeks, rivers, and Bays.

- "BayScapes" are low-input landscapes that use native plant species and require less mowing, fertilizing, and pesticide than turf grass and other types of landscaping. Residential use of native plants provides habitat that promotes

biodiversity, and reduces nutrient and chemical applications that can adversely affect water quality in streams, rivers, and the Bays.

Restoration Opportunities on Commercial Properties

Businesses in the Critical Area also play an important role in the effective implementation of Maryland's Critical Area Program. Commercial and industrial properties in the Critical Area tend to be intensely developed with high levels of impervious surface coverage and relatively little natural habitat. In addition, by their very nature, these uses bring more frequent and more concentrated human activity to the Critical Area than other land uses. For these reasons, compliance with local Critical Area regulations on commercial and industrial properties is particularly important. Fortunately, the redevelopment of existing sites and the development of vacant properties provide many opportunities to enhance the environment and promote the goals of the Critical Area Program.

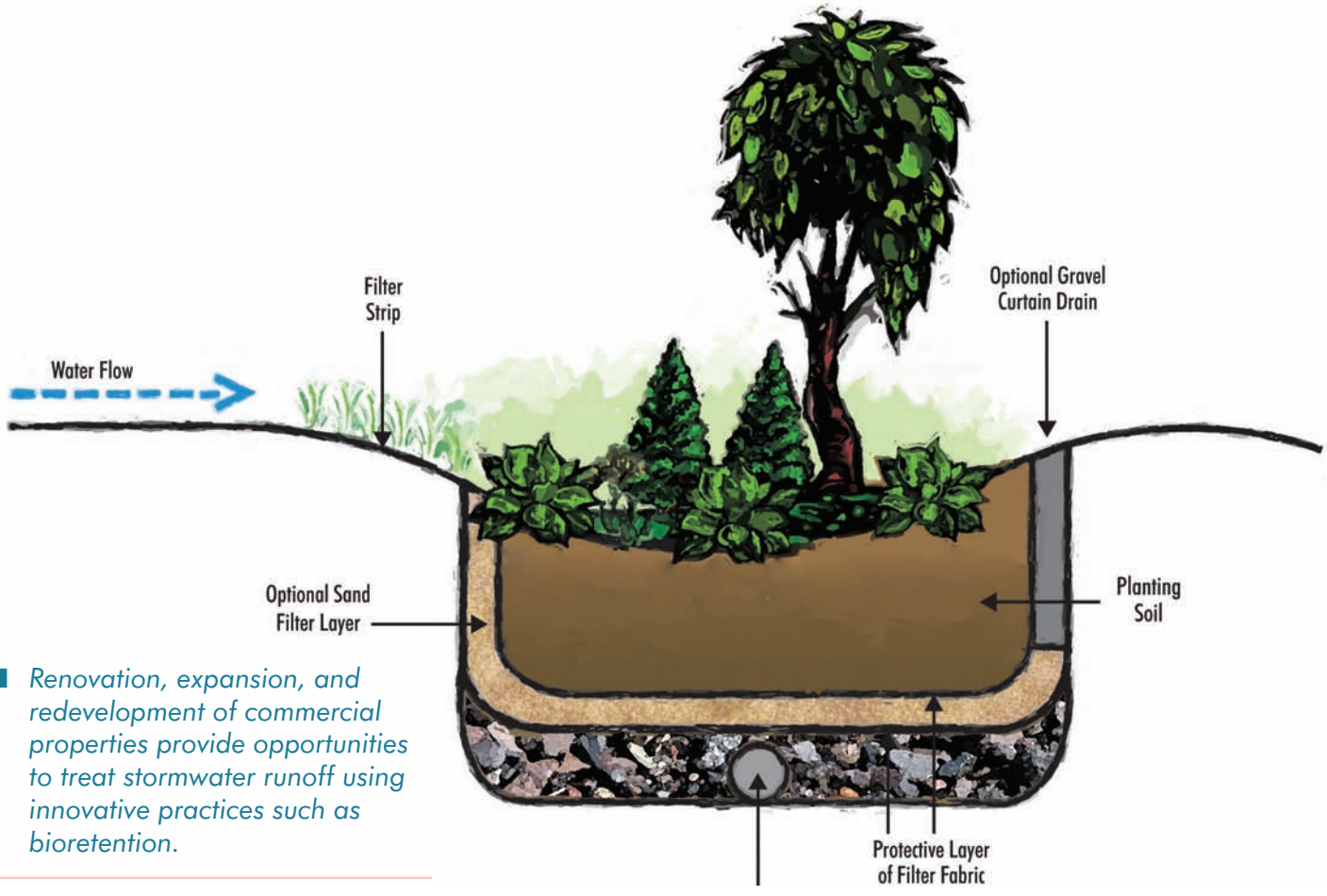
Business owners proposing to redevelop existing commercial properties or to develop a vacant property with a new commercial use promote good stewardship by designing and constructing projects that fully comply with the local Critical Area program. Moreover, they can explore opportunities to go above and beyond the minimum requirements. Sites can be designed to conserve any existing natural areas or they can be redeveloped to provide additional areas of natural habitat. Redevelopment activities frequently provide opportunities to reduce lot coverage by designing multi-story buildings, creating shared parking arrangements, and by replacing impervious materials, such as concrete walkways, with pervious or semi-pervious materials. Development activities also can allow for the installation of stormwater treatment facilities, such as pocket ponds, bioretention areas, and shallow wetlands, which provide habitat as well as water quality benefits.

Owners and operators of marinas and other commercial facilities with water frontage have significant opportunities to improve the water quality and habitat of Maryland's waterways through optimum management of the 100-foot Buffer. On undeveloped properties, planting the Buffer as required by the local program, providing connections to natural areas on adjacent properties, and minimizing permitted impacts to the Buffer associated with access or water-dependent activities all work together to maximize vital Buffer functions.

For properties that are already developed and that may be paved to the water's edge, redevelopment projects provide opportunities to restore some Buffer functions by removing structures, roadways, parking areas, and walkways where feasible and planting the area with native trees, shrubs, and herbaceous plants. Even if the entire 100-foot Buffer cannot be restored, establishing a landscaped strip adjacent to tidal waters, tidal wetlands, or tributary streams will provide some water quality and habitat benefits. This area is then better able to infiltrate sheet flow from parking lots, trap sediments and debris in stormwater runoff, reduce the temperature and velocity of stormwater, and take up nutrients. Depending on the width of this area and connections to other larger natural areas, a landscaped strip may even provide food and cover for some wildlife species.

