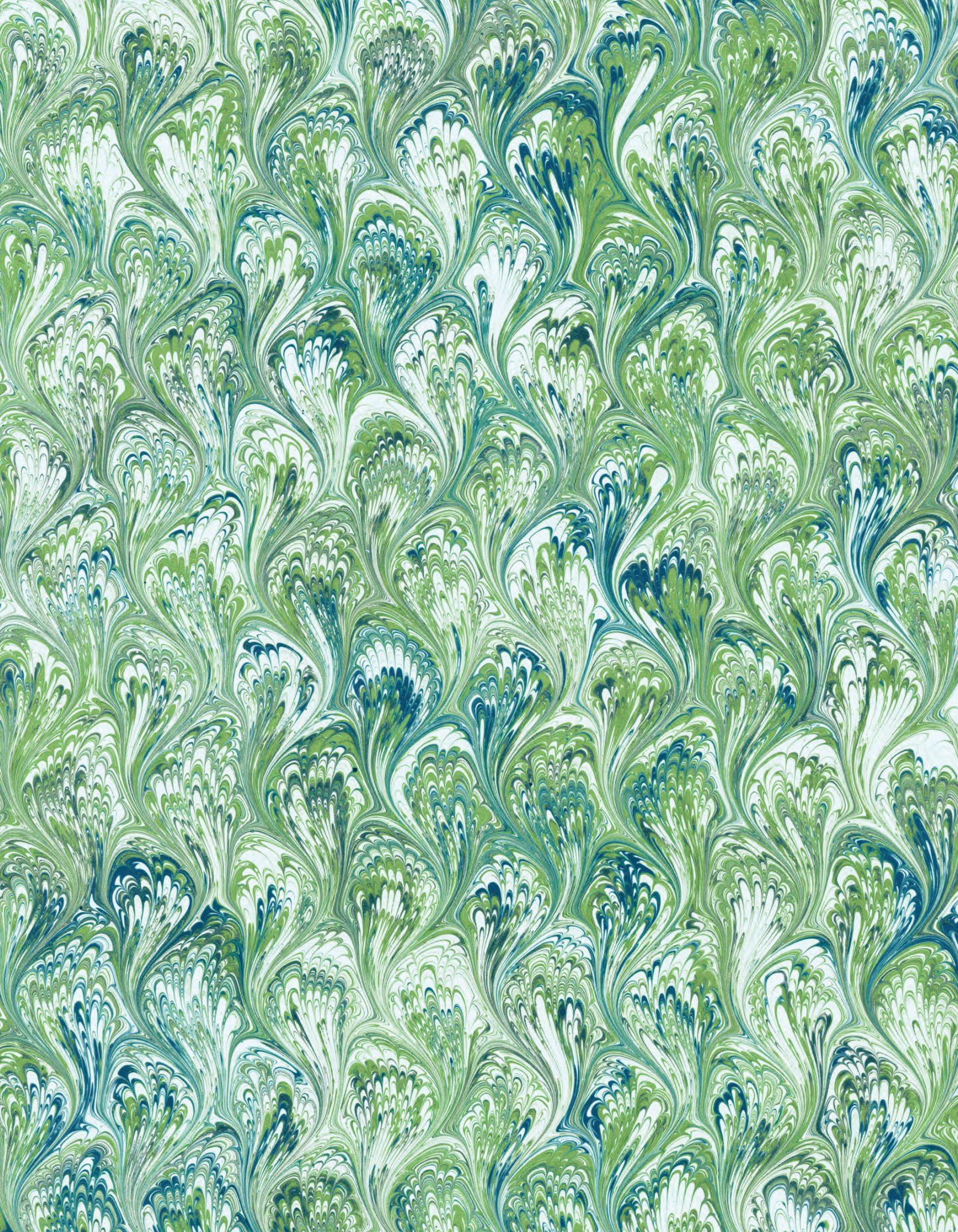




Maryland Land Preservation, Parks & Recreation Plan 2009

Volume II





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Smart, Green & Growing



Table of Contents

<i>I. Introduction</i>	1
<i>II. Maryland's Regions and DNR's Lands</i>	8
<i>III. Overview of Significant Resources of DNR Lands</i>	33
<i>IV. Recreational Use of DNR Lands</i>	45
<i>V. Gauging the Need for Change</i>	74
<i>VI. Tool for Change: Planning and Budgeting</i>	82
<i>VII. Plan Recommendations</i>	87

I. Introduction

Department of Natural Resources Mission

The Department of Natural Resources (DNR) was established in 1969 by combining five previously established agencies charged with a variety of resource management responsibilities.



The mission of the consolidated Department is established by general charges framed by law and contains three resource-focused goals and two implementing approaches:

- ♣ **Protection:** to protect and conserve Maryland's natural resources for future generations.
- ♣ **Enhancement:** to improve, renew and increase the State's natural resources.
- ♣ **Use:** to optimize use of natural resources for varied economic, recreational, developmental, aesthetic and cultural benefits.
- ♣ **Management:** to carry out this mission, with respect to both publicly- and privately-owned natural resources, through a number of specific programs.
- ♣ **Public Education:** to contribute to an informed, supportive citizenry

A major departmental role falling largely under the Use heading of the mission is that of caretaker of a large public estate. In this role the Department responds to additional legislative charges that DNR should acquire land for conservation, enhancement and public enjoyment purposes and should provide leisure activities, educational and recreational opportunities for the use of the acquired lands. Over the years, this estate has grown to the point that DNR now manages some 455,000 acres of land in more than 180 individual land units, distributed throughout the State.

Purpose of the Outdoor Recreation Plan

This Comprehensive Plan for recreation and the conservation of DNR lands is intended to improve management effectiveness in the various activities associated with the role of land steward, and fulfill the requirements of both Program Open Space and the Land and Water Conservation Fund. The 2000's are a time of significant fiscal constraints and uncertainty. At the same time, demands on DNR lands for a variety of public purposes continue. This combination of circumstances makes it particularly timely to examine the State's entire land management system and undertake a serious discussion of priorities for future actions, including land acquisition, planning and development for public use and resource protection.

The Comprehensive Plan complements but does not substitute for traditional unit-by-unit planning by providing a system-wide framework and guidance for the long-term expansion and use of public lands. Individual land unit plans will continue to be developed, focusing on forest management, wildlife management or specific recreational development purposes, as in the past.



Reflecting the overall DNR mission, there are four purposes for this land planning exercise:

- to provide for natural and cultural resource stewardship and interpretation opportunities and, where appropriate, complementary recreational uses;
- to ensure that the Department develops a balanced system of State natural resource and recreation lands in which individual properties are viewed from the system-wide perspective;
- to guide land conservation and recreational development priorities and enhance inter-agency coordination; and
- to improve public understanding of DNR's mission and land use activities, and public involvement in the decision-making which affects Department land holdings.

