Ten Year Resource Management Plan

Volume I

Management Direction and Strategy



Ten Year Resource Management Plan

## Volume I

# **Management Direction and Strategy**

#### State of Maryland

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# Pocomoke State Forest Ten Year Resource Management Plan Volumes I and II

#### ERRATA /ADDENDA

- 1. The Maryland Department of Natural Resources underwent a reorganization in 1995. All references herein to *Greenways and Resource Planning* should be amended to *Resource Planning Program*. All references to *Fish*, *Heritage and Wildlife Administration* should be amended to *Forest*, *Wildlife and Heritage Service*. Other program names in some cases may also have changed.
- 2. In Volume II, p. 74, Appendix E: Due to legislative actions in the 1995-1996 sessions of the Maryland General Assembly, there have been additions to the Wildlands in Pocomoke State Forest. There are currently 4,265 acres of Wildland at Pocomoke, on two parcels. In all, 27 Wildlands have been designated on a total of 39,412 acres in the state of Maryland.
- 3. Recent acquisitions by Maryland Program Open Space and new Wildlands designations have resulted in acreage changes within management zones. The General Management Zone in Pocomoke State Forest now totals 7,566 acres. The Special Management Zone now totals 3,638 acres. The Water Management Zone now totals 6,341 acres.
- 4. The Chesapeake Bay Critical Area Commission and DNR staff has developed guidelines for timber harvest in relation to forest interior dwelling birds that may affect land use in some Critical Area sites. The revised guidelines are entitled Chesapeake Bay Critical Area Timber Harvest Plan Guidelines (June 2, 1999).
- 5. In 1996 the Department of Natural Resources published the DNR Lands Stategic Plan for Recreation and Conservation (August, 1996). This documents summarizes planning efforts throughout DNR's public lands system, identifying primary functions and issues of concern for each land unit, as well as recommendations for programming, land acquisition, conservation practices and recreation throughout the state. Regarding Pocomoke River State Forest, the plan indicates that "the forest includes cypress swamps along the Pocomoke River and is an integral link in the Pocomoke Scenic River Heritage Greenway connecting upstream urban parks and significant natural and ecologically sensitive sites. Limited use passive recreation is offered together with a demonstration of stewardship and forestry practices."

# Acknowledgements

A number of agencies and individuals made significant contributions to the development of the Ten Year Resource Management Plan for Pocomoke State Forest. The Department of Natural Resources particularly appreciates the efforts of the Pocomoke State Forest Advisory Committee who contributed their time and energy reviewing and commenting on the plan.

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# Pocomoke State Forest Ten Year Resource Managment Plan

# Volume I - Management Direction and Strategy

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# I. Introduction

#### A. Plan Overview

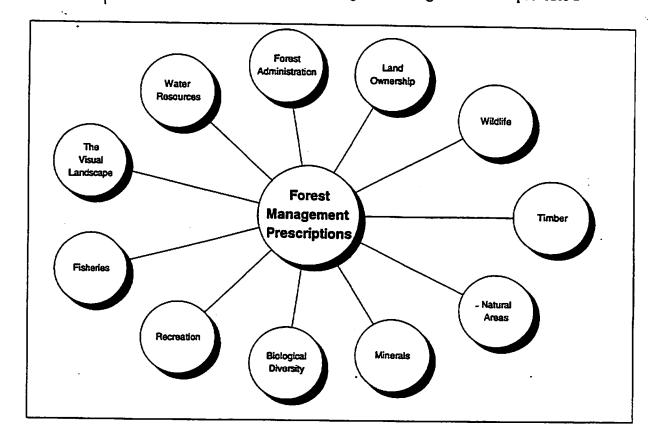
This plan establishes the management direction for Pocomoke State Forest for the ten year period commencing July 1, 1996. The plan considers the Forest's role in local, regional and statewide settings, and provides guidance to management staff in meeting the needs of the citizens of Maryland at each of these levels.

Seven major forest management goals have been established to guide activities at Pocomoke. These goals are to be achieved primarily through the implementation of this plan at two levels: (1) forest-wide resource management prescriptions aimed at protecting and enhancing specific resource features, and (2) the establishment of a forest zoning structure which provides for the maintenance of specific resources at established locations (or zones) throughout the Forest.

Collectively, the Forest Management Prescriptions contained in Chapter III-B and the Forest Zoning structure discussed in Chapter III-C represent the heart of this plan. The forest-wide prescriptions (Figure I-1) provide management staff with resource oriented direction while the forest zoning structure provides location oriented direction. These directives work together to help to determine the appropriate management strategy at any given location within the Forest.

The Forest Management Prescriptions include a broad goal statement for each of the identified resource categories. The goal statement provides a

Figure I-1.
Forest Management
Prescriptions



The management objectives describe specific conditions sought within the Forest, and serve as the basis for a corresponding series of implementation strategies. The implementation strategies include programs and actions through which the management objectives are achieved.

In addition to forest-wide management direction, the Ten Year Plan allocates the Forest among three management zones. These zones identify preferred uses and management direction for distinct areas within the forest. A summary of the management zones appears in Table I-1.

POCOMORE STATE FOREST MANAGEMENT ZONES ENTRE				
Zone	Acres	Criteria/Definition	Management Goal/ Objective	Summary of Restricted/Prohibited Activities
Special	3,638	Special features of natural or cultural or cultural origin, including special habitats and unique natural areas, wildlife openings, wildlands, developed recreational sites, and administrative areas	Preservation and/or protection of the specific feature	Timber management generally limited to protection of public safety or to protect the specific resource feature; construction of facilities limited to those necessary for protection and enhancement of specific feature; resource extraction prohibited
Water	6,341	Blue line perennial and intermittent streams on 7.5' USGS quadrangles, non-tidal wetlands	Protection of water quality and volume and soil retention, retention of undisturbed riparian corridors	Timber harvesting, construction of non- water dependant facilities, and resource extraction prohibited
General	7,566	Areas remaining after the identification of the special and water management zones	Maintenance of tree growth, improvement of wildlife habitat, promotion of a wide variety of forest types and age classes, provision of wood, and enhancement of recreational opportunities	

Table I-l.
Summary of Forest
Management Zones

# B. Mandate for State Forest Planning and Management

The resources and values provided from state forests reach people throughout the State and beyond. These resources and values range from economic to aesthetic and from scientific to inspirational. The Department of Natural Resources is mandated by law to consider a wide variety of issues and uses when pursuing a management strategy for these forests.

The importance of considering these factors is acknowledged in the Annotated Code, which establishes the following policy pertaining to state forests and parks:

"Forests, streams, valleys, wetlands, parks, scenic, historic and recreation areas of the state are basic assets. Their proper use, development, and preservation are necessary to protect and promote the health, safety, economy and general welfare of the people of the state. It is the policy of the state to encourage the economic development and the use of its natural resources for the improvement of the local economy, preservation of natural beauty, and promotion of the recreational and leisure interest throughout the state." (Annotated Code of Maryland, Natural Resources Article §5-102)

The Department recognizes the many benefits provided by state forests and has established a corresponding management policy in regulation.

"The state forests are managed to promote the coordinated uses of their varied resources and values for the benefit of all people, for all time. Water, wildlife, wood, natural beauty and opportunities for natural environmental recreation, wildlands experience, research demonstration areas, and outdoor education are major forest benefits." (Code of Maryland Regulations 08.07.01.01)

To ensure that benefits are realized by and resources are protected for future generations, a statewide system of renewable resource planning has developed. These plans are the foundation for the many activities which can and should occur on state forest lands. The ten year resource management planning process for state forests is an outgrowth of the renewable forest resource plan mandated by law.

"The Department shall develop a system for long-range renewable forest resources planning. The public and private forest land resources of Maryland, including, but not limited to, wood fiber, forest recreation, wildlife, fish,

forest watershed, and wilderness potential, shall be examined and inventoried periodically. As part of the forest planning process, the Department periodically shall develop, review and revise a resource plan that should help to provide for a sustained yield of forest resource benefits for the citizens of Maryland. The forest resource plan shall be made available for public and legislative review and comment." (Annotated Code of Maryland, Natural Resources Article §5-214)

The Ten Year Resource Management Plan for Pocomoke State Forest has been prepared in consideration of these many uses and benefits. The concept of multiple use has and will continue to be the guiding principle behind state forest management.

# C. Purpose and Scope of the Plan

This Ten Year Resource Management Plan for Pocomoke State Forest updates and expands previous attempts at a comprehensive forest management plan. It is intended to provide broad guidance for forest management staff to base decisions into the twenty-first century. The plan provides direction to the Forest Manager in the preparation of the Annual Work Plans and to DNR staff in the preparation of related comprehensive resource plans (specifically - timber and wildlife).

This introduction explains how the ten year resource management plan relates to other ongoing and proposed planning efforts conducted by the Department. The introduction then concludes with a discussion of the state forest planning process utilized in the production of this plan.

A brief background and general history of Pocomoke State Forest is presented in Chapter II. Additional factual information pertaining to the existing resources and uses of Pocomoke are presented in Appendix A.

Chapter III contains the management direction and strategy for Pocomoke State Forest for the ten year planning period. It begins with a brief discussion of the seven forest goals which guided the preparation of this plan. A series of management prescriptions for primary resource categories is presented following the goals discussion. Finally, a discussion of the forest zoning system employed in the plan is presented. A series of maps showing the management zones of the Forest are included at the end of the Plan.

Within a separate volume are a variety of technical and support materials which complement the ten year plan. Included within the appendices is the Resource Inventory and Assessment for the Forest, as well as several detailed sections outlining planning and management tools which support the proposed management direction and strategies.

# D. Relationship to other Planning Activities

The *Ten Year Resource Management Plan* provides broad guidance for management of the State Forest for the ten year period commencing with fiscal year 1997. It will be used as the basis for all ancillary planning activities which affect the many resources present and activities contemplated at Pocomoke.

The Ten Year Plan provides general direction under many resource and activity categories. It also establishes a zoning structure identifying management envelopes of the forest which will feature specific resource objectives.