In addition to obtaining required permits and approvals and ensuring that contractors fully comply with all permit requirements and approved plans, commercial property owners can explore the following opportunities to promote the goals of Maryland's Critical Area Program:

- Removing abandoned structures and pavement and cleaning up degraded sites can reduce stormwater runoff, maintain areas available for infiltration, and provide places to plant native species. Demolishing vacant buildings, taking up unused walkways, and cleaning up trash and debris enhance natural ecosystem functions and avoid pollution and contamination of aquatic resources from improperly stored hazardous materials and chemicals.



Renovation, expansion, and redevelopment of commercial properties provide opportunities to treat stormwater runoff using innovative practices such as bioretention.

- Renovation, expansion, and redevelopment of commercial properties provide opportunities to improve water quality by treating stormwater runoff from areas that are not currently being treated. Because commercial properties tend to be more heavily developed, with little or no area available for infiltration, treating stormwater from these sites maximizes water quality benefits.

- Local efforts to improve and restore Maryland's Bays are newsworthy. Businesses that are expanding or rebuilding in ways that improve water quality, enhance wildlife habitat, or restore degraded areas can publicize these activities and promote their businesses by keeping local and regional media informed about their efforts.

Government Projects

Federal, State, and local government projects are not exempt from the requirements of Maryland's Critical Area Program. These projects are reviewed for consistency with the appropriate regulations, and some projects require formal approval by the Critical Area Commission. Federal projects, such as the construction of post offices and buildings on naval stations, must comply with the Coastal Zone Management Act (CZMA). In Maryland, compliance with the CZMA is accomplished by ensuring that all development activities on federally-owned lands comply with all State environmental regulations, including the Critical Area Program.

State-sponsored development activities must fully comply with Maryland's Critical Area Program, and the Critical Area Criteria include specific provisions for these projects. All development activities proposed by a State agency or located on State-owned land must be reviewed and approved by the Critical Area Commission. This includes projects ranging from bridge reconstruction projects, such as the Woodrow Wilson Bridge, to the construction of State park improvement projects, like restroom facilities at Point

Lookout State Park. Just like projects undertaken by any private landowner, State agencies are required to replace trees or forest cover that is removed and to provide three-to-one mitigation for activities that involve authorized impacts to the Buffer. Wherever possible, mitigation is usually performed on or near the project site; however, in some cases, such as highway improvement projects, off-site mitigation projects are necessary. The Commission staff works closely with many State agencies to facilitate the implementation of all required mitigation.

Most local government projects are reviewed for compliance with the local Critical Area program by the jurisdiction's planning department. Local governments are required to notify the Commission of the proposed development activity and certify to the Commission that the project has been reviewed for consistency with the Critical Area program. Projects identified as "major development" require approval by the Commission. These are projects that may cause State-wide, regional, or inter-jurisdictional environmental or economic effects in the Critical Area or which may have a significant impact on a jurisdiction's Critical Area program. Major development projects include airports, power plants, public housing projects, public beaches, and intensely developed park and recreation facilities. Projects proposed by local governments in the Critical Area present an opportunity for local governments to demonstrate their commitment to strict compliance with Maryland's Critical Area Program and to provide on-the-ground examples of environmentally sensitive development projects.

Local governments can also facilitate or participate in a variety of stewardship activities that promote the goals of Maryland's Critical Area Program, such as:

- Planning activities and events that will focus community attention on the importance of clean water and abundant habitat helps community groups, clubs, and homeowners' associations to learn about the Critical

In the spring and fall, many organizations sponsor tree-planting projects that provide opportunities for people of all ages to learn how to plant a tree and the importance of maintaining trees and forests for the health of Maryland's Bays

State and local governments are strongly encouraged to incorporate required mitigation into the project design, so that mitigation requirements can be met on the project site.

Citizens of all ages can get involved in water quality monitoring efforts, which are often key to identifying sources of pollution.

Area Program and the challenges confronting the restoration of Maryland's Bays. The Critical Area Commission staff is available to make presentations on a variety of topics and can provide information about other sources.

- Many government-sponsored development projects involve opportunities for the public to get involved in the planning process. Participating in recreation advisory groups, downtown renovation committees, and parent-teacher associations allows citizens to work closely with government officials and consultants to promote environmentally sensitive project designs and development activities.

- Water quality and habitat protection projects, such as raising Diamondback Terrapins or growing submerged aquatic vegetation, are ways that children can learn about the Bays while participating in restoration efforts. Local schools often need adult volunteers to help with these efforts.

- Throughout the spring and fall in Maryland, numerous organizations sponsor tree-planting projects on public land. These projects enhance habitat, promote species diversity, and can improve the aesthetic appearance of schools, parks, playgrounds, and office complexes. Participants learn how to plant a tree so that it will survive, and they learn which native trees species are the best to plant. Information about tree plantings that promote the health of Maryland's Bays can be obtained by contacting the local government planning office, the Department of Natural Resources Forest Service (www.dnr.state.md.us/forests/), and the Chesapeake Bay Foundation (www.cbf.org).

Stewardship Opportunities for All Maryland Residents

Residents of Maryland who do not live in the Critical Area can still participate in efforts to promote the goals of the Critical Area Program. Stewardship activities take many forms, and even small changes in behavior make a significant difference.

- Citizens can learn about water quality issues first-hand by kayaking or canoeing a local stream, river, or the Bays. While enjoying the scenic beauty, water enthusiasts can note erosion problems, highway or construction runoff, algal blooms, any dead wildlife, foul smells, or direct discharge, and inform local authorities of the problem.

- Participating in or organizing a shore cleanup along a stretch of a stream, creek, river, or the Bays is an easy and effective way to exert a positive influence on the water quality and habitat of the Bays' ecosystems.

- Attending lectures, presentations, and community information meetings are ways for citizens to become more informed about topics related to the Bays and the challenges facing Maryland's restoration efforts. Information about these opportunities can be found on Internet sites of the sponsoring organizations, in local newspapers, and on community bulletin boards at the public library and other government buildings.

- Using public transportation is always more environmentally friendly than driving a private vehicle, but purchasing a Chesapeake Bay License Plate shows support for Maryland's restoration efforts because a portion of the fee for these plates goes to restoration and education projects related to the Chesapeake Bay. Additional information is available at http://www.bayplate.org/.

- Local newspapers provide an opportunity for those interested in promoting the goals of the Critical Area Program to express their opinions. Editorials and letters to the editor reach and influence a wide array of individuals. Not only does the general public read editorials, but local government officials and legislators do as well.

- Reporting suspected violations helps local governments enforce their Critical Area programs. Homeowners within the Critical Area can learn about the regulations and stay aware of construction and development activities that are taking place in their neighborhoods. Contacting the local planning and zoning office to report a potential violation helps local government inspection personnel perform their jobs more efficiently; such preventative action often stops unauthorized activities before they result in serious adverse environmental impacts.