Planning Approach

Two major phases of planning, each followed by a public review period, lead to the adoption of a final strategic plan, resulting in a five-step process overall.

Assessment of Existing Conditions: The approach to developing this plan is, first, to establish some goals for what the system should look like, then to evaluate the existing condition of the DNR system in terms of the character, configuration and capabilities of current land holdings. This assessment was developed by regional teams assembled from several agencies in the Department, under the overall leadership of the team members from the Land Acquisition and Planning Unit.

An estimate of the need for expansion or other change to the existing DNR land system relies on national trends, Maryland demographic and land consumption data, current visitation to DNR properties, surveys of visitors, interviews with local government personnel and anecdotal field reports. Identification of opportunities offered by the existing system, and a summary of perceived needs, concluded the assessment phase.

Public Workshops: A series of public workshops were held throughout the State to review the assessment and adjust the findings. Public input is particularly important in assessing desires for change to the system and has also helped to establish priorities among the opportunities which have been identified.

Plan: Based on the assessment, and the outcome of internal and public review of the existing system, a future direction for the system is now proposed. Priorities for land acquisition and recreational improvement are outlined. Because the assessments underlying this plan's formulation are based on existing information (both published documents and in-house professional expertise) an additional outcome of the strategic plan is the identification of priority needs for data gathering and for more detailed and site-specific planning.

To guide development of the comprehensive plan, DNR proposes a number of system-wide goals for the Department's recreation and land conservation strategy. Because this plan concentrates on the Use element of the Department's mission, and because the most common contact between DNR and the general public involves recreation, major attention in these goals is given to the recreational aspects of the Department's mission. Additional and more site-specific goals for resource protection, enhancement and interpretation are found in the planning carried out for individual land units.

System Goals: Land Conservation

The Department's present land holdings have been acquired as the result of historic interests in particular types of property, in part conditioned by the funding sources through which lands were purchased or improved. However, the Department will continue to focus on protecting recreational open space and natural resource land at a rate that equals or exceeds the rate at which land is developed at a state-wide level. Important themes for improving our holdings in the future will include both traditional interests and some new emphases:

Expand Access to and Protection of Water Resources: The Department's land acquisition should continue to focus on protecting water resources, aquatic life hotspots, and on providing public access to the State's waters, including the Chesapeake Bay, for fishing, boating or swimming, where such access is compatible with protection of the aquatic and shoreline resources and with local growth management planning. Expanded public access to natural waters for swimming is a key part of this goal.

Continue Acquisition of Fish and Wildlife Habitat and Sites of Threatened or Endangered Species: Acquisition of lands to enhance fish and wildlife habitat throughout the State, including sites containing threatened or endangered species of plants or animals, should continue to be a goal of the Department's land acquisition program. The need to protect threatened or endangered species may, in some instances, lead to circumstances in which properties are acquired with the intent to remain completely undisturbed.

Seek New Opportunities to Enhance Biological Diversity: Protection of biological diversity should occur at the landscape scale as well as at the species and local habitat scale usually associated with traditional wildlife conservation and the preservation of rare, threatened and endangered species. The DNR land management system should therefore include both large and small properties which are exemplary representatives of all of the State's Key Wildlife Habitats, as defined by geology and natural biological communities. These important habitats and the natural communities which support them can be found in the federally approved Maryland Wildlife Diversity Conservation Plan which is available at <http://www.dnr.state.md.us/wildlife/wldivplan.asp>. Conservation of these landscapes and their natural resource values, which also provides research, interpretation, and some passive recreation opportunities, is an important DNR function.

Connect Communities to Natural Areas: DNR's land planning and acquisition programs should work to protect existing open space corridors and green infrastructure, through public purchase and acceptance of easements, dedication of private land, and ownership by quasi-public groups as well as by Federal, State and local governments. The potential to connect existing DNR holdings, particularly where there are also opportunities for regional trail development, should be examined in conjunction with regional land acquisition planning. DNR should continue to cooperate with other government and private organizations to plan for creating corridor connections between communities and natural areas, beyond what the Department will actually own and/or manage.

Preserve and Enhance Important Historical and Cultural Properties: Much of the Country's early development history is reflected in buildings and sites still viewable in Maryland. DNR should continue to incorporate such sites into its land holdings, and should look to integrate cultural and historical information into newly developed land units. Historical figures, such as Harriet Tubman and John Smith, should be recognized and their significance interpreted to the public.

System Goals: Recreational Development

Outdoor recreation is provided by a wide variety of public (Federal, State and local) and private entities. DNR's niche in the overall provision of outdoor recreation is primarily based on its responsibilities to protect, enhance and provide public enjoyment of Maryland's natural and cultural resources. DNR is also the appropriate agency to provide for some user-oriented recreation of regional or statewide significance.

Resource-Based Focus: The character of a particular area, in terms of its natural and cultural assets, is the primary reason for visitors to use most DNR properties, whether for a single day, overnight or longer. This character sets conditions on the location and design of any physical improvements. Goals for resource-based recreational development include the following:

Maintain Natural Resource-Based Recreation Experience in Parks: Natural resource-based recreation should continue to be emphasized in most units of the State Park system. DNR should normally provide for such activities as camping, swimming, picnicking, boating, hunting and fishing, walking or hiking, horseback riding, bicycling, and nature or historic interpretation. Limited landscape modification and the provision of facilities to enhance visitor access and enjoyment will routinely be undertaken in these units.

Limit Improvements in State Forests and Wildlife Management Areas: Recreational activities appropriate to land units managed primarily for forestry or wildlife purposes generally should involve very limited land modification and no or minimal facility development; compatible activities include hiking and riding, fishing, hunting, canoeing and camping at unimproved or primitive sites.

Increase Resource-Based Recreation near Urban Areas: Resource-based recreation opportunities should be maintained where they currently exist and increased, where possible and appropriate, near the locations of the greatest population concentration in the State to provide a variety of quality recreational environments and opportunities readily accessible to all of its citizens, and thereby contribute to their physical and mental well-being.

Prevent Adverse Recreational Impacts to Natural Resources: Prevention of overcrowding and adverse user impacts on existing resource-based units should guide recreational planning.

User-Oriented Recreation of Statewide or Regional Significance: User-oriented recreation is defined by human activities and the facilities necessary to support them, rather than by the natural characteristics of the setting. Most of these activities are locally provided, serving people close to where they live. Some, however, such as golf courses, shooting ranges or music festivals, have regional or statewide drawing power and impact and are frequently linked to economic development objectives of the State. The

Department is guided by the following goals in the development of major user-oriented facilities:

Limit DNR Sponsorship of Major User-Oriented Facilities to Those with Regional or Statewide Significance: These facilities are likely to share some combination of characteristics including the need for large sites, a greater than local "market," significant off-site impacts, the potential for extensive modification of the existing landscape, and/or the requirement of a specialized or even unique setting.