The Ten Year Plan does not identify individual tracts of the forest which will be subject to active management during the planning period, nor does it specify the total acreage to be impacted by management activities.

The Functional Timber Resource Management Plan for Pocomoke State Forest will be prepared subsequent to the approval of the Ten Year Plan. The Timber Management Plan will identify management priorities within subwatershed planning units. It will utilize comprehensive data collected and analyzed through the continuous forest inventory (CFI) project, as well as other appropriate data sources. The Functional Timber Management Plan will elaborate on the timber management objectives and strategies contained within the Ten Year Plan and will identify specific actions to be undertaken to achieve the identified objectives.

The preparation of the Functional Plan will be overseen by the Maryland Forest Service and the State Forest and Park Service. Input from other agencies within the Department and the Pocomoke State Forest Advisory Committee will be sought as appropriate.

The Comprehensive Wildlife Management Plan for Pocomoke State Forest will include specific land management objectives for identified wildlife habitat management units (WHMU's) located throughout the Forest. A cooperative effort led by the Wildlife Division and State Forest staff, the Comprehensive Wildlife Management Plan will evaluate the attributes of each identified WHMU and recommend strategies for meeting the objectives for each unit.

The DNR Lands Strategic Plan will evaluate all DNR landholdings for existing and potential recreational needs within DNR land units on a regional basis. The determination of appropriate recreational activities for Pocomoke will be evaluated within the regional context, recognizing the recreational contribution met at other State Parks, Forests and Wildlife Managements Areas in eastern Maryland. Conservation needs for fish, wildlife, threatened and endangered species, and special habitats will also be evaluated within a regional context. The DNR Lands Strategic Plan, to be completed in 1995, is being coordinated by the Greenways and Resources Planning Program, with assistance from other agencies as appropriate.

Each of the aforementioned plans is ultimately implemented through the State Forest Annual Work Plan. The Annual Work Plan is developed by the State Forest and Park Service in consultation with an interdisciplinary team representing agencies throughout the Department. The Annual Plan includes, but is not limited to, proposals for silvicultural activities, recreational improvements, wildlife management, and maintenance and upkeep of the forest infrastructure. Each Annual Work Plan is reviewed by the Pocomoke State Forest Advisory Committee and is available for public comment at a public hearing and during a subsequent public comment period

# E. Planning Process

This Ten Year Resource Management Plan for Pocomoke State Forest was prepared by an interdisciplinary planning team with assistance from the Pocomoke State Forest Advisory Committee. The planning team consisted of representatives from the following agencies:

Maryland Department of Natural Resources

State Forest and Park Service

Maryland Forest Service

Wildlife Division

Freshwater Fisheries Division

Tidewater Administration

Greenways and Resource Planning

Maryland Natural Heritage Program

Maryland Department of the Environment

(Formerly DNR - Water Resources Administration)

The planning team also relied on input from other agencies during the process for guidance and feedback; including the Maryland Geological Survey, Program Open Space, the Chesapeake Bay Critical Areas Commission, and the Maryland Department of Agriculture.

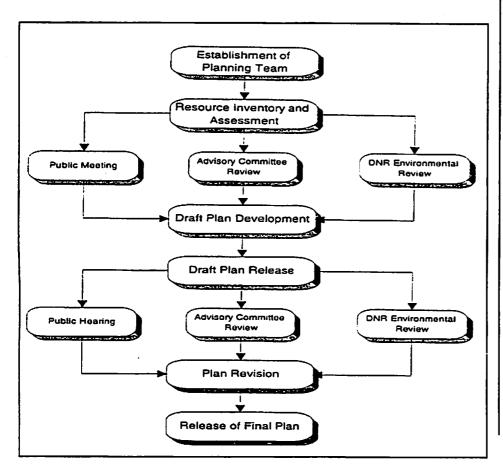


Figure I-2.
Potomac State Forest
Planning Process

The planning process was modeled after the process established for the *Ten Year Resource Management Plan - Savage River State Forest*, completed in June 1992, and subsequently modified for the preparation of the ten year plans for Green Ridge and Potomac-Garrett State Forests in 1993. These processes included extensive opportunity for public participation, and relied on public feedback in the refinement of management goals and implementation strategies.

The seven Forest Goals established during the planning processes for the western Maryland Forests have been used as the basis for the Pocomoke Plan. The reaffirmation of these goals (which are presented in Chapter III) was achieved by planning team review and through a request for comment during public informational meetings held in October 1994.

Resource inventory and assessment information for Pocomoke was compiled during the summer of 1994. This information was presented in October 1994 at public informational meetings in Annapolis and Snow Hill. At these meetings, the public was encouraged to submit written comments on the assessment information as well as possible management direction for the ten year plans.

This plan was developed to respond to the many resource demands on Pocomoke and, in part, to the concerns voiced at the public meetings, hearings and in writing. The draft plan was presented at public hearings in May 1995. Following the hearings, written comment was accepted through June 9, 1995. Where appropriate, the written and verbal comments received have been incorporated into this Plan.

# II. Background and History of the Forest

Pocomoke State Forest is located in the south-western section of Worcester County and is unique in many ways that set it apart from Maryland's other State Forests. (See vicinity map at the end of plan on page 49.) It is located in the Coastal Plain physiographic province. Elevation ranges from sea level to fifty five feet. The terrain is flat and drainage ranges from very poor in the swamps to very good at the higher elevations. The climate is generally temperate and humid. Seasonal temperatures are influenced by moderating effects of the Chesapeake Bay and Atlantic Ocean. Native stands of loblolly pine dominate uplands while cypress and other hydric species are found in the swamps and bottomlands.

Soils are composed of many classifications ranging from silt and clay loam to nearly pure sand. These soils developed from gravel, sand, silt, and clay transported by the Delaware, Susquehanna, and Potomac Rivers from the Allegheny Ridges.

Pocomoke State Forest was covered by ocean waters during the interglacial periods. The entire Forest is now drained by the Pocomoke River, which flows south-westerly into the Chesapeake Bay at the Maryland-Virginia boundary line.

Archaeological findings indicate that Indians inhabited the area dating from around 10-12000 BC. The various tribes present were part of the Indian linguistic family - the Algonquin Nations. Europeans began to colonize the area in the early 1600's. By the late 1600's an Indian reservation called "Askiminokonson" was set aside on the west side of the Pocomoke River near the present site of Snow Hill. Their town contained the largest Indian concentration in Maryland.

Primary pioneer activities included logging, trapping, fishing and farming. Early white settlers used the abundant natural resources for trade. By the late 1700's and early 1800's shipbuilding, brick manufacturing, the smelting of iron ore, and tobacco cultivation expanded.

The 19th century village of Furnace Town has been re-created and it and the original Nassawango Iron Furnace are found adjacent to State Forest lands. The Civil War period brought slaves, deserters and smugglers to the Forest area; the dark, remote swamps of the Pocomoke River were an integral part of the Underground Railroad. Prohibition brought bootleggers.

Before the establishment of the State Forest much of the land had been cleared for farming or used as farm woodlots. When the depression era hit many of the farmers fell on hard times, resulting in the acquisition of large amounts of land by the Federal Government. In the mid to late 1930's, two Civilian Conservation Camps were located on the Forest. The camp workers did considerable road and trail work, established boundary lines, provided for fire protection and suppression, planted trees and performed recreation improvements at Milburn Landing. At this same time the State was purchasing lands for management activities. In 1954, the Federal Government deeded its holdings to the State. In 1964, the Milburn Landing and Shad Landing areas were separated from the Forest and developed for intensive recreational use. The State continues to purchase in-holdings and other ecologically important areas along the Pocomoke River.

# III. Management Direction and Strategy

# A. Forest Management Goals

The management direction for Pocomoke will be driven by seven major goals. These goals were originally developed and utilized in the preparation of the Savage River, Green Ridge, and Potomac-Garrett Ten Year Plans. The goals were reaffirmed early in the planning process for Pocomoke through planning team and advisory committee deliberation and through public review and comment.

Collectively, the seven goals listed below represent an effort to recognize the multiple benefits the Forest provides. Public comment received following the public informational meetings in October 1994 suggested that one or more goals should be given greater prominence than others. However, this draft plan treats each of the seven goals with equal importance <u>for the Forest as a whole</u>. This decision has been based on the statutory direction noted in Chapter I. However, any given area of the Forest may be managed to emphasize a specific subset of the goals through the implementation of one or more management objectives.

Following are the seven goals which will be pursued at Pocomoke:

- ♦ GOAL #1: Manage Pocomoke State Forest to represent and protect significant or unique natural communities, elements of biological diversity and emplace management activities to conserve the integrity of these ecosystems.
- ♦ GOAL #2: Manage the natural resources using comprehensive inventory data, state of the art scientific and technical methods and accepted best management practices.
- ♦ GOAL #3: Develop plans within the constraints of the resource, based insofar as possible on the expressed views of the public and on long-term public needs.
- ♦ GOAL #4: Manage Pocomoke State Forest for balanced multiple uses to insure continuing benefits for current and future generations.
- ♦ GOAL #5: Strive to assure sustained yield of all renewable resources of Pocomoke State Forest.
- ♦ GOAL #6: Consider high and low impact recreational value of the Forest with an emphasis on low impact opportunities that would minimize environmental impact.
- ♦ GOAL #7: Maximize involvement or educational opportunities on Pocomoke State Forest.

# **B.** Forest Management Prescriptions

This section of the Plan provides general forest-wide direction for major resource and administrative categories at Pocomoke. For each resource category, a broad goal is presented. Several more specific management objectives relating to the goal are then established, followed by a series of implementation strategies aimed at achieving the objectives.

**Resource Category:** Forest Administration

#### Resource Goal:

Forest personnel will use their expertise and the necessary tools/equipment to manage the Forest, to the best of their ability, in accordance with the goals and objectives established in this Ten Year Plan.

#### Management Objective:

• Ensure adequate staffing, equipment, facilities and funds to attain resource and public use management objectives. Currently there are five classified employees assigned to the State Forest. Some equipment is substandard or nonexistent, and funding is inadequate.