- Participating in a water-quality monitoring project is another way for citizens to get out on the water and make a difference. Monitoring efforts often rely on volunteers to collect samples and perform basic scientific water quality tests. Citizen monitoring is, in fact, key to a number of stewardship activities, such as documentation of existing water quality, identification of point and nonpoint sources of pollution, involvement of the public in pollution prevention and reduction, and citizen education regarding water quality principles.

Stewardship activities take many forms, and even small changes in behavior make a significant difference.

Citizens who are knowledgeable about the regulations can ensure that local Critical Area programs are properly implemented and enforced.

CHAPTER 11: CITIZEN PARTICIPATION IN THE POLITICAL PROCESS

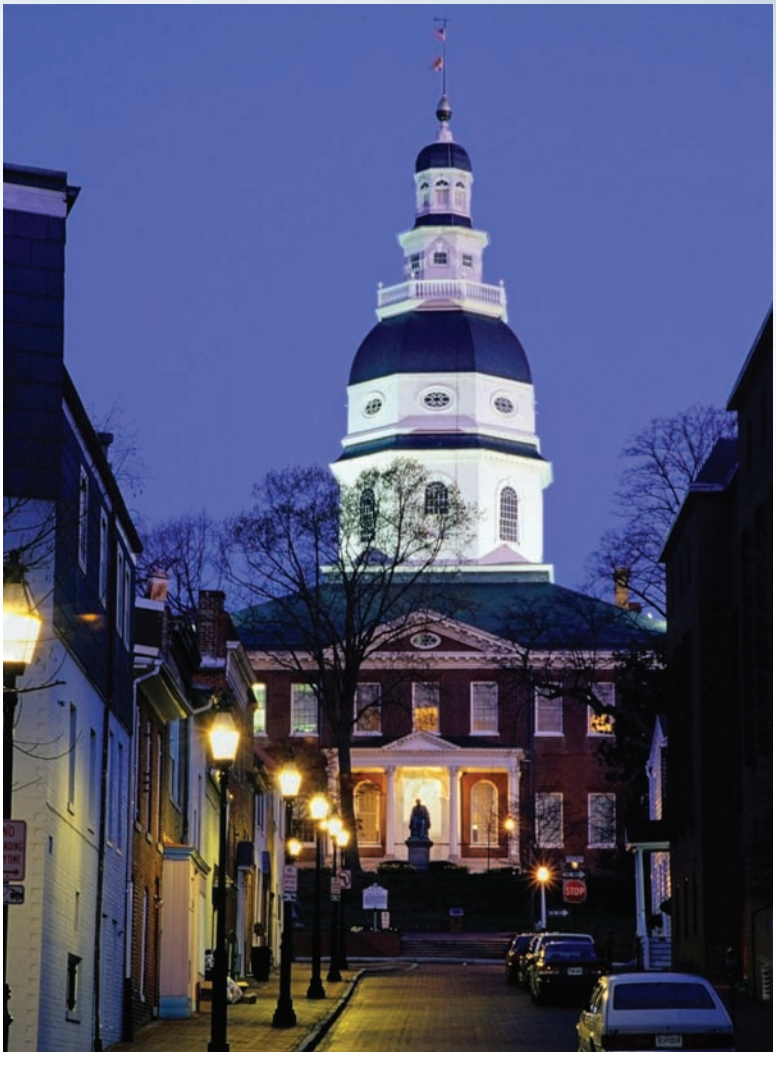
Public participation in and support of Maryland's Critical Area Program is essential to its success and ultimately to the restoration of Maryland's Bays. Citizens who are knowledgeable about the regulations can ensure that local Critical Area programs are properly implemented and enforced. Interested citizens can also get involved in the required updates to local programs, making sure they are accomplished in a timely manner and that confusing or ineffectual provisions are changed. Contacting local officials and legislators also ensures the long-term effectiveness of Maryland's Critical Area Program. Elected officials want to hear that Maryland residents support regulations that protect the Bays and their ecosystems and that citizens are willing to make the sacrifices necessary to ensure clean, biologically diverse, and productive waterways for the future.

Involvement in Local Decision-Making

All Maryland citizens can participate in the restoration of the Chesapeake and Atlantic Coastal Bays in a significant way that is often overlooked. Every week, across the State, local planning commissions, appeals boards, town councils, and county commissioners meet and make important decisions that affect land use and development. These decisions range from approving a variance allowing a homeowner to add on to a waterfront home to approving a major planned unit development involving hundreds of new homes and thousands of square feet of commercial space. Often these decisions directly affect water quality and plant and wildlife habitat in Maryland's protected watersheds.

Local elected and appointed officials are interested in the concerns of their constituents, particularly on important issues such as the environment and

Contacting State legislators ensures that elected officials know that Maryland residents support regulations that protect the Bays.



… these decisions directly affect water quality and plant and wildlife habitat in Maryland's protected watersheds.

Members of the public can comment on projects that are taking place in their communities and express their concern about potential adverse environmental impacts.

the restoration of Maryland's Bays. Moreover, local governments are required by law to publicize meetings involving significant land use decisions by placing legal notices in the local newspaper. Often agendas for these meetings are posted on local governments' websites. In almost all cases, these decisions include opportunities for public comment. Members of the public can participate in the decision-making process by testifying at a public meeting, writing a letter, or sending an e-mail. Quite often, public testimony in favor of or against a particular project will have a significant impact on the decision. Citizen comments may also lead to design changes that result in the construction of the project in a more environmentally sensitive manner and minimize or avoid impacts to sensitive resources.

In addition to participating in the project review process, local governments are required to review and update their local Critical Area programs every six years. Some counties and towns appoint a citizens' advisory group to assist with this effort, and this provides an opportunity for citizens to work directly with planners on local Critical Area regulations. Most jurisdictions propose amendments to their programs as part of this review, and this involves one or more public hearings. Hearing attendance and testimony on important issues keeps local officials attuned to the importance of the local Critical Area programs to residents of their jurisdictions.

While the Critical Area Criteria define minimum standards for local Critical Area programs, many local governments adopt modified provisions in order to accomplish specific objectives, such as providing more open space adjacent to sensitive habitats, collecting fees for Buffer impacts and spending these funds on appropriate restoration efforts, or developing a plan for a public boardwalk network to make shoreline areas accessible while minimizing adverse impacts. Public comment on these innovative provisions ensures that they are implemented effectively and contribute to the goals of Maryland's Critical Area Program.