Locate Major User-Oriented Facilities in Areas With Few Development Constraints: Some existing DNR properties may suitably host these facilities without harming natural resources values or impacting existing or planned resource-based recreation. If land needs to be purchased to host user-oriented recreational activities of statewide or regional significance, general site suitability criteria will be applied:

- accessibility to high capacity regional transportation,
- sites with relatively low natural resource value,
- ease of access to State's population centers,
- large parcels with few private owners,
- ease of interim management from existing DNR units.

Land Unit plans to guide recreational development in accordance with the purpose, significance and themes, and development priorities established in the comprehensive plan should subsequently be prepared for individual units where substantial new development will take place. These Land Unit plans will establish the functional relationships between the various development areas within the unit and provide the context for the individual project site plans required to support funding through the State's Capital Budget.

THESE GOALS, together with the initial regional assessments of existing conditions, were the focus of the Department's efforts to involve the public in the planning process. They are long-term goals which will not be achieved in the first iteration of the comprehensive plan but will continue to guide subsequent revision and expansion. They help to highlight where existing information is poor or lacking. Additional public interaction will also help to refine this initial plan. The Department will be further guided in future revisions to this plan by the results of new statewide surveys of outdoor recreation participation and public attitudes about land protection which are proposed to be part of the next Maryland Land Preservation, Parks and Recreation Plan.

II. *Maryland's Regions and DNR's Lands*

Because of its wealth of natural environments and its historic social and economic development, Maryland is often called "America in Miniature." Stretching from the mountains of Western Maryland to the beaches of the Atlantic Ocean, containing battlefield sites from almost all the wars fought on American soil, home to a wide range of economic pursuits and life styles--agriculture, mining, forestry, fishing, manufacturing, shipping, research and government--Maryland does contain examples of most of the themes and scenes to be found in American history and culture. Perhaps the most significant element shaping Maryland's historical development and economic, cultural and environmental character is the Chesapeake Bay and its tributaries. This largest American estuary bisecting the State has been the focus of interstate and national attention in recent years as efforts to clean it up have begun to achieve success.

For administrative purposes, the Department of Natural Resources has divided the State into four regions, roughly identifiable with a combination of physiographic, political and historical distinctions. The following pages describe these four regions and DNR's land holdings in each. DNR lands are designated according to their primary management focus, as indicated in the box.

DNR Land Unit Designations:

- ❖ A **State Park (SP)** is operated primarily for outdoor recreation purposes. Improvements to facilitate users' access and comfort are typically found in sections of the property, although much of the land remains as undeveloped natural area in most cases.
- ❖ A **State Forest (SF)** is managed for multiple purposes, including water quality protection, wildlife enhancement, timber, natural beauty and low-intensity recreation. Recreational improvements are generally very limited.
- ❖ A **Wildlife Management Area (WMA)**, as the name implies, focuses on wildlife enhancement and low intensity wildlife-related recreation, including hunting and observation. Recreational improvements are minimal.
- ❖ A **Natural Resources Management Area (NRMA)** is managed for optimal use of the resources on the site, which may suggest varying levels or intensities of recreational development.
- ❖ A **Natural Environment Area (NEA)** is a large land unit of important natural attraction or unique geological or biological significance. Recreational development is generally very limited.
- ❖ A **Fish Management Area (FMA)**, under the jurisdiction of the Fisheries Service, could be a highly specialized propagation facility or a public fishing pond.

Some regions also include a variety of Natural Heritage Areas or other unusual properties which are assigned to different agencies, or combinations of agencies, for oversight or active management. Many of these are listed in the following tables, even where there is no public access or use; for most there will be no recommendations for future development or change in use, however.

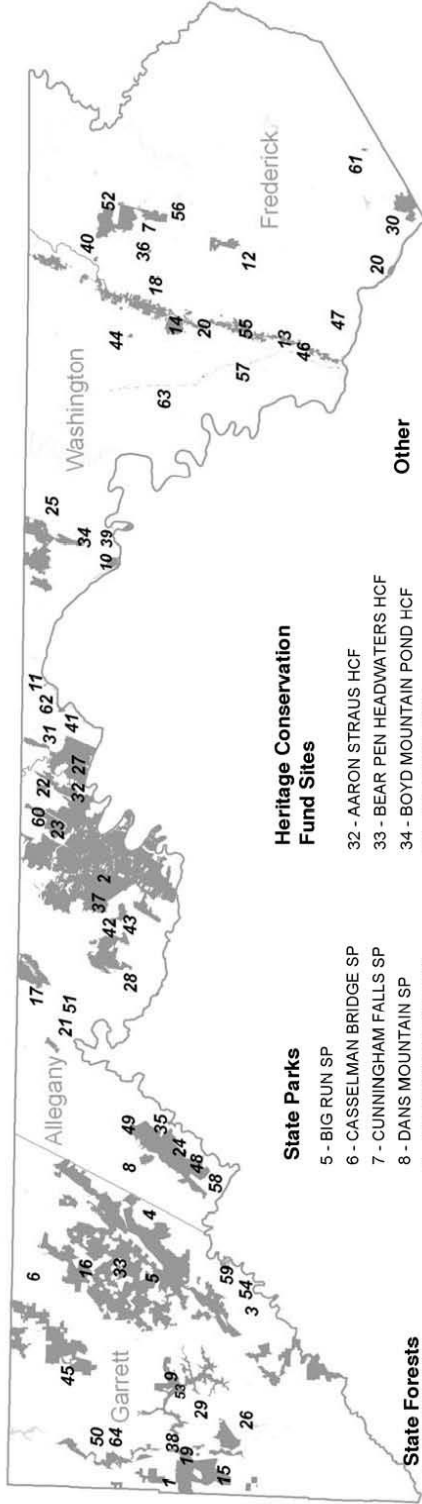
Western Region

As illustrated in **Map 1**, DNR's Western Region is comprised of Garrett, Allegany, Washington and Frederick Counties. This is the only DNR region which contains no Chesapeake Bay frontage and the only region falling partially in the Ohio River watershed: both the Youghiogheny and Casselman Rivers flow northward into Pennsylvania. The Potomac River forms almost the entire southern boundary of the region, separating Maryland from West Virginia and Virginia, while the Mason-Dixon Line separates Maryland from Pennsylvania in the north.

The Western Region spans four Physiographic Provinces: the rolling Piedmont of Frederick County, the Blue Ridge of Frederick and Washington Counties, the Ridge and Valley west of Hagerstown, and the Allegheny Plateau in Garrett County. Numerous rivers which rise in Pennsylvania to feed the Potomac cross the region, including the Monocacy River and Antietam, Conococheague, Tonoloway, Sideling Hill, Town and Licking Creeks.