- ♦ Although assistance in the form of maintenance and law enforcement is provided by State Park personnel, additional professional and technical assistance will be needed to implement this plan. This may involve temporary reassignment of duties of personnel from other DNR agencies and the hiring (either full or part time) of other resource professionals.
- ♦ Develop appropriate annual operating budgets to achieve management objectives established in annual work plans.
- ♦ Coordinate management objectives with other agencies, organizations, and individuals. Consider the use of the Eastern Region DNR Team as the vehicle through which these activities are coordinated.
- Support in-house education and interpretive activities as well as those requested by other agencies and organizations when compatible with State Forest programming goals.
- Provide appropriate and ample staff training.
- ♦ Increase funding for equipment rental/replacement, vehicle replacement, improvement of office space and road maintenance.
- Pursue alternative funding sources such as corporate sponsorships.
- Seek appropriation of surplus equipment from miscellaneous sources.
- Post and protect lands and waters within the State Forest boundaries.



# Resource Category: Wildlife

#### Resource Goal:

Protect, manage, and enhance wildlife populations at levels capable of providing sustained or increased recreational opportunities for the forest visitor, and protect and enhance the wide variety of species found on the forest to insure the continuation of functioning ecosystems.

#### Management Objectives:

- ♦ Integrate wildlife habitat management practices into resource management activities.
- Improve or maintain habitat conditions for forest game species, including deer, turkey, and grey squirrels, as these species provide for a major recreational use of the forest.
- ♦ Improve or maintain habitat conditions for non-game species, including local as well as neotropical birds and butterflies.
- ♦ Promote and protect threatened and endangered wildlife and species in need of conservation found on or adjacent to the forest.
- ♦ Improve the information data base to quantify recreational use and socioeconomic value of wildlife resources.
- Improve the wildlife data base to quantify reptile and amphibian populations.

- ♦ Develop a Comprehensive Wildlife Management Plan for Pocomoke State Forest which would include specific land management objectives for identified "wildlife management units".
- ◆ In cooperation with forest management staff, develop the annual work plan, review current staffing levels, and delineate costs and responsibiliti ies relative to achieving wildlife program goals.
- ♦ Integrate wildlife habitat considerations into timber management plan ning to improve specific wildlife habitat conditions in addition to providing forest products and other benefits.
- ◆ Promote improved communication and cross training of staff relative ⊃ forestry and wildlife principles and management activities.
- Evaluate future staffing potential to include a professional wildlife manager and support staff.
- ♦ Promote public educational opportunities on the forest to highlight the values and needs of wildlife and their habitats by demonstration and promotion of sound land management practices.
- ◆ Initiate reptile and amphibian population studies in the forest.
- ♦ Contact local colleges, universities, or research facilities to initiate surveys on recreational use and socioeconomic value of the wildlife resource.



- ♦ Assist forest management staff in ranking existing private land holdings relative to their wildlife habitat importance in the event that any of these properties may be acquired by the State.
- Protect, and where possible, expand populations of threatened and en dangered species and species in need of conservation. Avoid or minimize the impact of management actions on sensitive species and their habitat.
- ♦ Promote forest management practices that are compatible with forest breeding bird conservation.
- ♦ Maintain and protect non-tidal wetlands, seeps, and ephemeral ponds that serve as breeding areas for amphibians.
- ♦ Maintain stands of native hardwoods and promote management activities which encourage hardwood stands, provided these activities are in compliance with the Maryland Seed Tree Law.
- ♦ Promote forest management practices which lengthen harvest rotations within within hardwood stands.
- ♦ Maintain areas containing early successional stage vegetation for the survival survival and welfare of numerous wildlife species which are early successional stage-dependant.
- ♦ Continue the promotion of snag retention to support habitat needs for a multitude of wildlife species.
- Feature some areas representing the juxtaposition of older stands and early early successional stage stands.
- ♦ Where appropriate habitat conditions exist, provide for the retention of dead dead and downed logs and other natural ground material necessary to maintain maintain viable populations of reptiles, amphibians, and small mammals.
- ◆ Maintain specific open land habitats due to their high value to wildlife.
- ♦ Minimize forest alterations and recreational activities whenever possible during known breeding season of wildlife species.
- ◆ Due consideration to wildlife habitat will be given to all management activities on the Forest.
- ♦ Except for lands closed under regulation or by restrictive deed enants, co covenants, all state forest lands shall be open to and managed for public hunting and trapping.



Canoeing on Corker's Creek - adjacent to Pocomoke State Forest.

# Resource Category: Recreation

#### Resource Goal:

Provide for a variety of recreational opportunities consistent with the resource and recreational carrying capacity of the Forest.

#### Management Objective:

♦ Incorporate the State Forest into a regional plan which integrates the natural, cultural, historic, and recreational resources of the area.

#### Implementation Strategy:

♦ Prepare a greenway plan that links the cultural and historic resources of the Towns along the Pocomoke with the natural and recreational resources available on public and protected lands.

#### Management Objective:

◆ Provide a systematic framework for defining the types of outdoor recreation opportunities the public may desire, and indicate the most appropriate recreational settings in the State Forest.

#### Implementation Strategy:

♦ Use the Maryland Recreational Opportunity Spectrum (MROS - seeAppendix H) to identify more primitive areas of the Forest, and suitable locations for future recreational activities that best enhance the visitor experience.

#### Management Objective:

♦ Encourage compatible recreational activities that have low environ mental impact to the Forest, and ensure that high impact recreational uses are located in the most appropriate setting.

#### Implementation Strategy:

♦ Use the Maryland Recreational Opportunity Spectrum (MROS) and management zones to identify environmentally suitable areas for recreational opportunities.

#### Management Objective:

♦ Integrate forest recreational management into other resource management decisions.

- ◆ Solicit input from planning and technical staff through the annual work planning process to identify appropriate recreational use managed areas using the forest management zones and the Maryland Recreational Opportunity Spectrum (MROS).
- ♦ Evaluate recreational use and demand for trail and road systems, water access, and other related activities on an annual basis.

#### Management Objective:

♦ Integrate the recreational opportunities available within the Forest with those available within Pocomoke River State Park and Pocomoke Wildlife Management Area.

#### Implementation Strategy:

- ◆ Assess existing user needs and demands on the Park through use surveys, a facilities capability study, etc.
- ♦ Prepare a master plan for the Park that unifies the activities available at the State Forest and Wildlife Management Area.
- ♦ Develop a Management Plan for Pocomoke River Wildlife Management Area which considers recreational uses available on the adjacent State Forest land.

#### Management Objective:

• Explore opportunities for additional recreational water access.

#### Implementation Strategies:

- ◆ Assess existing site conditions along the Pocomoke River.
- Identify potential access points.
- ♦ Develop a canoe trail(s).

#### Management Objective:

Design/expand environmental education opportunities on the Forest.

#### Implementation Strategy:

◆ Incorporate management activities into promotional materials (brochures, signage, etc.) for visitors to the Forest.

# Resource Category: Timber

#### Resource Goal:

Through the use of silvicultural practices, maintain and improve the timber resource, while at the same time promote and protect other resource values consistent with responsible forest management.

#### Management Objective:

♦ Develop a comprehensive functional timber management plan.

#### Implementation Strategy:

♦ By using the data accumulated through the continuous forest inventory (CFI), GIS, and other applicable sources; a watershed-based silvicultural plan will be developed for the Forest.

#### Management Objective:

• Protect the forest from fire, insects, and disease.

#### Implementation Strategies:

- Work in conjunction with the Maryland Department of Agriculture and Maryland Forest Service to identify, monitor, and control insect and disease outbreaks.
- ♦ Control wildfires in accordance with the direction set forth in the fire suppression guidelines found in Appendix C.
- ◆ Utilize prescribed fires to reduce fuel hazard.
- ♦ Foster and maintain forest health and vigor.

#### Management Objective:

◆ Protect and enhance the visual resources of the Forest.

#### Implementation Strategy:

♦ Where appropriate, restrict or alter silvicultural practices to limit the impact on aesthetic values along primary roads and recreational sites.

#### Management Objective:

- Provide research areas to demonstrate and study various silvicultural practices performed in Coastal Plain ecosystems.
- ♦ Build a valid management understanding of the forest ecosystem through ecological monitoring and appropriate research.

- ♦ Work cooperatively with academic institutions, Maryland Forest Service, U. S. Forest Service, and any other resource agency that would aid in the implementation of a study project.
- Incorporate research into the use of prescribed burning for forest stand improvement, hazard reduction, wildlife enhancement, and habitat restoration.



- ♦ Implement research dealing with various silvicultural practices to aid in the growth, development and regeneration of forest stands.
- Support studies by other agencies and organizations that are directed towards areas of important management information needs.

#### Management Objective:

Promote economic and environmentally sound harvest of timber resources.

#### Implementation Strategies:

- ♦ Monitor and evaluate forest harvest operators through the use of a Best Management Practices Checklist.
- ◆ Require all operators to attend a Forest Products Operator training program sponsored by Maryland DNR.
- Review planned silvicultural proposals by the DNR interdisciplinary team, Pocomoke State Forest Advisory Committee, and the general public.
- ♦ Utilize Best Management Practices on silvicultural activities throughout the Forest.
- ♦ Conserve the timber resources through allowable and sustainable harvest levels with consideration of other forest resources.

#### Management Objective:

◆ Provide emergency timber sale procedures for the protection and utilization of the timber resources and to ensure public safety.

#### Implementation Strategy:

♦ Upon detection of a catastrophic event (major fire, insect out break, weather related damage, etc.), the Forest Manager will begin emergency salvage or sanitation timber sale procedures. While carry ing out the process of timber evaluation, the DNR interdisciplinary team and the Pocomoke State Forest Advisory Committee will be notified of the event and given two weeks to review and comment on the sale area. Upon completion of the timber evaluation and review of comments, the timber sale will be advertised and mailed to prospective bidders, and submitted for pre-approval.