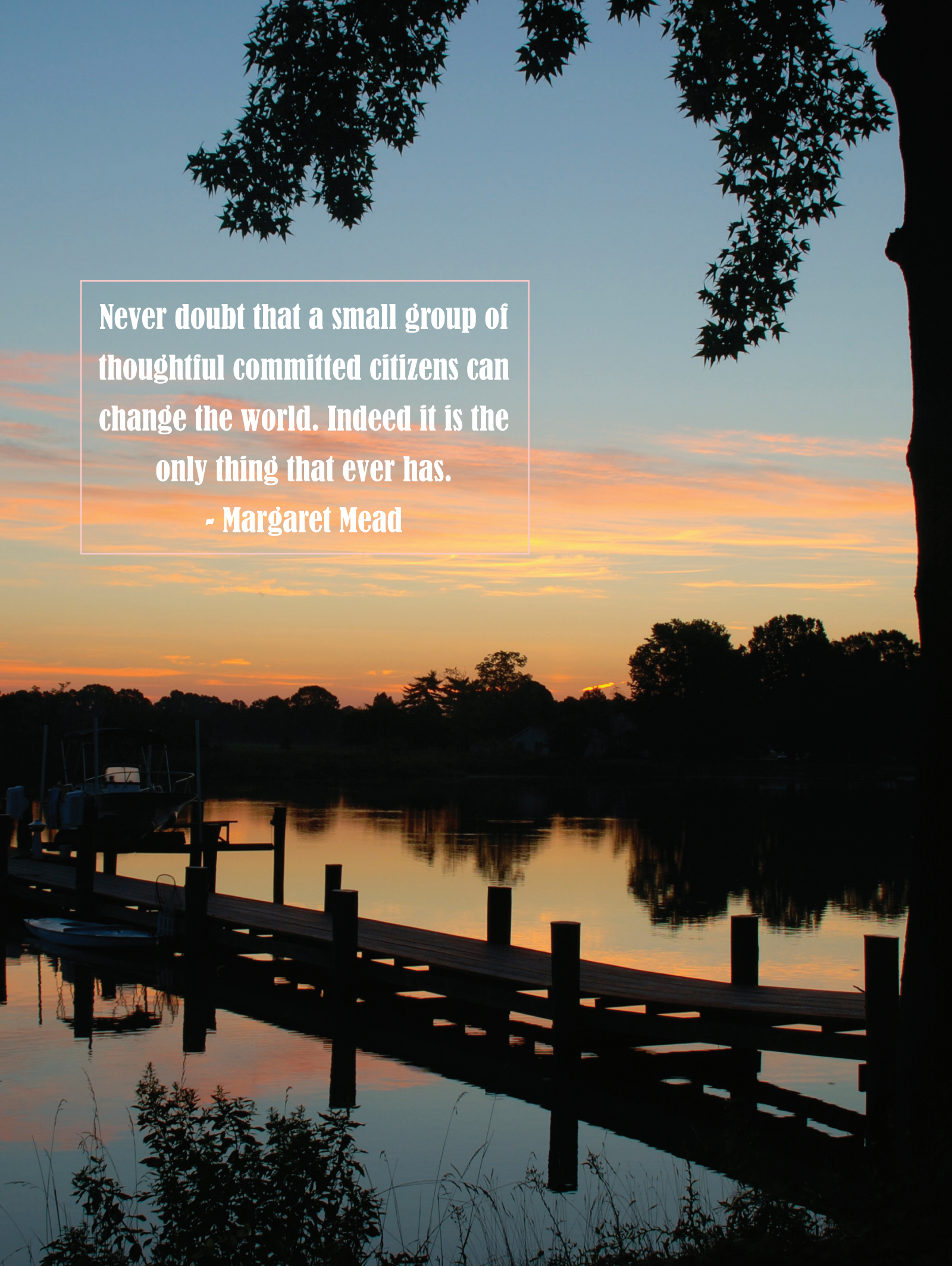
Appropriate regulations are needed to ensure that accommodating future growth in Maryland does not result in degradation or destruction of Maryland's natural resources.

Using the Political Process

Citizens also positively affect Maryland's Critical Area Program by supporting and voting for local and State officials who strongly support the Program. Interested and involved constituents may actually shape political decisions concerning land use, water quality, and wildlife by contacting their local and State officials. Elected officials need to know that accommodating growth to maintain a healthy economy for the State should not be accomplished at the expense of Maryland's important natural resources.

Writing a letter or sending an e-mail to a county commissioner or State delegate is a helpful way for citizens to explain their views on the environment and any pending decisions or legislation. It is important that government officials understand why more needs to be done to protect the Bays. Concise, factual, and personalized correspondence that explains the effect of proposed legislation on an individual or a community sends a message to legislators that their actions relating to Maryland's Bays really do matter. If proposed legislation does not maximize opportunities to protect and preserve Maryland's Bays, constituents' recommendations for alternative measures help lawmakers develop necessary amendments that are far more effective.

Voting for candidates who make Bay restoration efforts a priority is necessary to ensure that Maryland's Critical Area Program remains strong. It can be easy for a lawmaker to acknowledge that the health of the Bays is important. However, an elected official's voting record in support of important Critical Area Law changes is what demonstrates a real commitment to restoring Maryland's Bays. Recent modifications of the Critical Area Law improved its effectiveness by expanding the Critical Area to include the Atlantic Coastal Bays, clarifying where development activities can be intensified through the use of growth allocation, and increasing fines for violations. These legislative changes received strong support from the General Assembly. Continued support of future changes will be necessary in order for the Critical Area Program to remain responsive to ongoing development pressure.


Never doubt that a small group of thoughtful committed citizens can change the world. Indeed it is the only thing that ever has.
- Margaret Mead

CHAPTER 12: SUMMARY

After 20 years of implementation, the natural resource protection goals established by Governor Hughes and the General Assembly as part of the original Critical Area Law and Criteria are still applicable. The unique partnership between the Critical Area Commission and the 64 local jurisdictions surrounding Maryland's Bays has provided both opportunities and challenges. Like any pioneering regulatory program, patience, cooperation, and innovation have been essential to implementing and maintaining the Program. Because each local government adopted its own Critical Area program that included provisions specific to that jurisdiction, there are opportunities to assess effectiveness of various strategies and approaches. These assessments can be used to refine and amend Maryland's Critical Area Program as necessary to meet the challenges facing the Program in the future.

The past decade has shown that in order for the Critical Area Program to be effective, efforts must be made to increase the public's knowledge of the Program, improve enforcement of existing Critical Area regulations, and clarify and strengthen provisions of the Program that have proven ineffective or impracticable. This publication is part of an effort to make information about the Critical Area Program more accessible and understandable. It is anticipated that this educational effort will facilitate a better understanding of the regulations, and, coupled with intensified enforcement efforts, will result in greater compliance with local Critical Area programs. Another purpose of this publication is to emphasize the tremendous significance of Maryland's Critical Area Program and to highlight that a sustained commitment to restoring Maryland's Bays is necessary.

Every opportunity to restore habitat and improve water quality must be aggressively pursued.