This region extends in space and culture from the sprawling suburban fringes of the Washington Metropolitan area (which have reached Frederick County) to the mountainous Garrett County. Between are rich farm valleys, historic railroad and coal mining towns and vast expanses of forest. Tourism and outdoor recreation have become driving elements of the economy in the far west, where cooler summer temperatures and winter snows combine to provide year-round attractions. Many of the towns, large and small, in Washington and Frederick Counties are moving to capitalize on their historic associations, while preserving their original character. The nineteenth century's great race between the C&O Canal and the Railroad to open the west occurred here, as did much of the Civil War's action affecting Maryland. All of these features serve to draw visitors from around the State and from elsewhere in the nation.

The Department currently owns 34 major properties in the Western Region, shown on the map and described in **Table 1**. Totaling nearly 184,579 acres, these units represent some 40% of DNR's total land holdings, including the largest property in DNR's system, Savage River State Forest, and the smallest State Park, Casselman Bridge.



- State Forests**
 - 1 - GARRETT SF
 - 2 - GREEN RIDGE SF
 - 3 - POTOMAC SF
 - 4 - SAVAGE RIVER SF
- Wildlife Management Areas**
 - 22 - BELLE GROVE WMA
 - 23 - BILLMEYER WMA
 - 24 - DANS MOUNTAIN WMA
 - 25 - INDIAN SPRINGS WMA
 - 26 - MT. NEBO WMA
 - 27 - SIDELING HILL WMA
 - 28 - WARRIOR MOUNTAIN WMA
- Natural Resource Management Areas**
 - 29 - DEEP CREEK LAKE NRMA
 - 30 - MONOCACY NRMA
 - 31 - WOODMONT NRMA
- State Parks**
 - 5 - BIG RUN SP
 - 6 - CASSELLMAN BRIDGE SP
 - 7 - CUNNINGHAM FALLS SP
 - 8 - DANS MOUNTAIN SP
 - 9 - DEEP CREEK LAKE SP
 - 10 - FORT FREDERICK SP
 - 11 - FORT TONOLOWAY SP
 - 12 - GAMBRILL SP
 - 13 - GATHLAND SP
 - 14 - GREENBRIER SP
 - 15 - HERRINGTON MANOR SP
 - 16 - NEW GERMANY SP
 - 17 - ROCKY GAP SP
 - 18 - SOUTH MOUNTAIN SP
 - 19 - SWALLOW FALLS SP
 - 20 - WASHINGTON MONUMENT SP
 - 21 - WILLS MOUNTAIN SP
- Heritage Conservation Fund Sites**
 - 32 - AARON STRAUS HCF
 - 33 - BEAR PEN HEADWATERS HCF
 - 34 - BOYD MOUNTAIN POND HCF
 - 35 - FORT HILL HCF
 - 36 - GRAVEL HILL SWAMP HCF
 - 37 - HANGING PRAIRIE SHALE BARREN HCF
 - 38 - LOWER DEEP CREEK HCF
 - 39 - PRATHERS NECK HCF
 - 40 - RIDENOUR SWAMP HCF
 - 41 - ROUND TOP HILL HCF
 - 42 - SUGAR HOLLOW HCF
 - 43 - TURKEY CAMP SHALE BARREN HCF
- Other**
 - 49 - DANS ROCK FT
 - 50 - ELDER HILL FT
 - 51 - EVITTS CREEK POND FMA
 - 52 - FRANK BENTZ POND FMA
 - 53 - FULCHER P. SMITH CONSERVATION AREA (MET)
 - 54 - JENNINGS RANDOLPH LAKE BOAT RAMP
 - 55 - LAMBS KNOLL FT
 - 56 - LEWISTOWN HATCHERY FMA
 - 57 - MCCLELLANS LOOKOUT FT
 - 58 - MCCOOLE FMA
 - 59 - NORTH BRANCH POTOMAC FMA
 - 60 - TOWN HILL FT
 - 61 - URBANA LAKE FMA
 - 62 - WESTERN MARYLAND RAIL TRAIL
 - 63 - WEVERTON ROXBURY CORRIDOR RAIL TRAIL
 - 64 - YOUGHIOGHENY RIVER NEA
- Other**
 - 44 - A.M. POWELL HATCHERY FMA
 - 45 - BEAR CREEK HATCHERY FMA
 - 46 - BRUNSVILLE POND FMA
 - 47 - BRUNSWICK POND FMA
 - 48 - CARRIE DIXON LANDING FMA



Western Region - Map II - 1
DNR Outdoors Plan
Maryland Department of Natural Resources

Table 1 - DNR Land Units - Western Region

Land unit	Acres	Description/Significance	County
Belle Grove WMA	356	Originally a game bird farm, this area is now managed to promote featured wildlife species such as white-tailed deer, gray squirrel, wild turkey, ruffed grouse and cottontail rabbit.	Allegany
Big Run SP	300	The park is known statewide for its outstanding scenery, wildlife habitat, and opportunities for camping, fishing and boating in the Savage River Reservoir.	Garrett
Billmeyer WMA	708	Like Belle Grove, this area was originally a game bird farm which is now managed to promote featured wildlife species such as white-tailed deer, gray squirrel, wild turkey, ruffed grouse and cottontail rabbit.	Allegany
Casselman Bridge SP	4	Listed on National Register of Historic Places, the bridge and park is a major rest stop for area tourists.	Garrett
Cunningham Falls SP	5,032	This park contains Cunningham Falls, one of the highest falls in Maryland, and the Catocin Iron Furnace, which is listed on the National Register of Historic Places. The park is an important recreational destination near the Washington and Baltimore metro areas.	Frederick
Dans Mountain SP	482	This park principally provides recreation to meet local, community needs; it is the only State Park in Western Maryland, and one of few in the State, that has a swimming pool.	Allegany
Dans Mountain WMA	9,681	Dan's Mountain is the largest contiguous WMA in the State; the lands are managed to promote featured wildlife species such as white-tailed deer, gray squirrel, wild turkey, ruffed grouse and cottontail rabbit.	Allegany
Deep Creek NRMA	4,743	Deep Creek is a major recreational destination drawing visitors from the Washington-Baltimore and Pittsburgh metro areas.	Allegany
Deep Creek Lake SP	1,818	Deep Creek is a major recreational destination drawing visitors from the Washington-Baltimore and Pittsburgh metro areas; the park fronts Deep Creek Lake, the largest fresh water lake in Maryland.	Garrett
Echo Lake	36	This part of the South Mountain Recreation Area serves primarily as a ropes initiative and group dynamics training facility for the public and special populations.	Frederick