#### Management Objective:

♦ Utilize 10% of timber sale revenue generated on Pocomoke State Forest for reforestation to ensure regeneration of all harvest sites and for other forestry and wildlife management activities that enhance and maintain the quality of the forest resource.

#### Implementation Strategy:

• Work with appropriate personnel and DNR Eastern Regional Team members to change existing policies pertaining to utilization of timber income.

# Resource Category: The Visual Landscape

#### Resource Goal:

Enhance and protect the visual landscape of Pocomoke State Forest.

#### Management Objective:

• Encourage the protection of the aesthetic quality of the Forest by identifying the most visually sensitive areas for visitors.

#### Implementation Strategy:

♦ Use the Maryland Visual Management System (MVMS - see Appendix I) overlay to identify viewsheds that merit higher considerations for protection.

#### Management Objective:

• Establish quality objectives for the alteration of the visual resource.

#### Implementation Strategy:

♦ Use the Maryland Visual Management System (MVMS) decision matrices to encourage flexible management strategies for viewshed protection.

#### Management Objective:

♦ Integrate visual resources management into other resource man agement decisions.

- ♦ Solicit input from planning and technical staff through the annual work planning process to help recommend strategies to promote the enhancement of affected, visually sensitive areas.
- ◆ Consider "High Value" designations in MVMS when developing and implementing forest management practices.

# Resource Category: Water Resources

#### Resource Goal:

Manage the wetlands, waterways and floodplains of the state forest to protect our valuable water resources.

#### Management Objectives:

- ◆ Protect perennial and intermittent waterways, nontidal wetlands, tidal wetlands, floodplains and their associated buffers from unnecessary impacts.
- ♦ Protect and enhance watersheds and riparian zones within Pocomoke State Forest.
- Protect and preserve the unique functions and values of Wetlands of Special State Concern.

#### Implementation Strategies:

- ◆ Wherever possible, locate facilities and activities which are not "water dependent" outside of the water management zone.
- ♦ Where unavoidable, minimize impacts within the water manage ment zone. Utilize best management practices for all activities under taken within the water management zone.
- ♦ Within the water management zone, sub-zones "A" and "B", limit recreation to low impact activities, exclude timber harvest operations, and limit wildlife habitat enhancement activities to sensitive practices.

# Resource Category: Fisheries

#### Resource Goal:

Provide sustainable levels of diverse recreational fishery opportunities through management strategies which emphasize protection and enhancement of aquatic resources and riparian buffers.

#### Management Objective:

♦ Provide continued access to spawning habitat for anadromous and semianadromous fish species in Pocomoke State Forest waters.

#### Implementation Strategy:

♦ Continue to monitor proposed projects within Pocomoke State
Forest that may potentially result in blockages to fish passage andrec
ommend design changes that will allow continued fish passage during
all stream flow conditions. Continue to identify existing blockages to
fish passage and make recommendations for providing access to
upstream habitat.



#### Management Objective:

♦ Provide continuing recreational fishing opportunities for anadromous, semianadromous, warmwater gamefish, and panfish species in Pocomoke State Forest waters at levels that do not deplete fish stocks.

#### Implementation Strategy:

♦ Monitor the status of fish populations by measuring such population parameters as condition factors, population estimates, growth rates, and reproductive success. Provide timely data to the forest manager as input for the development of the State Forest Annual Work Plan.

#### Management Objective:

♦ Increase recreational largemouth bass fishing opportunities in Pocomoke State Forest waters.

#### Implementation Strategy:

♦ Continue monitoring micro-tagged fingerling largemouth bass stocked in the Pocomoke River to determine survival rates; determine the genetic make-up of Pocomoke River largemouth bass to determine if the gene pool has been contaminated with genes from the Florida subspecies of large mouth bass (Micropterus salmoides floridanus); and continue water quality monitoring in conjunction with the National Biological Survey.

# Resource Category: Minerals

#### Resource Goal:

As demand necessitates or as Maryland law requires, provide for the orderly and safe development of mineral resources while protecting the environmental resources of the Forest.

The Department will not proactively solicit proposals for mineral extraction and development on State Forest lands. However, if State Forest lands contain the sole source for a specific grade of mineral, and the economic or public need is justified, the Department may consider extraction of mineral resources.

#### Management Objective:

• Recognize areas of past and present mineral extraction as potential areas for future extraction and integrate this information into other resource management decisions.

#### Implementation Strategy:

◆ Locate abandoned clay, sand and gravel pits, and existing mining operations and utilize the most current geologic information to develop a minerals use inventory for the Forest.

# Resource Category: Natural Areas

#### Resource Goal:

Perpetuate indigenous natural communities and habitats of species which are rare, threatened, endangered, or in need of conservation.

#### Management Objective:

◆ Identify, restore, and protect indigenous natural communities.

#### Implementation Strategies:

- ♦ Conduct landscape history studies to determine differences between existing natural communities and presettlement communities
- ♦ Restore natural communities to presettlement species composition and
- ♦ Conduct landscape history studies to determine differences between existing natural communities and presettlement communities.
- ♦ Restore natural communities to presettlement species composition and structure as much as possible; e.g., physical removal of non-indigenous species.
- Restore presettlement conditions necessary for the perpetuation of natural communities; e.g., periodic prescribed burning.

#### Management Objective:

• Protect habitats of species which are rare, endangered, threatened, or in need tion plans.

#### Implementation Strategies:

- ♦ Monitor species populations to assess changes and threats.
- ♦ Conduct habitat management research needed to formulate protection plans.
- ♦ Initiate habitat management and protection plans.

#### Objective:

• Promote education about natural areas conservation.

- ♦ Assist in the production of environmental education materials for the Pocomoke River State Park Visitors Center.
- ♦ Assist in the construction of environmental education trails in natural areas.

# Resource Category: Biological Diversity

#### Resource Goal:

Bald Cypress

Protect and, where possible, enhance biological diversity (biodiversity) native to Pocomoke State Forest and the Coastal Plain physiographic province.

#### Management Objective:

♦ Improve the biological/ecological data base upon which management decisions are made.

#### Implementation Strategy:

♦ Continue natural area inventory activities undertaken by the Maryland Natural Heritage Program.

#### Management Objective:

♦ Consider the cumulative temporal and spatial impacts of management activities on the biological resources of the State Forest.

#### Implementation Strategies:

- ♦ Analyze the history of past disturbances on the forest with GIS, maps and aerial photos that show roads, past agricultural and silvicultural activities, etc.
- ♦ Document and map temporal changes in vegetative cover.

#### Management Objective:

♦ Determine important biological diversity areas on the State Forest which are not presently adequately protected under the forest zoning structure, and which are not adequately represented on other protected lands in the region.

#### Implementation Strategies:

- ♦ Coordinate with Wildlife Division and U.S. Fish and Wildlife Service on application of Statewide GAP Analysis Project to determine protected and unprotected native community types on a regional basis.
- ♦ Coordinate with the Maryland Natural Heritage Program to obtain updated information concerning important biological diversity areas.

#### Management Objective:

♦ Where timber management is proposed consider silvicultural approaches consistent with biodiversity maintenance on a forest wide basis.

- ♦ Maintain blocks of older forest not expected to be represented on private lands within the region.
- ♦ Where possible, appropriate, and consistent with existing laws and regulations, use natural regeneration as the preferred method for pine reforestation.
- Consider a variety of rotation ages that would result in well distributed stands of varying age classes throughout the Forest.

#### Management Objective:

• Recognize and protect the distinct diversity associated with the Pocomoke River corridor.

#### Implementation Strategy:

♦ Minimize disturbance along the River.

#### Management Objective:

♦ Consider biological diversity management principles in landscape restoration and enhancement initiatives.

#### Implementation Strategies:

- Use only native species typical of the surrounding area in restoration/stabilization operations following management activities.
- ♦ Avoid planting non-native species in wildlife plantings that are known to escape to adjacent areas.
- ♦ Where possible and practical, eliminate or control exotic plant species.
- ♦ Where appropriate to arrest natural succession, consider alternative methods to timber cutting, such as prescribed burns and the creation and maintenance of wildlife openings.

#### Management Objective:

Consider the State Forest within the context of the regional landscape.

#### Implementation Strategies:

- Evaluate proposed management (and non-management) activities as to their potential impact on the biological resources of adjacent lands, both public and private.
- ◆ Place a high priority on the protection and/or acquisition of forested inholdings and forested tracts adjacent to State Forest lands.
- ♦ Evaluate proposed timber management activities for their impact on forest fragmentation within and adjoining the State Forest.
- Evaluate any new or expanded road construction for its impact on biological diversity and forest fragmentation. Where necessary, minimize the length and width of new road construction. Explore the possibility of closing some existing roads.
- ♦ In the development of the functional timber and wildlife management plans, identify stands and wildlife management units which could function as conservation corridors or landscape linkages between areas of similar stand type and habitat type. Where appropriate, consider incorporating these corridors into the Special Management Zone. As with other forest management zone changes, establishing protected corridors within the Special Management Zone will be subject to DNR interdisciplinary team and State Forest Advisory Committee review. Minimize connectivity between manipulated habitats (clearcuts, agricultural fields, open roadsides).

# Resource Category: Land Ownership

#### Resource Goal:

Acquire lands necessary to augment, consolidate and protect existing State Forest lands.

#### Management Objective:

• Insure for present and future generations adequate quality open space.

- Prioritize future land purchases according to their potential benefit to the Forest in the areas of access, uniqueness, proximity, and resource values, including forested and riparian areas.
- ♦ Meet with Program Open Space personnel annually to review acquisition priorities and availability of funds.

# C. Forest Zoning

This plan is developed using three different zones of the forest: water management, special management, and general management. Each portion of the forest is placed in a particular zone depending upon the highest and best use for that site given its location and characteristics. Each zone features specific resource objectives which are accomplished through implementation of a set of management guidelines for that area.

All known higher resource prerequisites must be satisfied for Special Management and Water Management zones. Once that is completed, a General Management Zone is established which consists of the balance of forest lands. Approximate acreage figures for each zone are provided. The Water Management and Special Management Zones overlap in some areas, so all zone acreages added together exceed the total forest acreage.