In recent years, it has become apparent that if the Bays are ever to be truly restored while continuing to undergo significant development pressure, local Critical Area programs must be thoughtfully and rigorously implemented and enforced, and every opportunity to restore the Bays must be aggressively pursued. To do otherwise is to accept the continued degradation of habitat and deterioration of water quality that are responsible for the Bay's decline. This means that each occasion to restore habitat and improve water quality, regardless of its size and scope, is ultimately significant.

The challenge of restoring Maryland's Bays is now greater than ever. However, heightened awareness of the Bays' fragile condition, new technologies for managing the adverse impacts of development, and intensified State and local enforcement efforts provide hope for the future. By supporting Maryland's Critical Area Program and becoming effective stewards of Maryland's extensive water resources, all Marylanders have a role to play in restoring, enhancing, and protecting Maryland's grandest natural resources. In the words of Margaret Mead, "Never doubt that a small group of thoughtful, committed citizens can change the world. Indeed, it is the only thing that ever has."

DEFINITIONS

Afforestation
The establishment of a tree crop on an area from which it has always or very long been absent, or the planting of open areas that are not presently in forest cover.

Agriculture
All methods of production and management of livestock, crops, vegetation, and soil. This includes, but is not limited to, the related activities of tillage, fertilization, pest control, harvesting, and marketing. It also includes, but is not limited to, the activities of feeding, housing, and maintaining of animals such as cattle, dairy cows, sheep, goats, hogs, horses, and poultry and handling their by-products.

Agricultural easement
A non-possessory interest in a parcel of land, which restricts the conversion of use of the land, preventing non-agricultural uses.

Anadromous fish
Species of fish (e.g., rockfish, yellow perch, white perch, shad and river herring) that travel upstream from their primary habitat in the ocean to fresh waters in order to spawn.

Anadromous fish propagation waters
Those streams that are tributaries to tidal waters where spawning of anadromous species of fish (e.g., rockfish, yellow perch, white perch, shad and river herring) occurs or has occurred.

Aquaculture
The farming or culturing of finfish, shellfish, or other aquatic plants or animals in lakes, streams, inlets, estuaries, and other natural or artificial water bodies or impoundments. Activities include the hatching, cultivating, planting, feeding, raising, and harvesting of aquatic plants and animals and the maintenance and construction of necessary equipment, buildings, and growing areas. Cultivation methods include, but are not limited to, seed or larvae development and grow-out facilities, fish pens, shellfish rafts, racks, and longlines, seaweed floats and the culture of clams and oysters on tidelands and subtidal areas. For the purpose of this definition, related activities such as wholesale and retail sales, processing, and product storage facilities are not considered aquacultural practices

Atmospheric deposition
A process whereby pollutants are transported from a ground-based source and through atmospheric processes are deposited on a distant land or water surface.

Barren land
Unmanaged land having sparse vegetation.

Best Management Practices (BMPs)
Conservation practices or systems of practices and management measures that control soil loss and reduce water quality degradation caused by nutrients, animal waste, toxics and sediment. Agricultural BMPs include, but are not limited to, strip cropping, terracing, contour stripping, grass waterways, animal waste structures, ponds, minimal tillage, grass and naturally vegetated filter strips, and proper nutrient application measures.

Board of Appeals
The local body within a jurisdiction, created by ordinance, whose responsibility it is to hear appeals from decisions of the local zoning administrative official and to consider requests for variances and special exceptions (special use permits, conditional use permits) permissible under the terms of that jurisdiction's zoning ordinance and Critical Area Program.

Buffer
A naturally vegetated area or vegetated area, established or managed to protect aquatic, wetland, shoreline, and terrestrial environments from man-made disturbances.

Clearcutting
The removal of an entire stand of trees in one cutting with tree reproduction obtained by natural seeding from adjacent stands or from trees that were cut, by advanced regeneration or stump sprouts, or by planting of seeds or seedlings.

Cluster development
A residential development in which dwelling units are concentrated in a selected area or selected areas of the development tract so as to provide natural habitat or other open space uses on the remainder.

Colonial nesting water birds
Herons, egrets, terns, and glossy ibis. For the purposes of nesting, these birds congregate (that is colonize) in relatively few areas, at which time, the regional populations of these species are highly susceptible to local disturbances.

Commercial harvesting
A commercial operation that would alter the existing composition or profile, or both, of a forest, including all commercial cutting operations done by companies and private individuals for economic gain.

Community piers
Boat docking facilities associated with subdivisions or similar residential areas, and with condominium, apartment and other multiple-family dwelling units. Private piers are excluded from this definition.

Conservation easement
A non-possessory interest in land which restricts the manner in which the land may be developed in an effort to reserve natural resources for future use.

Critical Area
All lands and waters defined in § 8-1807 of the Natural Resources Article, Annotated Code of Maryland. They include all waters of, and lands under, the Chesapeake Bay and its tributaries and the Atlantic Coastal Bays and their tributaries, to the head of tide as indicated on the State wetlands maps, and all State and private wetlands designated under Title 16 of the Environment Article, Annotated Code of Maryland. They include all land and water areas within 1,000 feet beyond the landward boundaries of State or private wetlands and the heads of tides designated under Title 16 of the Environment Article, Annotated Code of Maryland and modification to these areas through inclusions or exclusions proposed by local jurisdictions and approved by the Commission as specified in Natural Resources Article, § 8-1807, Annotated Code of Maryland.

Crustaceans
A group of predominantly aquatic animals, including crabs, shrimps and barnacles, having hard outer skeletons or shells and paired, jointed limbs.

Density
The number of dwelling units per acre within a defined and measurable area.