Fort Frederick SP	585	The major DNR historical park in Western Maryland, the reconstructed fort dates from the mid-eighteenth century French and Indian Wars and is on the National Register of Historic Places. Re-enactments are staged here.	Washington
Fort Tonoloway SP	26	This undeveloped area is possibly the site of Fort Tonoloway, a wooden stockade fort built during the mid-1700's. It is one terminus of the Western Maryland Rail Trail, which links it to Ft. Frederick.	Washington
Gambrill SP	1,148	Gambrill is a very popular general use park on South Mountain that has family and group camping and features sweeping vistas of the Frederick and Middletown Valleys.	Frederick
Garrett SF	7,639	This was the origin of the State Forest Service, initiated with a gift from the Garrett brothers in 1906. It is managed for multiple purposes and links to two State Parks, Swallow Falls and Herrington Manor.	Garrett
Gathland SP	140	Situated next to the Appalachian Trail, Gathland is a designated historic park containing the War Correspondent's monument and several historic buildings. It was also a point of major engagement during the Battle of South Mountain, and serves the local community's recreation needs.	Washington
Greenbrier SP	1,372	Greenbrier is one of the most popular, heavily used multi-use parks in the Western Region featuring a lake with beach and boat rental facilities, along with family picnicking, camping and hiking.	Washington
Green Ridge SF	43,398	The most heavily used forest in the State for outdoor recreation, particularly primitive camping and hunting, Green Ridge includes the largest contiguous block of forest land in Maryland; management activities center on wildlife habitat improvements, wood products production and biodiversity protection.	Allegany
Herrington Manor SP	365	This is a major four season waterfront park that has related recreational activities, cabins and cross country ski trails.	Garrett
Indian Springs WMA	6,573	Indian Springs features a stocked fishing lake and mushroom collecting in addition to a variety of wildlife management activities including vegetation control, timber management, nesting structures, herbaceous opening maintenance and fruit tree release. It is the most popular WMA in Western Maryland because of its proximity to the Baltimore-Washington area.	Washington

Monocacy NRMA	2,006	This large open space is located in the rapidly developing Washington metropolitan area. It is largely undeveloped, containing a few primitive trails and is popular for hunting and canoeing.	Frederick (1,988) Montgomery (5)
Mount Nebo WMA	1,854	A nearly unique wetland--a red spruce bog--is found in this area. As at Indian Springs WMA, a variety of wildlife management practices are employed to promote featured wildlife species. It is known for ruffed grouse and woodcock.	Garrett
New Germany SP	455	A very popular general use park that draws visitors from the Baltimore-Washington and Pittsburgh metro areas, New Germany features a lake, campground, cabins and a variety of summer and winter recreational opportunities.	Garrett
Potomac SF	10,071	The forest borders over 6 miles of the Potomac River; management activities center on wildlife habitat improvements, wood production and protection of biological diversity.	Garrett
Rocky Gap SP	3,119	A popular, multi-use water-oriented park, Rocky Gap not only serves the region, but also meets recreational needs of the local community. This is the site of a Jack Nicklaus golf course	Allegheny
Roundtop Hill NHA	137	This site, contiguous to the Western Maryland Rail Trail, contains many State heritage species, including the Indiana bat.	Washington
Savage River SF	54,325	Savage River is the largest DNR landholding in the State, featuring a variety of forest management and conservation activities. It contains 3,300 acres of designated Wildlands and is a significant resource for outdoor recreation. The forest also is a major greenway that runs northeast for almost 20 miles.	Garrett
Sideling Hill WMA	2,601	Sideling Hill is a significant open space corridor that connects the Potomac River, and the DNR owned Aaron Strauss property; the lands are managed to promote featured wildlife species including wild turkey and ruffed grouse. The WMA is home to several rare, threatened and endangered species, including the globally rare Harperella.	Allegheny
South Mt. Rec. Area & Appalachian Trail SP	9,227	South Mountain contains a segment of the Appalachian Trail; the nation's first designated National Scenic Trail. Scene of an important Civil War battle, it is also a major State greenway connecting the Potomac River to the Mason-Dixon Line.	Frederick

Swallow Falls SP	257	This park contains the Youghiogheny Grove, a designated sensitive area containing a virgin stand of hemlock. It also features Muddy Creek Falls and other outstanding scenic features located in the Youghiogheny River corridor and provides a range of resource-based recreation.	Garrett
Warrior Mountain WMA	4,423	The lands are managed to promote featured wildlife species such as white-tailed deer, gray squirrel, wild turkey, ruffed grouse and cottontail rabbit. In addition to hunters, Warrior Mt. is also used for educational activities by school groups, Frostburg State, and the Allegany Community College.	Allegany
Washington Monument SP	142	This is the site of the first monument dedicated to George Washington, which is on the National Register of Historic Places. It is located astride the Appalachian Trail, and is a stopping point for through hikers. It also serves the local recreational needs of the community.	Washington
Western Maryland Rail-Trail SP	291	This is a major hard-surface trail for hiking and biking. It enhances economic development opportunities in Hancock and links Fort Frederick, Roundtop Hill, Sideling Hill and the C & O Canal.	Washington
Weverton-Roxbury Corridor	178	This is an abandoned railroad corridor which is currently land-banked.	Washington
Wills Mountain SP	357	A virtually inaccessible piece of property on a mountain side, it overlooks the Narrows, a prominent geological and historical landmark in the state.	Allegany
Woodmont NRMA	3,420	This property shares 4 miles of border with Sideling Hill WMA and includes 3600 feet bordering the Western Maryland Rail-Trail. There is a 19th century Edwardian clubhouse on the property.	Washington
Youghiogheny River Corridor	3,806 (to date)	The State's only designated Wild River, the Youghiogheny is nationally ranked for whitewater boating. The corridor also contains over 30 sites with heritage species.	Garrett

Other significant conservation and recreation holdings: A number of important Federal, local and private land holdings contribute to conservation of natural resources and the provision of resource-based recreational opportunities in the Western Region. Jennings Randolph Lake, along the Potomac River's North Branch, is owned by the U.S. Army Corps of Engineers, providing a significant fishing resource. The National Park Service maintains a number of holdings in the region, including the C&O Canal National Historical Park, which borders the Potomac from Cumberland to Washington, D.C.; Antietam Battlefield in Washington County; parts of the Appalachian Trail; and Catoctin Mountain Park and the Monocacy Battlefield, both in Frederick County. Two local governments in Frederick County, the City of Frederick and Thurmont, own major watershed protection areas in the vicinity of Gambrill and Cunningham Falls State Parks and Catoctin Mountain National Park. These properties complement one another in conserving a large swath of land on Catoctin Mountain.