Maps included at the end of this Plan are intended to provide only a conceptual view of each zone. Note that space limitations prevent the enclosing of the actual working maps developed as a part of the planning effort. In addition, even the working maps represent only the best effort of the planning team using the available resources. All map lines are approximate and subject to minor revisions by the DNR interdisciplinary team as dictated by on-site conditions verified by field review. Similarly, changes and additions to management zones will be subject to interdisciplinary team and Advisory Committee review. The zone boundaries drawn on the map are just one tool and source of information to guide the Forest Manager as to what is best for the resources at a particular site. The following sections contain descriptions and management guidelines for each of the three zones.

# Special Management Zone

The Special Management Zone contains a variety of features of both natural and cultural origin. Features of the zone range from special habitats for threatened and endangered species to recreational amenities such as hiking trails. A listing of featured areas is provided below:

- Special habitats for threatened and endangered species
- ♦ Unique and sensitive areas (old forest, natural areas, etc.)
- ♦ Wildlands and large natural forested tracts
- ♦ Wildlife openings, orchards, yarding areas, etc.
- ◆ Special demonstration areas
- ♦ Research/study areas
- ♦ Archaeological sites
- Administrative areas
- ♦ Electronic sites, utility rights-of-way, special use permits

#### **Objective**

The single most important characteristic that all these areas have in common is the need for preservation, protection or management for the particular purpose of the area. Accordingly, that is the primary management goal for this zone.

### Background

Due to the varied nature of the types of features contained in this zone, it consists of both small sites spread around the forest and several larger blocks. This zone is also subject to ongoing modification through field work as new features which warrant protection are discovered, additional information is gathered, or existing features undergo some change which warrants a change in their classification.

Approximate Area: 3100 acres

#### **Management Considerations**

Protection requirements may vary from site to site given the nature and characteristics of the feature. A brief description of each site type and required protection measures are provided below:

# Special Habitats and Natural Areas

This category includes a variety of areas designed to represent and protect significant or unique natural communities and elements of biological diversity. The selected areas may satisfy one or more of the following general criteria:

- 1. Critical habitat for a viable population of rare or state listed species, or for several such species;
- 2. An area which represents an example of unusual or rare ecological communities or ecosystems;
- 3. An area which represents an excellent example of more common ecological communities or ecosystems;
- 4. An area that contributes to the conservation and restoration of those particular elements and processes of biological diversity which require relatively large tracts of minimally fragmented old forest.

In addition, the Code of Maryland Regulations (COMAR) establishes criteria for a natural community to be designated a Natural Heritage Area in regulation. To qualify, an area must:

- 1. Contain one or more threatened or endangered species or wildlife species in need of conservation;
- 2. Be a unique blend of geological, hydrological, climatological, or biological features; and
  - 3. Be considered to be among the best statewide examples of its kind.

Four areas within Pocomoke State Forest are currently recognized as Special Habitats or Natural Areas. These include two areas recognized as Natural Heritage Areas within COMAR - Mattaponi Natural Heritage Area (NHA - 31) and Hickory Point Cypress Swamp Natural Heritage Area (NHA - 29). Two other sites are known to support rare species or natural communities. Descriptions of these sites are included in Appendix A.

Management of natural areas will be on a protection level. The nature and the extent of this protection can be determined on a case-by-case basis depending on the sensitivity and significance of the features, size of the area and the need for stewardship activities to maintain rare species or communities. The Forest Manager will work closely with Natural Heritage Program and Wildlife Division personnel in developing management programs to protect each of these areas along with numerous other point features on the forest.

For the most part special areas have been delineated as polygons that include adequate protective buffers. As such, no further buffering should be required.



Proposals for adding additional natural areas to the Special Management Zone will be evaluated by the interdisciplinary team and the Pocomoke State Forest Advisory Committee. This will be an ongoing endeavor during the ten year plan period.

In addition to applicable laws or regulations, activities within the Special Management Zone for these feature areas will be regulated as follows:

#### Recreation

Low impact activities such as hiking will be permitted in most cases. Motorized recreational activities such as ORV operation will generally not be permitted within areas designated as Special Habitats or Natural Areas. Other high impact activities including organized events involving large groups of visitors will also not be permitted. Certain activities such as horseback riding will be evaluated on a case by case basis and permitted only in the event that no more than minimal short term impacts will result. Hunting and fishing are permitted unless otherwise posted.

#### Timber Management

Timber management is generally not consistent with the objectives of the Special Zone for these feature areas. Timber management will only occur in these areas expressly to protect public safety, preserve adjacent private property rights or to preserve a vegetative character or a unique ecosystem for which the area was established. Firewood cutting will also be prohibited in these areas.

#### Construction of Facilities and Infrastructure

Only those facilities necessary for the protection or enhancement of key elements of the area will be permitted. This may include the placement of walkways or barriers necessary to restrict access or otherwise prevent damage to sensitive ecosystems or species. In most cases, any disturbance to this area will be discouraged.

In the case of large forested tracts or other areas where recreational use and interpretive activities are deemed appropriate, hiking trails and signs consistent with the character of the area may be established.

#### Maintenance of Existing Facilities

In general, stabilization and maintenance of existing facilities such as hiking trails will be permitted within these areas. Occasionally it may be necessary to close such facilities either seasonally or permanently, or restrict certain maintenance activities to protect or enhance the featured resource.

#### Wildlife Management

Habitat improvement may occur providing it is undertaken to enhance featured species or ecosystems. Hunting, fishing and trapping are generally permitted within these areas.

#### Other Activities

Resource extraction is generally not consistent with the goals of this zone and will be prohibited. Insect and disease control activities are also discouraged unless undertaken to protect the key features of the site. Research activities are permitted providing they are consistent with protection of featured species or ecosystems.

#### Exceptions

All proposed exceptions to the guidelines will be subject to review by the appropriate resource agency.

As with the water management zone, in those situations where isolated parcels of the general management zone cannot be reasonably accessed by road and where the need for access outweighs any potential adverse impact the road would create, it may be necessary to cross a portion of the larger tracts within the special zone. It is not anticipated that this situation will occur often. However, in those cases where no feasible alternative exists, certain natural areas may be crossed to prevent the creation of unmanageable "islands" of the general management zone. Such cases must be thoroughly evaluated and subject to review by the interdisciplinary team, forest advisory committee, and the general public during the annual work planning process prior to taking any action.

#### Wildlands

Also associated with the special management zone are large forested tracts and wildlands. A significant feature of Pocomoke State Forest is the presence of several relatively large, minimally-fragmented tracts of forest. These represent potential situations for the restoration of old growth forest ecosystems. Two wildlands, the 1432 acre Cypress Swamp Wildland and the 1295 acre Pocomoke River Wildland, already exist on the forest, with an additional three areas totalling 1305 acres identified as candidates for inclusion in the system. Some of these areas have been or may eventually be statutorily protected through a wildland designation. Others will be designated simply as portions of the special and/or water management zones.

The Annotated Code of Maryland defines wildlands as "limited areas of land or water which have retained their wilderness character, although not necessarily completely natural and undisturbed, or have rare or vanishing species of plant or animal life or similar features of interest worthy of preservation for use of present and future residents of the state. This may include unique ecological, geological, scenic, and contemplative recreation areas on state lands."

As such, wildlands serve the roles of both preserving natural ecosystems and providing primitive recreational opportunities.

The three additional areas identified as candidate wildland sites at Pocomoke are as follows:

- 1. Lankford's Discovery/Cypress Swamp Addition 400 acres
- 2. Onley/Porter's Crossing 415 acres
- 3. Shad/Van de Graf 490 acres\*
  (\* partly within Shad Landing Area, Pocomoke River State Park)

Pursuant to a Departmental directive, the candidate wildland sites will be managed as wildlands until either (1) they are acted on by the legislature, or (2) they are officially dropped from consideration by the Secretary following internal or external review.

## Historic and Archaeological Areas

This category within the Special Management Zone features areas in which historical or archaeological artifacts or sites are known or suspected to exist. There is presently one known archeological site adjacent to the Forest boundary - Furnace Town Historic Site with it's key unit, the Nassawango Iron Furnace. Forest lands adjoining this site may contain artifacts of 19th century buildings, farms and support activities of the Nassawango Iron Furnace, including charcoal-making locations. The management goals within this area include protection of the integrity of the site. Education or display of artifacts may or may not be featured within this site or other potential archeological sites as the promotion of access to such sites may not be desirable.

#### Recreation

Low impact activities such as hiking will be permitted in most cases. Motorized recreational activities such as ORV operation will not be permitted. Other high impact activities such as camping and organized events involving large groups of visitors will also not be permitted. Allowing or prohibiting horseback riding, hunting, fishing, and trapping will be handled on a case-by-case basis.

#### Timber Management

Timber management is generally not consistent with the objectives of the Special Management Zone for these feature areas. Timber management will only occur in these areas expressly to protect public safety or to preserve a historical or archaeological resource for which the area was established. Firewood cutting will also be prohibited in these areas.

#### Construction of Facilities and Infrastructure

Only those facilties necessary for the protection or enhancement of key elements of the area will be permitted.

All proposed exceptions to the guidelines will be subject to review by the appropriate resource agency.

# Wildlife Openings and Yarding Areas

This category within the Special Zone features areas of specific concern or importance to particular species of wildlife. Generally, this category refers to game species dependent upon particular areas for food, cover or other habitat features. These areas include permanent herbaceous wildlife openings and deer wintering areas. For the purposes of this plan, these areas also include areas that contribute to the conservation and restoration of those particular elements and processes of biological diversity which require open and/or early successional stage habitat.

In the case of wintering areas the areas are designated to include adequate protective buffers, while other features may be enhanced by some management activities and therefore more flexibility in management response is retained.