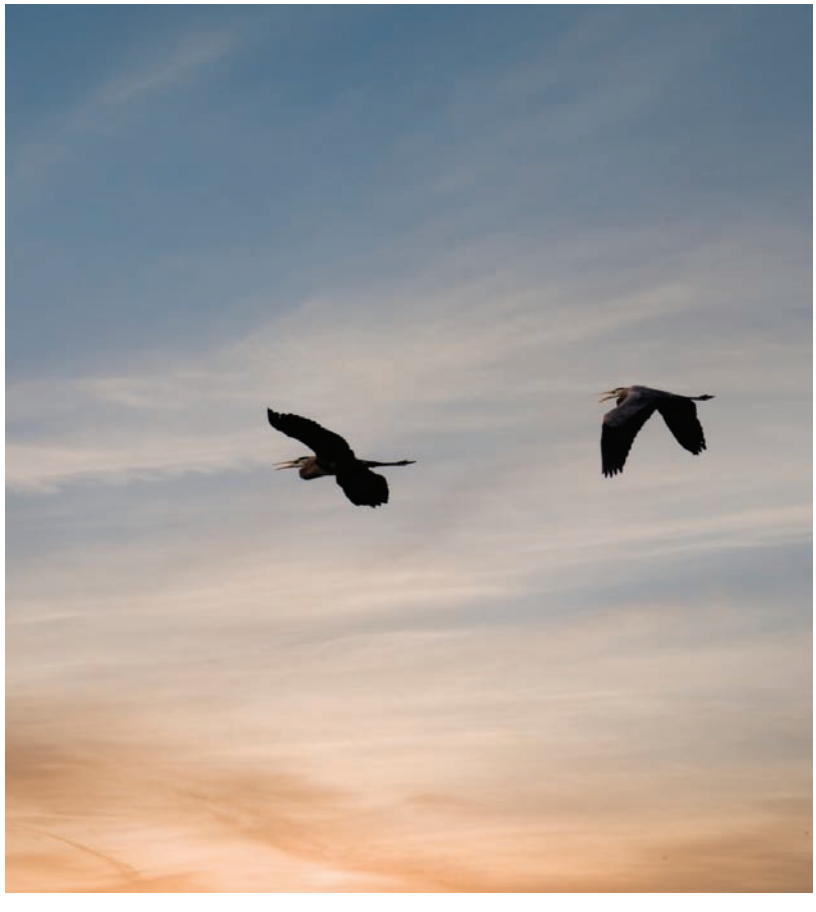
Developed woodlands
Those areas of one acre or more in size which contain trees and natural vegetation and which also include residential, commercial, or industrial structures and uses.

Development
The construction or substantial alteration of residential, commercial, industrial, institutional, or transportation facilities or structures; any activity that materially affects the condition and use of dry land; or any activity that materially affects the condition and use of land under water within the designated Critical Area.

Development activities
Human activities that result in disturbances to land in conjunction with the construction or substantial alteration of residential, commercial, industrial, institutional or transportation facilities or structures.

Documented breeding bird areas
Forested areas where the occurrence of interior dwelling birds, during the breeding season, has been

Herons are colonial nesting water birds that nest in groups, often with multiple nests in a single tree.



Estuaries are the most productive water bodies in the world and provide habitat for a wide variety of species.

demonstrated as a result of on-site surveys using standard biological survey techniques.

Easement

An interest in land owned by another party that entitles its holder to a specific limited use or uses of that land. Easements are frequently used in the Critical Area to limit land uses so as to provide for wildlife conservation or the creation of natural habitat.

Ecosystem

A more or less self-contained biological community, together with the physical environment in which the community's organisms occur.

Endangered species

Any species of fish, wildlife or plants which have been designated as such by regulation by the Secretary of the Maryland Department of Natural Resources. Designation occurs when the continued existence of these species as viable components of the State's resources is determined to be in jeopardy. This includes any species determined to be an endangered species pursuant to the federal Endangered Species Act.

Estuary

A somewhat restricted body of water where the flow of freshwater mixes with saltier water transported by tides from the ocean. Estuaries are the most productive water bodies in the world.

Eutrophication

A process by which a body of water becomes either naturally or by pollution rich in dissolved nutrients (e.g., nitrogen and phosphorus) which leads to a reduction in the dissolved oxygen that produces an environment that does not readily support aquatic life.

Excess stormwater runoff

All increases in stormwater resulting from: an increase in the imperviousness of the site, including all additions to buildings, roads, and parking lots; changes in permeability caused by compaction during construction or modifications in contours, including the filling or drainage of small depression areas; alteration of drainageways or regrading of slopes; destruction of forest; or the installation of collection systems to intercept street flows or to replace swales or other drainageways.

Finding

A determination or conclusion based on the evidence presented and prepared by a hearings body in support of its decision. Local Boards of Appeal and Hearing Examiners are required by the Critical Area Law to make written "findings" based on competent and substantial evidence that their decision conforms to

the provisions of the Critical Area Law and the local Critical Area program.

Forest
A biological community dominated by trees and other woody plants covering a land area of one acre or more. This also includes forests that have been cut, but not cleared.

Forest Interior Dwelling Birds
Species of birds that require relatively large forested tracts in order to breed successfully (for example, various species of flycatchers, warblers, vireos, and woodpeckers).

Forest management
The protection, manipulation, and utilization of the forest to provide multiple benefits, such as timber harvesting, water transpiration, and wildlife habitat.

Forest practice
The alteration of the forest either through tree removal or replacement in order to improve the timber, wildlife, recreational, or water quality values.

Habitat Protection Areas
Those areas, including the 100-foot Buffer, nontidal wetlands, habitats of threatened or endangered species and species in need of conservation, plant and wildlife habitats, and anadromous fish propagation waters, that are designated for protection under the Critical Area Law and Criteria.

Highly erodible soils
Those soils with a slope greater than 15 percent; or those soils with a K value (the soil erodibility factor in the Universal Soil Loss Equation) greater than 0.35 and with slopes greater than 5 percent.

Hydric soils
Soils that are wet frequently enough to periodically produce anaerobic conditions, thereby influencing the species composition or growth, or both, of plants on those soils.

Hydrophytic vegetation
Those plants cited in "Vascular Plant Species Occurring in Maryland Wetlands" (Dawson, F. et al., 1985) which are described as growing in water or on a substrate that is at least periodically deficient in oxygen as a result of excessive water content (plants typically found in wet habitats).

Impervious surface
An area covered with solid material or that is compacted to the point where water cannot infiltrate underlying soils (e.g., parking lots, roads, houses, patios, swimming pools, tennis courts, and so forth) and where natural hydrologic patterns are altered.

Land clearing
Any activity that removes the vegetative ground cover.

Land use
The purpose or activity for which a piece of land or its buildings is designed, arranged or intended or for which it is occupied or maintained. Within the Critical Area, some land uses are specifically prohibited or are subject to specific restrictions and limitations.

Legally developed
All physical improvements to a property that existed before Commission approval of a local program or were properly permitted in accordance with the local program and policies in effect at the time of construction.

Lot coverage
The percentage of a total lot or parcel that is: occupied by a structure, accessory structure, parking area, driveway, walkway, or roadway; or covered with gravel, stone, shell, impermeable decking, a paver, permeable pavement, or any man-made material. Lot coverage includes the ground area covered or occupied by a stairway or impermeable deck. There are specific exceptions for: a walkway or stairway through the Buffer that provides access to a pier; a certain kind of fence or wall; a wood mulch pathway; and a deck with gaps to allow water to pass freely.

Map, Critical Area
Legal documents adopted by the governing body of a local jurisdiction and approved by the Critical Area Commission that exhibit those lands within the 1,000-foot Critical Area boundary and the land use classification (RCA, LDA, IDA) assigned to each parcel. These maps are considered an element of a local government's Critical Area Program, and the governing body and the Critical Area Commission must approve any changes to the maps. Critical Area Maps are available for public inspection at each jurisdiction's planning and zoning office.