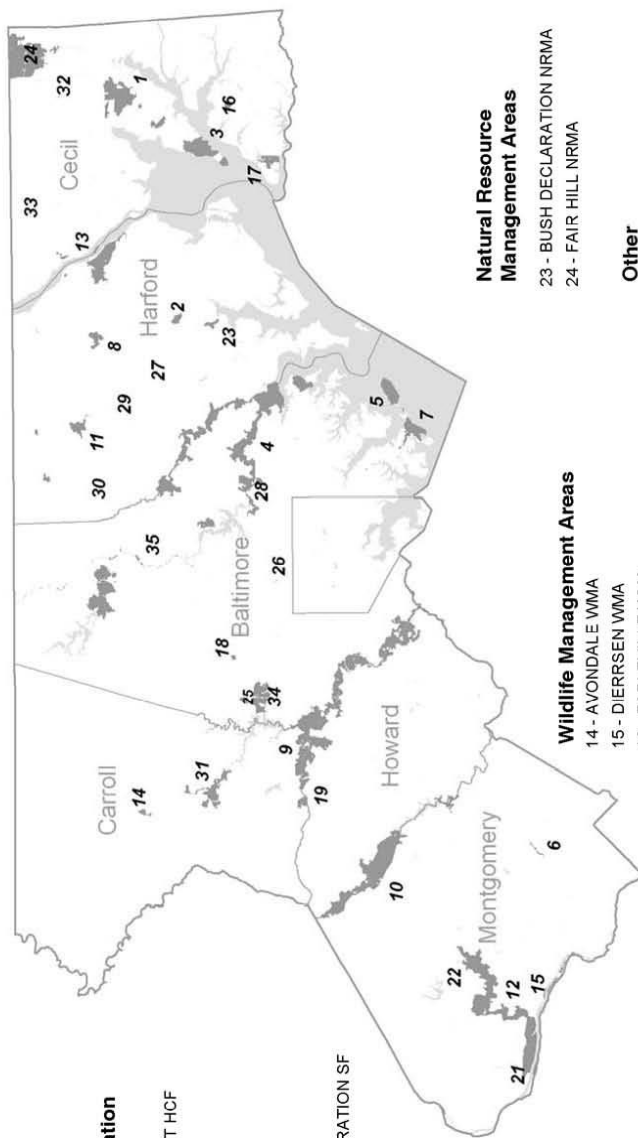
The Nature Conservancy owns a number of important natural resource areas in DNR's Western Region, including Finzel Swamp in Allegany County and several properties in Garrett County: Cranesville Swamp, Cherry Creek Glade, Hammel Glade, Crabtree Cave and Wolf Swamp, as well as several smaller properties.

Central Region

DNR's Central Region stretches from Washington, D.C. and the Potomac River in the southwest to Pennsylvania and Delaware in the northeast. Incorporating most of the Baltimore-Washington corridor, the region is comprised of Baltimore City and six Counties, as depicted on **Map 2**: Montgomery, Howard, Carroll, Baltimore, Harford and Cecil. Straddling the major northeast transportation arteries, Amtrak and Interstate 95, this area is the most populated section of Maryland, containing 57% of the State's residents.

Early industrial development in Maryland began in the Baltimore area because of its location on the fall-line between the Piedmont and Coastal Plain Provinces. Water provided the necessary energy source for mills, and the Port of Baltimore offered the best location on the East Coast for connecting the growing Midwest with European markets. The U.S. railroad industry got its start here partly because of these same locational opportunities. Remnants of all of this history are still visible in the landscape, many of them incorporated in properties owned by the Department of Natural Resources.

The Piedmont Province, where most of the region's land area is found, is characterized by rolling hills and river valleys. Important tributaries to the Chesapeake, including the Susquehanna, Patapsco, Gunpowder and Potomac Rivers, reach the fall line and become tidal in the Central Region. Thus the water resources of the region include the range of types found in the state, from small and sometimes turbulent free-flowing streams to broad and tranquil estuaries, some fringed by marshes.



Heritage Conservation Fund Sites

- 25 - SOLDIERS DELIGHT HCF

State Forests

- 1 - ELK NECK SF
- 2 - STONEY DEMONSTRATION SF

State Parks

- 3 - ELK NECK SP
- 4 - GUNPOWDER FALLS SP
- 5 - HART, MILLER AND PLEASURE ISLANDS SP
- 6 - MATTHEW HENSON SP
- 7 - NORTH POINT SP
- 8 - PALMER SP
- 9 - PATAPSCO VALLEY SP
- 10 - PATUXENT RIVER SP
- 11 - ROCKS SP
- 12 - SENECA CREEK SP
- 13 - SUSQUEHANNA SP

Wildlife Management Areas

- 14 - AVONDALE WMA
- 15 - DIERRSEN WMA
- 16 - EARLEVILLE WMA
- 17 - GROVE FARM WMA
- 18 - GWYNNBROOK WMA
- 19 - HUGG-THOMAS WMA
- 20 - ISLANDS OF THE POTOMAC WMA
- 21 - MCKEE BESHES WMA
- 22 - STRIDER WMA

Natural Resource Management Areas

- 23 - BUSH DECLARATION NRMA
- 24 - FAIR HILL NRMA

Other

- 26 - BUNTING ACQUISITION - MET
- 27 - BYNUM RUN POND FMA
- 28 - CUB HILL FT
- 29 - FOREST HILL LAKE FMA
- 30 - MADONNA FT
- 31 - MORGAN RUN NEA
- 32 - PLEASANT HILL FT
- 33 - RISING SUN POND FMA
- 34 - SOLDIERS DELIGHT NEA
- 35 - TORREY C BROWN RAIL TRAIL



Central Region - Map II - 2
Maryland Department of Natural Resources

DNR owns some 67,157 acres of land in the Central Region, distributed among 24 different land units. As the map shows and **Table 2** indicates, the largest of these holdings are three stream valley parks protecting and providing recreational access to the Patapsco and Gunpowder Rivers and Seneca Creek.

Table 2 - DNR Land Units - Central Region

Land unit	Acres	Description/Significance	County
Bush Declaration NRMA	256	Bush Declaration is a wetland and forestry mitigation site.	Harford
Dierssen WMA	40	As a wildlife refuge, Dierssen is one of the only WMAs in Maryland where there is no hunting. The area is a component of the Potomac River Greenway and contains impoundments and paths accessible from the C&O Canal.	Montgomery
Earlville WMA	190	This is the only public land in Maryland where fallow deer can be observed.	Cecil
Elk Neck SF	3,316	Elk Neck State Forest is one of the few large blocks of contiguous forest in the Baltimore-Philadelphia corridor.	Cecil
Elk Neck SP	2,191	Centrally located between Baltimore and Philadelphia, Elk Neck State Park provides both day use and overnight facilities, emphasizing water related recreation. The Turkey Point lighthouse and bluffs surrounding it are an important natural and cultural resource.	Cecil
Fair Hill NRMA	5,642	Fair Hill is an important equestrian facility in the Baltimore- Philadelphia corridor. Terrain features are such that the area can host a diversity of events ranging from Civil War reenactments to dog trials, hiking, fishing and the County Fair. Training Center operations create a 5.5 million dollar annual impact to the local economy.	Cecil
Gunpowder Falls SP	14,745	Part of a greenway which includes two of Baltimore City's water supply reservoirs, Gunpowder Falls State Park is an important outdoor recreational resource for the Baltimore area. The park provides protection for Loch Raven Reservoir as well as the flora, fauna and geologic features of the Little and Big Gunpowder stream valleys. A major attraction is the Northern Central Railroad Trail.	Baltimore Harford
Gwynnbrook WMA	74	Originally a game farm, Gwynnbrook features a trail which is partly wheelchair accessible, a fishing pond and a demonstration of ways in which homeowners can encourage wildlife in their own yards; a great place for mushrooms.	Baltimore
Hart-Miller,	244	Hart-Miller and Pleasure Island s were created by joining	Baltimore