Within the special zone for these featured areas, activities will be regulated as follows:

#### Recreation

Low impact activities such as hiking will be permitted in most cases. Motorized recreational activities such as ORV operation will generally not be permitted. Other high impact activities including those associated with organized events involving large groups of visitors will not be permitted. Certain activities such as horseback riding will be evaluated on a case by case basis and permitted only in the event that no more than minimal short term impacts will result.

In some cases it may be necessary to severely restrict all trail use, such as during sensitive mating season or times of deer yarding. The primary management goal within these areas is the protection of special habitats important to various wildlife species. Associated objectives will take precedence over recreational use in all cases where conflict occurs.

#### Timber Management

Timber management undertaken specifically for the improvement of wildlife habitat is consistent with management goals for these areas. Timber management activities may include timber stand improvement (TSI), thinning, shelterwood cuts, clearcuts, firewood cuts and salvage cuts, providing their primary goal is to improve habitat quality. Reforestation efforts with specified wildlife management objectives are also acceptable within these areas.

#### Construction of Facilities and Infrastructure

Construction of new facilities, roads and other infrastructure is generally not consistent with the management goals of these areas and will generally not be permitted.



# Maintenance of Existing Facilities

In general, stabilization and maintenance of existing facilities such as hiking trails will be permitted within these areas. Occasionally it may be necessary to close or re-route such facilities (either seasonally or permanently), or restrict certain maintenance activities to protect or enhance the featured resource.

# Wildlife Management

Habitat improvement may occur providing it is undertaken to enhance featured species or ecosystems. Hunting, fishing and trapping are generally permitted within these areas.

#### Other Activities

Resource extraction is generally not consistent with the goals of this zone and will be prohibited. Insect and disease control activities are also discouraged unless necessary to protect key elements of the zone. Research activities are permitted providing they are consistent with protection of featured species or ecosystems.

## Exceptions

All proposed exceptions to the guidelines will be subject to review by the appropriate resource agency.

As with the Water Management Zone; in those situations where isolated parcels of the General Management Zone cannot be reasonably accessed by road and where the need for access outweighs any potential adverse impact the road would create, it may be necessary to cross a portion of the larger tracts within the Special zone. It is not anticipated that this situation will occur often. However, in those cases where no feasible alternative exists, certain wildlife areas may be crossed to prevent the creation of unmanageable "islands" of the general management zone. Such cases must be thoroughly evaluated and reviewed by the interdisciplinary team, the forest advisory committee, and the general public during the annual work planning process prior to taking any action.

# Recreational and Administrative Areas

This category within the Special Zone generally includes those areas which have been improved for recreational use such as hiking trails. The management goals for these sites generally include protection of the aesthetic quality of the site so as to retain visually pleasing areas for visitors to the forest. Adequate buffers are included in the delineation of these locations in most cases.

Within the Special Management Zone for these featured areas, activities will be regulated as follows:

#### Recreation

The specific activities for which a particular site was designed will be permitted, along with other compatible recreational uses. Connecting trails for hiking, biking, horseback riding, and ORV use will be provided where practical. However, visual and sound buffers will be retained so as to maximize the natural forest experience.

Most recreational activities will continue to be low impact in nature, with high impact or conflicting activities clustered in and around the State Park.

## Timber Management

Timber management is consistent with the management goals only for the purpose of providing safe and aesthetically pleasing recreation areas. Areas subject to regular visitation require careful inspection and management to remove dead limbs or trees which pose potential safety hazards. In addition, small, naturally appearing forest canopy openings may be desirable to provide for sunlit areas for recreators.

Intolerant species in the understory may be priorities for removal if campsite or picnic openings are created. Additional attention should be given to those species vulnerable to disease or insect damage or root compaction associated with recreational use.

#### Construction of Facilities and Infrastructure

Facilities and infrastructure directly related to the featured recreational use are permitted in these areas. Site hardening to channel foot or vehicular traffic so as to protect understory vegetation and reduce compaction may be

# Maintenance of Existing Facilities

Stabilization, maintenance and improvement of existing facilities are generally permitted within these areas.

## Wildlife Management

Wildlife management activities are generally not compatible with recreational facilities. Such activities should not occur in close proximity to these areas due to the conflicts between wildlife and humans. In addition, hunting and trapping are not permitted within established safety zones around campsites, picnic areas and buildings in the adjacent State Park.

#### Other Activities

Resource extraction that disturbs the surface is generally not consistent with the goals of this zone and will be prohibited. Insect and disease control to improve aesthetics and to reduce human discomfort or the incidence of dead trees that may present safety problems are compatible with these areas. Research activities are generally not compatible given the potential for disturbance from visitors and should be discouraged.

# **Exceptions**

All proposed exceptions to the guidelines will be subject to review by the appropriate resource agency.

# Electronic Sites, Utility Rights-of-Way, Special Uses

This category within the Special Management Zone consists primarily of potential fixed installations (such as radio and microwave sites) or transmission lines crossing the forest. In the case of transmission lines, they may be overhead electric or public telephone lines, or buried gas or water lines.

Fixed point installations (such as radio towers) are to be preserved for that specific use and as such are not available to other forest users. However, where electronically compatible, dual or multiple use of the same site may be permitted.

Power lines and gas line rights-of-way expose wide corridors that are kept free of large timber. However, these types of rights-of-way can be utilized for a variety of resource activities.

## Recreation

These rights-of-way serve both low and high impact users. Hiking and horseback travel are appropriate activities. Hiking is particularly popular during the hunting seasons. These corridors are utilized a great deal by hunters.

# Timber Management

Timber culture within these rights-of-way is not practical and they are for the most part maintained in grasses and shrubby vegetation. There is a potential to utilize coniferous plantations on certain sites. Such use would have to be agreed to by the permittee and not interfere with the lines, nor the maintenance of the lines.

## Wildlife Management

The utility and gas rights-of-way provide grassy areas that can be particularly beneficial to turkeys as well as other species seeking insects and dusting sites. Wildlife Division personnel may actively maintain specific areas, in preferred wildlife plant species, for wildlife habitat. Hunting and trapping are permitted.

#### Construction of Facilities and Infrastructure

The construction of facilities within rights-of-way is a non-conforming use, except in cases where such facilities were essential to the safe operation of the permitted line.

# Water Management Zone

The Water Management Zone is the linkage between land and water. It extends along either side of perennial and intermittent stream channels and contains all floodplains, perennial and intermittent water bodies, ponds, swamps, bogs, wetlands and springs. It may also exist as non-contiguous wetland supported by high groundwater and seasonal soil saturation and includes a 25 foot buffer for non-tidal wetlands, a 100 foot buffer for Wetlands of Special State Concern, and a 50 plus 4 feet for perennial and intermittent streams (50 feet with an additional 4 feet for every percent increase in slope measured from the water's edge).

## **Objectives**

The primary management objective of the Water Management Zone on Pocomoke State Forest features soil retention and protection of water quality and volume. Secondary objectives include (1) the provision of additional large forested areas where wildlife habitat, dispersed recreational opportunities and natural processes will occur, (2) the protection of unique riparian and transitional ecosystems so as to provide a more diverse forest landscape and a linkage between the other undisturbed and the actively managed areas of the Forest, and (3) the protection of unique wetland functions and values.

# Background

U. S. Geological Survey 7.5- minute quadrangle sheet blue lines are often used to indicate the requirement for a forest buffer. This method of delineation was used as a starting point for identifying the Water Management Zone in this plan. Additional drainage areas, not blue-lined on the quadrangle but known by Forest Management staff to be significant perennial or intermittent stream channels were also mapped within the water management zone.

Including wetlands in the Water Management Zone is a logical step in the management of the forest. Wetlands help to maintain, or improve, the quality of surface and ground waters within Pocomoke State Forest, and they play a key role in the ecology of the estuary. They also provide critical habitats for fish and wildlife as well as containing many of the unique or rare plant communities. By protecting wetlands and systematically providing for their protection, the effectiveness of water management on the forest is enhanced, estuarine ecology is protected, and critical habitats are preserved.

## Management Considerations

The cumulative effects of forest activities need to be considered in terms of space and time. For instance, recreational activities, timber harvests and atmospheric deposition can all take place on the same watershed simultaneously or at different times with varying effects. Activities permitted on the forest must fit into a best management system that takes into account the cumulative impacts of the individual activities. The Water Management Zone is an integral part of that system. In addition to applicable laws or regulations, activities within the Water Management Zone for these feature areas will be regulated as follows:

# Sub-Zones

The Water Management Zone is broken into 3 sub-zones. Sub-zone "A" includes those areas mapped and designated as Wetlands of Special State Concern. wetlands designated as Natural Heritage Areas, and an adjacent buffer of 100 feet. These habitats have been designated for their rare or unique bio-logical qualities and their sensitivity. Sub-zone "B" includes all additional wetland acreage within Pocomoke State Forest mapped as Tidal wetlands under Title 9 of the Annotated Code of Maryland. These habitats have been protected primarily for their values most closely associated with their role as part of the adjacent estuarine ecosystem. Sub-zone "C" includes all additional perennial and intermittent waterways and associated buffer (50 feet with an additional four feet for every percent increase in slope measured from the water's edge) and additional wetland acreage that has been identified on DNR Nontidal Wetlands Guidance Maps not included in subzones "A and B". It must be noted that these maps were created for guidance purposes only and generally represent a minimum of actual wetland area which exists in the field. In order to accurately indicate where nontidal wetlands exist within Pocomoke State Forest, delineations conducted in the field are necessary.

Field delineations require the application of criteria for determining nontidal wetlands as defined in the 1987 Corps of Engineers Wetlands Delineation Manual and will undoubtedly increase the amount of wetland indicated.

Approximate Area: Sub-Zone "A" - 2500 acres

Sub-Zone "B" - 1100 acres Sub-Zone "C" - 2800 acres

#### Management Activities

#### Recreation

People are attracted to water. The constantly changing scenes, sounds and variety of activities make ponds, streams and rivers popular areas to visit. The overall level of recreational activity is directly related to the quality and availability of the resource. The lower the level of impact, the more compatible is a recreational use with the objectives of the Water Management Zone. Dispersed activities such as hiking or hunting are examples of low impact recreational activities that will be permitted within the Water Management Zone.