Marina
Any facility for the mooring, berthing, storing, or securing of watercraft, but not including community piers and other non-commercial boat docking and storage facilities.

Mean High Water Line (MHWL)
The average level of high tides at a given location.

Natural features
Components and processes present in or produced by nature, including, but not limited to, soil types, geology, slopes, vegetation, surface water, drainage patterns, aquifers, recharge areas, climate, flood plains, aquatic life, and wildlife.

Natural Heritage Area
Any community of plants or animals which are considered to be among the best Statewide examples of their kind and designated by regulation by the Secretary of the Department of Natural Resources.

Natural vegetation
Those plant communities that develop in the absence of human activities.

Nature-dominated
A condition where landforms or biological communities, or both, have developed by natural processes in the absence of human intervention.

Non-point source pollution
Pollution generated by diffuse land use activities rather than from an identifiable or discrete facility. It is conveyed to waterways through natural processes, such as rainfall, storm runoff, or groundwater seepage rather than by deliberate discharge. Non-point source pollution is not generally corrected by "end-of-pipe" treatment, but rather by changes in land management practices.

Non-renewable resources
Resources that are not naturally regenerated or renewed.

Nontidal wetlands
Those areas, excluding tidal wetlands, which are inundated or saturated by surface water or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions, commonly known as hydrophytic vegetation. These areas are determined according to the Corps of Engineers Wetlands Delineation Manual.

Nonconforming use
A use of land that lawfully existed before enactment of a zoning ordinance or other land use regulation that may be maintained after the effective date of the ordinance, although it no longer complies with use restrictions newly applicable to the area. A property which fails to meet the requirements of the Critical Area land use classification in which it is located and which was conforming prior to the enactment of a local government's Critical Area Program is considered a nonconforming use.

Nutrient
A group of chemicals that nourish growth. In the Chesapeake and Atlantic Coastal Bays, nitrogen and phosphorus are the "nutrients" that contribute to excessive plant (e.g., algal) growth and eutrophication.

Open space
Land and water areas retained in an essentially undeveloped state.

Parcel
A lot, tract, or plot of land in single ownership or under single control and usually considered a unit for purposes of development.

Permeable surfaces
Areas that can be permeated, allowing stormwater to infiltrate into the underlying soils (i.e., meadows, forests).

Plant habitat
A community of plants commonly identifiable by the composition of its vegetation and its physiographic characteristics.

Political subdivision
Any political entity, such as a town, city or county, governed by its own legislative body and exercising planning and zoning authority. Sixty-four political subdivisions, including 16 counties, 47 municipalities, and Baltimore City, surround Maryland's portion of the Chesapeake Bay and Atlantic Coastal Bays and are within the jurisdiction of the Critical Area Law.

Pollutant
A material that contaminates or adversely affects air, soil, or water. Sediments, nutrients, and toxic chemicals are considered the major groups of pollutants contributing to the deterioration of the Chesapeake Bay and Atlantic Coastal Bays ecosystems.

Port
A facility or area established or designated by the State or local jurisdictions for purposes of water-borne commerce.

Private harvesting
The cutting and removal of trees for personal use.

Project approvals
The approval of development, other than development by the State or local government, in the Critical Area of the Chesapeake and Atlantic Coastal Bays by the appropriate local approval authority. The term includes approval of subdivision plats and site plans; inclusion of areas within floating zones; issuance of variances, special exceptions, and conditional use permits; and issuance of zoning permits. The term does not include building permits.

Public water-oriented recreation
Shore-dependent recreation facilities or activities provided by public agencies that are available to the general public.

Reclamation
The reasonable rehabilitation of disturbed land for useful purposes and the protection of the natural resources of adjacent areas, including waterbodies.

Redevelopment
The process of developing land which is or has been developed.

Reforestation
The establishment of a forest through artificial reproduction or natural regeneration.

Renewable resource
A resource that can renew or replace itself and, therefore, with proper management, can be harvested indefinitely.

Riparian habitat
A habitat that is strongly influenced by water and which occurs adjacent to streams, shorelines, and wetlands.

Selection
The removal of single, scattered, mature trees or other trees from uneven-aged stands by frequent and periodic cutting operations.

Site Plan
A graphic depiction of the existing or proposed development of a property that provides information such as location of structures, setbacks, parking, traffic circulation, exterior lighting, utilities, and landscaping. A site plan is usually required by local governments for all development or redevelopment of property, including the addition of new structures, the alteration of or additions to existing structures, and other types of development.

Soil Conservation and Water Quality Plan
Land use plans for farms that show farmers how to make the best possible use of their soil and water resources while protecting and conserving those resources for the future. It is a document containing a map and related plans that indicate how the landowner plans to treat a farm unit, which best management practices the landowner plans to install to treat undesirable conditions, and the schedule for applying those best management practices.

Soil Erosion and Sediment Control Plan
A written plan with appropriate maps, plans, and details which describes how erosion and transportation of sediment is to be managed and controlled on a development site and the time or schedule of the management and control activities.

Species in need of conservation
Those fish and wildlife species whose continued existence as a part of the State's resources are in question and which may be designated by regulation by the Secretary of the Department of Natural Resources as in need of conservation.

Steep slope
A slope of 15 percent or greater incline.

Stewardship
The responsibility of an individual to manage his or her life and property with proper regard to the rights of others. The concept of environmental stewardship as it relates to the Critical Area means the responsibility of Critical Area landowners to manage their property so as to protect the Chesapeake Bay, Atlantic Coastal Bays, and their public watershed resources for the use and enjoyment of all the citizens of Maryland.

Structure
Anything constructed or erected on the ground or which is attached to something located on the ground. Structures include, but are not limited to, buildings, radio and TV towers, sheds, swimming pools, tennis courts, gazebos, decks, and boathouses.

Subdivision
The process and result of dividing a tract of land into smaller parcels.

Thinning
A forest practice used to accelerate tree growth of quality trees in the shortest interval of time.

Threatened species
Any species of fish, wildlife, or plants designated as

such by regulation by the Secretary of the Department of Natural Resources which appear likely, within the foreseeable future, to become endangered, including any species of wildlife or plant determined to be a "threatened" species pursuant to the federal Endangered Species Act.

Tidal wetlands

All State and private tidal wetlands, marshes, submerged aquatic vegetation, lands, and open water affected by the daily or periodic rise and fall of the tide within the Chesapeake Bay and its tributaries, the coastal Bays adjacent to Maryland's coastal barrier islands, and the Atlantic Ocean to a distance of 3 miles offshore of the low water mark.