Pleasure Islands SP		two eroding islands with a diked area which has been filled with dredged material. Presently largely undeveloped, it is a popular attraction for local boaters and provides one of very few public access points to the Chesapeake Bay in the Baltimore metropolitan area.	
Hugg-Thomas WMA	274	A component of the Patapsco Greenway, Hugg-Thomas provides a relatively rare hunting area close to Baltimore and Washington.	Baltimore
Islands of the Potomac WMA	824	The islands, accessible only by boat, provide an important wildlife sanctuary close to Washington DC and contribute to Potomac River Greenway conservation efforts.	Montgomery, Garrett, Allegany, Frederick, Washington
Matthew Henson SP	100	The park is a small, undeveloped piece of open space in a heavily urbanized area.	Montgomery
McKee-Beshers WMA	1,971	A component of the Potomac Greenway, this area provides public hunting opportunities for the Washington, D.C. metropolitan region. There are areas specially designated for training dogs here.	Montgomery
Morgan Run NEA	1,600	Morgan Run is an important resource protection zone, buffering a tributary to Baltimore City's Liberty Reservoir and providing open space in a rapidly developing region.	Carroll
North Point SP	1,337	Blackmarsh Wildland, part of this State Park, is an important habitat area on the Chesapeake Bay very near Baltimore. The North Point area is historically important for its role in the British march on Baltimore during the War of 1812. Bay Shore Park, a turn-of-the-century amusement park, was located here.	Baltimore
Palmer SP	519	Palmer State Park is a resource protection area and buffer zone for Deer Creek, a State-designated scenic river and a potential greenway.	Harford
Patapsco Valley SP	14,283	Patapsco Valley State Park provides convenient, resource-based recreation opportunities for those living in the Baltimore region. The park, nearly 25 miles long, is the main component of the Patapsco Greenway, contributing to resource and water quality protection by conserving undeveloped, forested stream valley lands. It contains several recreation areas developed largely by the Civilian Conservation Corps during the Depression.	Anne Arundel Howard Baltimore Carroll

Patuxent River SP	6,686	Patuxent River State Park is an important, largely undeveloped, natural area between the Baltimore and Washington metropolitan areas. It provides land and water protection functions upstream from two major reservoirs providing water to Maryland's Washington suburbs.	Montgomery Howard
Rocks SP	928	Rocks State Park supports various recreational uses in an interesting natural setting. The park places the King and Queen Seat and Falling Branch rock formations, and a beautiful waterfall, in public ownership. Rocks serves as a buffer and resource protection zone for Deer Creek, a state designated scenic river.	Harford
Seneca Creek SP	6,283	Seneca Creek State Park is a greenway, protecting natural resources and supporting various day-use recreational uses. Features include a lake and several points of historic interest. The park links to the Potomac River Greenway.	Montgomery
Soldiers Delight NEA	1,893	The serpentine barren found at Soldiers Delight is unique in the State of Maryland. The NEA is also a resource protection zone adjacent to Baltimore City's Liberty Reservoir watershed.	Baltimore
Stoney Forest SF	318	One of the few blocks of contiguous forest land in a rapidly urbanizing area.	Harford
Strider WMA	267	This wildlife sanctuary is one of the few blocks of contiguous forest land in a rapidly urbanizing area.	Montgomery
Susquehanna SP	2,674	Susquehanna State Park protects a portion of the Susquehanna River and many historic sites, while providing recreational opportunities.	Harford, Cecil

Other significant conservation and recreation holdings: The Maryland-National Park and Planning Commission, Montgomery County Parks Department, manages several major stream valley parks and a large regional park, Little Bennett, which provide natural area recreation similar to that provided by DNR. Major regional natural areas are also managed by Carroll County, at Piney Run, and by Baltimore County, at Oregon Ridge. There is an important Federal conservation presence along the Potomac shoreline in the region, where the C&O Canal National Historical Park protects the entire Maryland side of the River, providing recreation as well, and connecting with a number of DNR properties and local parks. Although there is not a public recreational benefit, Aberdeen Proving Ground, which occupies almost the entire Bay shoreline in Harford County, keeps very large acreage in a natural condition, to the benefit of wildlife.

State Forests

- 1 - CEDARVILLE SF
- 2 - DONCASTER DEMONSTRATION SF
- 3 - SALEM STATE FOREST

Heritage Conservation Fund Sites

- 37 - BELT WOODS HCF
- 38 - PARKER CREEK HCF
- 39 - PATUXENT OXBOW HCF
- 40 - PINEY BRANCH BOG HCF

Natural Environment Areas

- 42 - BELT WOODS NEA
- 55 - MATTAWOMAN NEA
- 63 - SEVERN RUN NEA
- 68 - ZEKIAH SWAMP NEA

State Parks

- 4 - CALVERT CLIFFS SP
- 5 - CHAPEL POINT SP
- 6 - CHAPMAN SP
- 7 - FRANKLIN POINT
- 8 - GREENWELL SP
- 9 - JONAS GREEN SP
- 10 - POINT LOOKOUT SP
- 11 - ROSARYVILLE SP
- 12 - SANDY POINT SP
- 13 - SMALLWOOD SP
- 14 - ST MARYS RIVER SP
- 15 - ST. CLEMENTS ISLAND SP