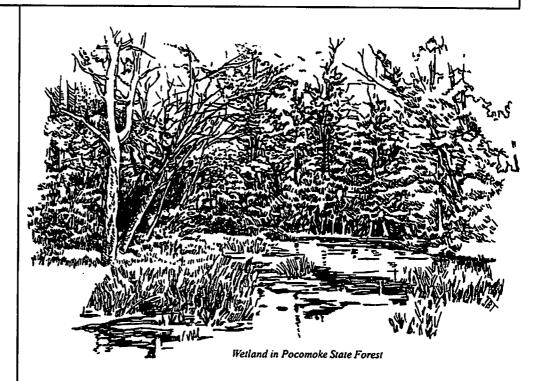
Such recreational pursuits as horseback riding may present more significant potential impacts than hiking. The operation of all-terrain vehicles presents an even greater risk. This is especially true when not confined to existing trails and developed stream crossings. Signing will be used to direct recreators to the appropriate trails. Regular maintenance will be conducted to insure the adequacy of best management practices.

## **Timber Harvesting**

Timber harvesting utilizing best management practices is generally consistent with the objectives of the Water Management Zone, except in subzones "A and B" and in the buffer along perennial and intermittent streams within sub-zone "C". The incompatibility of timber harvesting in sub-zones "A" and "B" and within the stream buffer of sub-zone "C" is primarily due to the potential to adversely impact both water quality and the integrity of sensitive and unique habitats. This impact may be the result of logging or road construction associated with harvest operations. The degree of impact is dependent upon such factors as location, surface materials, water control measures, stabilization, degree of soil saturation, season, and the nature of the species present which are to be protected. Access, the type of harvest, size of harvest, and locational factors must be considered in assessing potential impacts along with the sensitivity of the habitats.

In sub-zones "A" and "B", forested areas tend to be dominated by timber species such as red maple, gums, ash and bald cypress and loblolly. Access to these stands is usually difficult or impractical. In some tidal areas emergent or shrub vegetation may even dominate.

The natural values of these areas or critical habitats over their timber production potential makes the prohibition of timber harvest in these areas a sound management decision. So generally, timber harvesting within sub-zones



"A" and "B" will not be permitted. Timber management for enhancing wildlife habitat or ensuring public safety will be considered after careful review.

Within sub-zone "C", timber harvesting proposals will be evaluated on a case-by-case basis. Timber management outside of the stream buffer within sub-zone "C" may be justified as long as "Best Management Practices" (see Appendix B - Silvicultural Management Methods) are employed and the physical characteristics of the area warrant this practice (e.g.,- insect damage, relatively dry area, etc.). Timber management within the stream buffer of sub-zone "C" will generally not occur. However, depending upon the needs of the resource (e.g., - insect damage or disease control), timber harvesting may be permitted within stream buffers after careful review by the DNR interdisciplinary team (including consultation with the Freshwater and Tidal Fisheries Divisions). In addition, any proposed forest management activity which could disturb the stream buffer requires the preparation (and approval by the Maryland Department of the Environment) of a buffer management plan. Again, timber harvest proposals within sub-zone "C" will be evaluated on a case-by-case basis by the DNR interdisciplinary team and the Pocomoke State Forest Advisory Committee.

Sub-zone "C" has traditionally included extensive timber harvest areas as sub-zone "C" includes a significant portion of Pocomoke State Forest which has been managed for timber production. This zone also includes large areas that are vulnerable to insect damage requiring some management attention. Although portions of sub-zone "C" contain very wet areas where timber harvest is impractical, other parts of sub-zone "C" are only seasonally or temporarily wet. In these cases the decision to permit silvicultural activities is based on greater overall resource needs than the small, but potential impacts to water quality or quantity. Again, any proposal which impacts the Water Management Zone will be subject to Departmental sanctioned Best Management Practices and interdisciplinary team review.

Separating sub-zones "A" and "B" from sub-zone "C" with respect to timber harvest operations should be viewed as a management decision in keeping with the current multiple use requirements of the entire forest, and the recognition that water resources and critical habitat protection are the chief concerns within the Water Management Zone. While resource protection is paramount, considerations must be given to the differences in sensitivity between sub-zones "A" and "B" and sub-zone "C", the extent of acreage of sub-zone "C", the traditional use of sub-zone "C" and the difference in targeted resources to be protected in all three sub-zones.

#### Construction of Facilities and Infrastructure

Construction of permanent roads, trails, parking lots and campsites will be permitted on a limited basis to meet water dependent recreational needs. In such cases, careful attention will be given to design and construction methods that present a minimum amount of intrusion on the zone. These activities will be directed toward sub-zone "C" (but outside of any stream buffer) whenever upland alternatives are not practical.

It may also be necessary occasionally to temporarily cross the Water Management Zone with roads needed for the greater public good or to meet operational needs on the forest. Access to isolated portions of the General Management Zone is an example of such a need. Such intrusions will be permitted only where no reasonable alternative exists and when allowed by regulation. The need for the road must outweigh any potential adverse impacts that might result. This will be determined through the interdisciplinary review process. Once again, it will require careful design and construction to minimize intrusions and will be directed toward sub-zone "C" whenever upland alternatives are not practical. If determined to be necessary within sub-zone "C", the construction of facilities and infrastructure will be directed outside of the waterway buffer where possible.

The effectiveness of the Water Management Zone as a filter or buffer strip depends, in part, on an even flow of water into the zone. Stream crossings can present the greatest potential for sedimentation due to their proximity to the water course and should be limited to those necessary to enhance or protect featured resource objectives. Utility crossings and water supply intake or discharge structures should be minimized.

Any access roads constructed should avoid the Water Management Zone whenever possible, utilizing available uplands. For authorized stream crossings and trails, the potential for damage can be minimized by proper planning and construction. Roads and trails should utilize the maximum amount of upland available. Where wetland crossings are necessary, sub-zone "C" areas should be utilized over sub-zones "A" or "B". After the activity which required the temporary road construction is completed, the area should be restored to its former gradient and vegetative cover.

In areas where trails are intentionally planned to enter sub-zones "A" and "B" for educational purposes, they should be designed to minimize impacts by using raised, narrow walkways where necessary and foregoing the use of fill material.

## Maintenance of Existing Facilities

Stabilization and improvement of existing roads, trails, campsites, boat ramps, and other facilities is generally desirable in the Water Management Zone. These maintenance activities must be conducted in a sensitive manner to minimize channelling of runoff and the exposure of soil, protect the vegetative integrity of adjacent habitats, and prevent the introduction of undesirable species.

## Wildlife Management

Habitat improvement may occur in accordance with appropriate regulations providing it is undertaken to enhance featured species or habitats. Hunting, fishing and trapping are generally permitted within these areas.

Certain wildlife management practices will be permitted in the Water Management Zone. Some examples of these practices would be maintaining existing clearings designated as "food patches", the construction of access preventative measures, and the construction of nesting structures. Rights-of-way in the zone provide additional opportunities for wildlife management. Wildlife can be encouraged by planting favorable mixtures of native plant seeds and shrubs and developing timely mowing schedules. Practices such as controlled burns for featured species enhancement may offer other management potential in sub-zone "C", but this practice should be evaluated on a case-by-case basis. Sub-zones "A" and "B" generally will receive only the most sensitive treatment outlined after a careful review by the affected resource agencies.

## Fishery Management

Fishing is often the primary recreational activity in the Water Management Zone along Pocomoke River proper and its tributaries.

#### Other Activities

Resource extraction is generally not consistent with the goals of this zone and will be prohibited. Research activities are permitted providing they do not degrade the featured goals of the zone.

#### **Exceptions**

All proposed exceptions to the guidelines will be subject to review by all affected resource agencies.

# General Management Zone

The General Management Zone essentially consists of those areas remaining after the designation of the previous two zones. As with the other two zones, it is subject to ongoing revision as resources requiring additional protection afforded through inclusion in other zones are identified during annual review processes.

# **Objectives**

This zone features managed and regulated forest areas intended to enhance specific resource values. A variety of silvicultural techniques will be applied on a regular basis to maintain tree growth, improve wildlife habitat, promote a variety of forest types and age classes, provide for the sustained production of wood products and other renewable resources, and to enhance recreational opportunities forest-wide.

These forest areas will be managed to provide for integrated attention to all resource needs. Emphasis will be given to management techniques which are compatible with and enhance the effectiveness of adjacent zones.

Approximate Area: 7500 acres

# **Management Activities**

In addition to applicable laws or regulations, activities within the General Management Zone for these feature areas will be regulated as follows:

# **Recreational Activities**

A wide variety of low impact recreational activities will be featured within this zone. Hiking, picnicking, biking and horseback riding will be permitted on non-designated trails that fall within this zone. Higher impact travel such as ORV trails may also be established here. Special events and activities may also occur here.

## Timber Management

Active timber management using a variety of management techniques will occur within this zone. These efforts will involve both commercial and non-commercial management. Timber stand improvements, thinnings, shelterwoods, regeneration clearcuts, deferment harvests, salvages, and crop tree releases will all be permitted techniques used to meet specific management objectives. Decisions as to which technique to be used will be made at the project level on an area-by-area basis. The forest wide timber management strategy and Appendix B provide additional information on the various techniques and conditions under which each would be selected.

Where appropriate, firewood cutting will occur to accomplish management goals. Research studies on various timber management activities and reforestation efforts will also be featured in this zone.



# Construction of Facilities and Infrastructure

Construction of roads, trails, and other amenities will be permitted when consistent with overall forest goals. In all cases, such facilities will be placed to minimize the intrusion on the forest resources and associated fragmentation. Road networks will be designed to provide for maximum access while minimizing total mileage.

# Maintenance of Existing Facilities

Stabilization, maintenance and improvement of existing facilities are generally permitted within this zone.