Transitional habitat

A plant community whose species are adapted to the diverse and varying environmental conditions that occur along the boundary that separates aquatic and terrestrial areas.

Tributary stream

A perennial stream or an intermittent stream within the Critical Area that has been identified by site inspection or in accordance with local program procedures approved by the Commission.

Tidal wetlands include all areas affected by the daily or periodic rise and fall of the tide within Maryland's Bays and their tributaries.

Turbidity

Exhibiting suspended or stirred up particles of sediment.

Variance

An administrative exception to a land use, zoning, or subdivision regulation in order to compensate for a deficiency in a real property, which would prevent the property from complying with a specific regulation. There are specific standards within the Critical Area that must be applied in order for a variance to the Critical Area regulations to be granted, and these standards vary somewhat from standard zoning variance standards. Authority to approve variance requests is vested in the local jurisdiction's Board of Appeals or, in certain jurisdictions, a special hearing examiner.

Waterfowl

Birds that often swim in water, nest and raise their young near water, and derive at least part of their food from aquatic plants and animals.

Watershed

The region draining into a river, river system, or other body of water. The watershed of the Chesapeake Bay and Atlantic Coastal Bays encompasses some 16 million acres.

Water-use industry

An industry that requires location near the shorelione because it utilizes surface waters for cooling or other internal purposes.

Wildlife corridor

A strip of land having vegetation that provides habitat and safe passageway for wildlife.

Wildlife habitat

Those plant communities and physiographic features that provide food, water, and cover, as well as the nesting, foraging, and feeding conditions necessary to maintain populations of animals in the Critical Area.

Zoning permit

A permit, issued by the appropriate agency, which authorizes land to be used for specific purposes and indicates that a zoning permit application complies with the requirements of the jurisdiction's zoning ordinance and Critical Area Program or meets special conditions associated with the approval of a variance, special exception, or conditional use.

ADDITIONAL RESOURCES

Critical Area Commission for the Chesapeake and Atlantic Coastal Bays
1804 West Street, Suite 100
Annapolis, Maryland 21401
(410) 260-3460
www.dnr.state.md.us/criticalareas

Maryland Coastal Bays Program
9919 Stephen Decatur Highway, Suite 4
Ocean City, Maryland 21842
(410) 213-2297
www.mdcoastalbays.org

Maryland Department of Agriculture
50 Harry S. Truman Parkway
Annapolis, Maryland 21401
(410) 841-5700
www.mda.state.md.us
www.mascd.net/scds/MDSCD05.htm

Maryland Department of Natural Resources
580 Taylor Avenue
Annapolis, Maryland 21401
(410) 260-8367
1-877-620-8367 (Toll Free)
www.dnr.state.md.us

Maryland Department of the Environment
1800 Washington Blvd.
Baltimore, Maryland 21230
(410) 537-3000
1-800-633-6101 (Toll Free)
www.mde.state.md.us

United States Fish and Wildlife Service – Chesapeake Bay Field Office
177 Admiral Cochrane Drive
Annapolis, Maryland 21401
(410) 573-4500
www.fws.gov/chesapeakebay/

WORKS CITED

Alliance for the Chesapeake Bay, Inc. *BayScapes, Environmentally-Sound Landscape Management for the Chesapeake Bay.* Richmond: Alliance for the Chesapeake Bay, Inc.

Alliance for the Chesapeake Bay. "Homeowner's Guide to Designing your Property." *Alliance for the Chesapeake Bay – Publications: BayScapes.* Accessed: July 16, 2007. http://www.acb-online.org/pubs/projects/deliverables-85-8-2003.PDF

Center for Watershed Protection. *Critical Area 10% Rule Guidance Manual – Fall 2003.* Annapolis: Critical Area Commission for the Chesapeake and Atlantic Coastal Bays, 2003.

Coastal Bays Program. "Goals of the Coastal Bays Program." *Coastal Bays Program - Protecting Today's Treasures for Tomorrow.* Accessed: April 6, 2007. http://www.mdcoastalbays.org/about.php

Governor's Office of Chesapeake Bay Public Information and Chesapeake Bay Critical Area Commission. *Chesapeake Bay Critical Area Program and How It Affects You.* Annapolis: Chesapeake Bay Critical Area Commission, 1992.

Cain, Carol, Tim Carruthers, William Dennison, Matthew Hall, Roman Jesien, Jane Thomas, Catherine Wazniak, and Dave Wilson. *State of the Maryland Coastal Bays - 2004.* Annapolis: Maryland Department of Natural Resources Maryland, Maryland Coastal Bays Program, and University of Maryland Center for Environmental Science, 2005.

Center for Watershed Protection and the Maryland Department of the Environment. *2000 Maryland Stormwater Design Manual Volumes I & II.* Baltimore: Maryland Department of the Environment - Water Management Administration, 2000.

Liebmann, George W. "The Chesapeake Bay Critical Area Act: The Evolution of a Statute." *The Daily Record,* Baltimore, MD, April 20, 1985.

Lippson, Alice Jane and Robert L. Lippson. *Life in the Chesapeake Bay.* Baltimore: The Johns Hopkins University Press, 1984.

Maryland Coastal Bays Program. *Setting a Course for the Future of Our Community.* Berlin: Maryland Coastal Bays Program, 2002.

Maryland Department of Natural Resources – Water Resources Administration. *Shore Erosion Control Guidelines for Waterfront Property Owners.* Annapolis: Maryland Department of Natural Resources – Water Resources Administration, 1991.

Smith, Hugh, ed. *Critical Area and You: The Chesapeake's First Line of Defense.* Annapolis: Chesapeake Bay Critical Area Commission, 1992.

Sullivan, J. Kevin. *A Summary of the Chesapeake Bay Critical Area Commission's Criteria and Program Development Activities 1984-1988*. Annapolis: Chesapeake Bay Critical Area Commission, 1989.

State of Maryland. *Code of Maryland Regulations, Title 27, Chesapeake Bay Critical Area Commission*. Annapolis: Maryland Legislative Services, 2007.

State of Maryland. *Natural Resources Article, Title 8, Water and Water Resources, Subtitle 18. Chesapeake Bay Critical Area Protection Program*. Annapolis: Maryland Legislative Services, 2007.

Tiner, Ralph W. *A Field Guide to Nontidal Wetland Identification*. Annapolis: Maryland Department of Natural Resources and U.S. Fish and Wildlife Service, 1988.

U. S. Fish and Wildlife Service. *Native Plants for Wildlife Habitat and Conservation Landscaping – Chesapeake Bay Watershed*. Annapolis: U. S. Fish and Wildlife Service, 2005.

U. S. Department of Agriculture - Natural Resources Conservation Service. "Photo Gallery". Accessed July 25, 2007.
http://photogallery.nrcs.usda.gov/

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