# Public-Private Enterprises in State Forests

The Department of Natural Resources plans to create additional State Park and Forest facilities through public-private ventures. DNR views this challenge as an attractive opportunity to lease State-owned land for development of facilities consistent with a master or management plan for use of the site. Public-private partnerships serve as an economic stimulus to the State, and improve and expand the delivery of recreational services to the public. Public-private partnerships take several forms in the conveyance of goods and services to the public. These enterprises typically require the physical location of infrastructure, provisions for delivering services directly to the public, or a combination of both.

Public lands in the Eastern Region, including Worcester county, will also be explored in the near future for establishing joint partnerships. The Parks and Forest system in eastern Maryland have historically provided destination sites for tourists and the local communities while encouraging local economic development. Pocomoke State Forest may accommodate appropriate types of public-private enterprises. Departmental policy statements, forest management goals and zones, the Maryland Recreational Opportunity Spectrum, and the DNR Lands Strategic Plan, will help to identify what public-private ventures are most appropriate in a forest setting, and where they should be suitably located.

The forest policy statement and management goals provide general guidance for public-private development in the State forests. They define the forest's primitive character, balanced use and protection of diverse resources, and the concept of dispersed recreation. The Annotated Code of Maryland states that "the state forests are managed to promote the coordinated use of their varied resources and values for the benefit of all people..." Management goals that further define policy with respect to public-private ventures state that:

- 1) plans must fall within the constraints of the resource;
- 2) the forest must be managed for balanced multiple-uses;
- significant natural communities must be protected and represented; and
- 4) high and low impact values of recreation should be considered.

People visit state forests principally because of the undeveloped environment and the associated opportunities for outdoor recreation. The forest's desired primitive environment limits extensive development of public-private infrastructure and support systems. Rustic cabins and lodges situated in a suitable setting are two examples of public-private facilities that may fall within the guidelines of forest policy and management and meet the needs of the public. Support infrastructure for some types of outdoor adventure sports may also be appropriate. Conversely, extensive development such as resort type settings and concentrated or supervised forms of athletic or aquatic (pool) recreation are examples of inappropriate uses in a forest setting.

The forest management zones and the Maryland Recreational Opportunity Spectrum (MROS) provide suggestions for decision making criteria for the size, scope and location of appropriate public-private ventures in the forest. Public-private infrastructure should be limited to the General Management Zone and overlayed with the Recreational Opportunity Spectrum (MROS). The main purpose of MROS is to improve and enhance the recreational experience of the forest visitor. Wherever possible, public-private facilities should be located in areas with a MROS designation of Roaded Natural. For enterprise or other resource development projects which will result in a conversion of land to nonforest uses, every effort will be made to offset the loss of the forested land base through afforestation or reforestation of other areas. When siting public-private infrastructure and related support systems, using the management zones and MROS:

- 1) minimizes environmental impact;
- 2) protects the recreational experience of the visitor;
- 3) maintains the primitive character of the forest by reducing alteration of forest interior areas; and
- 4) increases the attractiveness of the public-private enterprise for forest visitors.

Public-private ventures that solely deliver services and require little infrastructural support usually do not entail as extensive a resource assessment or review of possible impacts to the environment. Contractual activities such as hiking and bicycling trips, environmental education, and outdoor adventure activities, should be encouraged in appropriate areas of the forest through proper management agreements. When necessary, the forest management zones and MROS should still be used to review a proposed service oriented venture if it does not conform to existing uses of the forest, or has the potential to pose significant adverse environmental effects.

Last, the Department's Greenways and Resource Planning Program is developing a *Strategic Plan* for DNR Lands. The DNR Lands Strategic Plan will evaluate the need for public-private projects in eastern Maryland's public land units in more detail.

# Wildlife Management

Wildlife management activities using a variety of management techniques will occur within this zone. Various vegetative management tools will be used to enhance the amount and variety of habitat for both game and non-game species. Emphasis will be placed on coordination across zones to meet forest wide and regional goals using the designated functional wildlife management units.

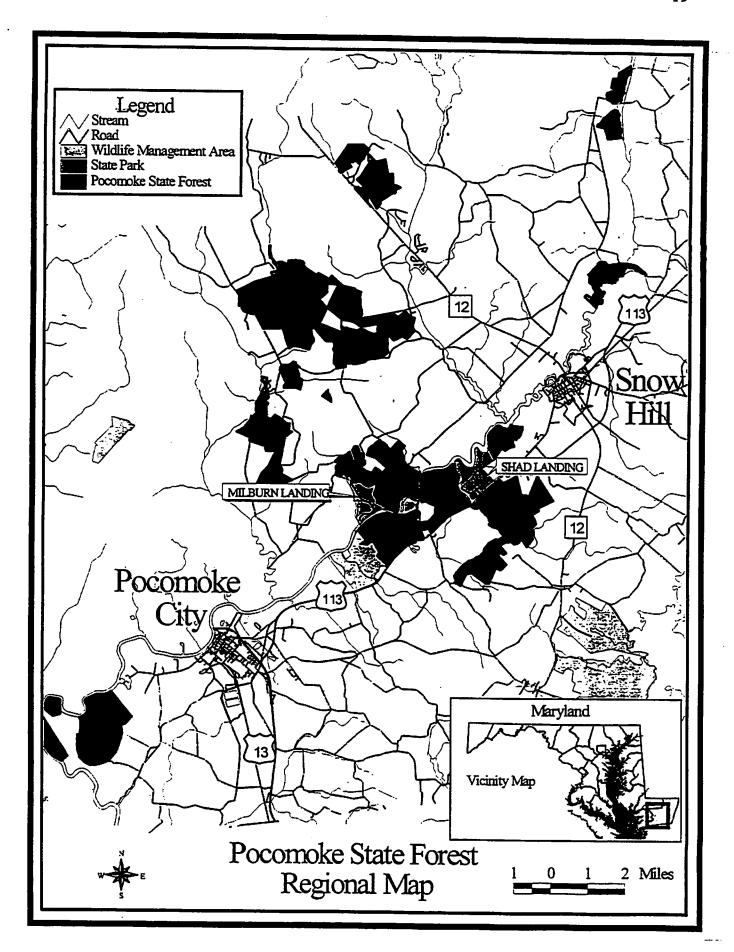
#### Other Activities

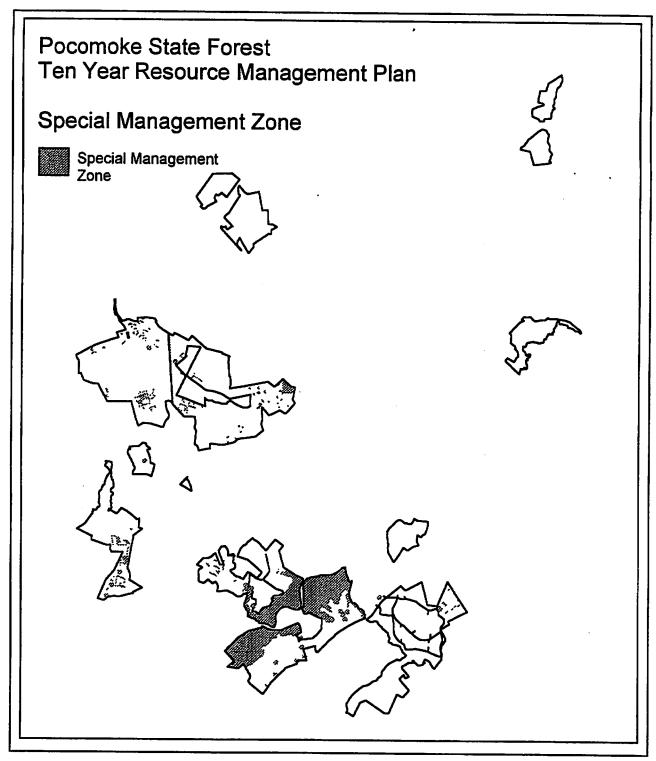
Resource extraction consistent with applicable State and federal laws and regulation is permitted providing it is consistent with other resource management goals on the forest. Insect and disease control activities are also generally accepted within this zone. Various research and educational activities are also featured within this zone.

# Exceptions

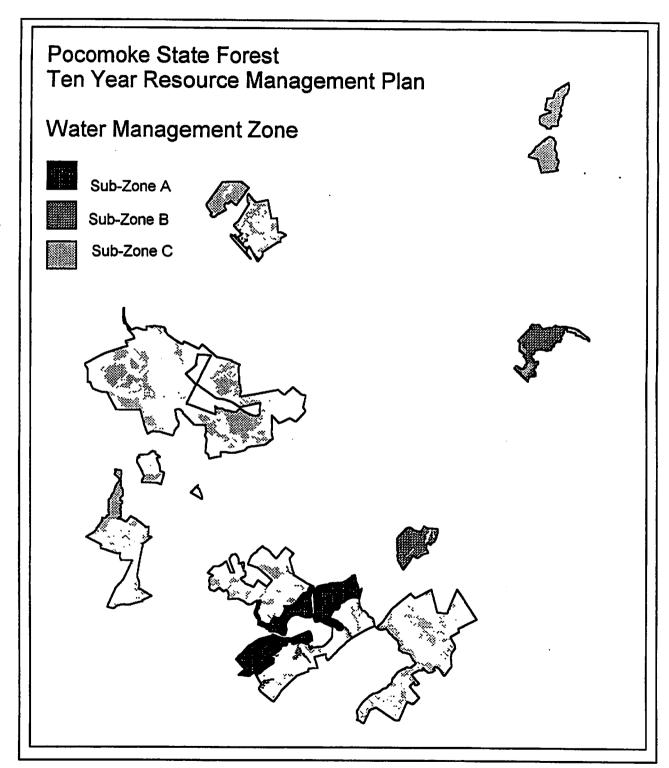
All proposed exceptions to the guidelines will be subject to review by the appropriate resource agency.

# Maps





Note: Cypress Swamp tract (not shown) located southeast of Pocomoke City is entirely within the Special Management Zone.



Note: Cypress Swamp and Lankford's Discovery tracts (not shown) located southeast of Pocomoke City are entirely within the Water Management Zone, Sub-Zones A and B.