Natural Resources Management Areas

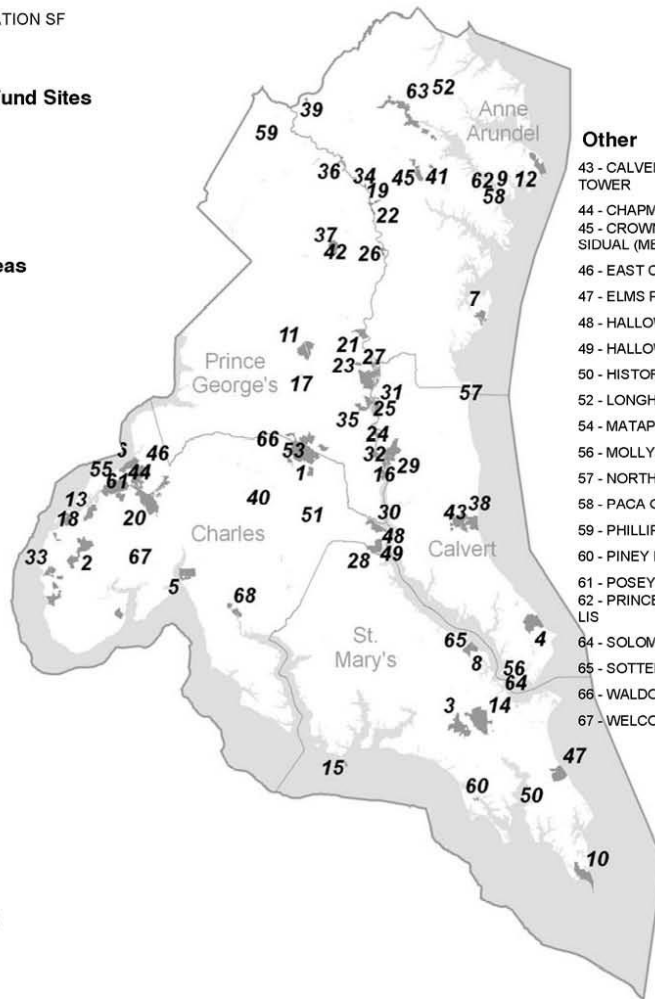
- 21 - BILLINGSLEY NRMA
- 22 - CHANEY NRMA
- 23 - CROOM NRMA
- 24 - FULL MILL BRANCH NRMA
- 25 - HALL CREEK NRMA
- 26 - HONEY BRANCH NRMA
- 27 - HOUSE CREEK NRMA
- 28 - INDIAN CREEK NRMA
- 29 - KINGS LANDING NRMA
- 30 - MAXWELL HALL NRMA
- 31 - MERKLE WILDLIFE SANCTUARY NRMA
- 32 - MILLTOWN LANDING NRMA
- 33 - NANJEMOY NRMA
- 34 - PRIDE FINANCE NRMA
- 35 - SPICE CREEK NRMA
- 36 - UHLER NRMA

Wildlife Management Areas

- 16 - BOWEN WMA
- 17 - CHELTENHAM WMA
- 18 - CHICAMUXEN WMA
- 19 - GLOBE COMM WMA
- 20 - MYRTLE GROVE WMA

Other

- 43 - CALVERT MARINE POLICE RADIO TOWER
- 44 - CHAPMAN RESIDUAL
- 45 - CROWNSVILLE STATE HOSPITAL RESIDUAL (MET)
- 46 - EAST CATAWBA (MET)
- 47 - ELMS PROPERTY
- 48 - HALLOWING POINT BOAT RAMP
- 49 - HALLOWING POINT RESEARCH CENTER
- 50 - HISTORIC ST MARYS CITY
- 52 - LONGHILL FT
- 54 - MATAPEAKE
- 56 - MOLLYS LEG DREDGE SPOIL
- 57 - NORTH BEACH
- 58 - PACA GARDENS
- 59 - PHILLIP GREENWELL PROPERTY
- 60 - PINEY POINT AQUACULTURE CENTER
- 61 - POSEY GIFT (MET)
- 62 - PRINCE GEORGE ST OFFICE ANNAPOLIS
- 64 - SOLOMONS
- 65 - SOTTERLY
- 66 - WALDORF NRP BARRACKS
- 67 - WELCOME FT



Southern Region - Map II -3

Maryland Department of Natural Resources

Southern Region

The Chesapeake Bay and Potomac River estuaries border the five counties comprising DNR's Southern Region (**Map 3**). These great waterways shape the region's climate, landscape and life styles. The region extends from the expanding urban landscapes in the north in Prince George's and Anne Arundel Counties to relatively undeveloped Saint Mary's County in the south. In between, dramatic land use changes are sweeping through Calvert and Charles Counties to varying degrees.

Extensive estuarine waterways, like the Potomac, Patuxent and Severn Rivers once provided important transportation and fishery resources. Today, casual observation reveals the transformation in many places caused by over two hundred years of sedimentation, pollution and land use manipulation, most notably the tobacco economy which stimulated so much of the early settlement of the region and financed colonial development. Even so, significant areas of healthy estuary, marsh, nontidal wetland and forest survive. One of the best examples is Mattawoman Creek in Charles County. It contains one of the healthiest estuarine fish populations in Maryland. Along the banks of Mattawoman Creek, thousands of acres of protected natural lands help to buffer the waterway from recently booming suburbanization in its watershed.

The region is bounded by hundreds of miles of shoreline that offer significant opportunity for recreation. Historically, the five counties of the region have limited public access to the shoreline. In the past, most recreational water access in the Region has been available for a fee through private clubs, marinas and boat ramps. In recent decades however, there has been increasing demand for free or inexpensive public water access. As the State's population grows and becomes more urban and suburban, increasing reliance on public waterways and limited public park land for recreation can be anticipated.

As **Table 3** demonstrates, DNR manages about 38,595 acres of public land in the Southern Region. Much of this land is public open space along waterways. A significant percentage of these DNR areas contribute to much larger protected corridors that incorporate private, Federal and local government lands. A cooperative working relationship has evolved between DNR and the five Counties. In general across the Southern Region, DNR concentrates on natural resource-based recreation and the Counties are the primary public providers of intensive or "user-oriented" recreation. The one notable exception is Sandy Point State Park with intensive recreation areas lining its beaches.

Table 3 – DNR Land Units – Southern Region

Land Unit	Acres	Description/Significance	County
Belt Woods HCF	515	This deciduous forest is one of the best examples of a forest approximating "old growth" surviving in Central Maryland, sheltering a diverse forest interior dwelling bird (FIDS) community. Scientific study opportunities of this ecological community are unique in southern Maryland.	Prince George's
Bowen WMA	313	A Patuxent River Greenway component, Bowen protects tidal wetland habitat, particularly for waterfowl.	Prince George's
Calvert Cliffs SP	1,311	The Cliffs of Calvert range in height from 60 to 110 feet in the State Park. They provide the best publicly-accessible example of the Miocene fossil record in Maryland. Approximately 90% of the Park is forested; this is one of the largest protected contiguous forest habitat complexes in Southern Maryland.	Calvert
Cedarville SF	3,625	Zekiah Swamp headwaters and tributaries of the Wicomico River are protected by Cedarville's total 3700 acres in two counties. Recreation focus is natural resource-based and wide ranging, including hunting, camping, trails, fishing and fisheries education.	Prince George's (992), Charles (2,706)
Chapel Point SP	821	An undeveloped property providing public hunting and limited boating access, Chapel Point is a Potomac River Greenway link adjacent to historic St. Ignatius Church.	Charles
Cheltenham WMA	10	Hunting with dove fields, and an archery range, are provided.	Prince George's
Croom NRMA	101	This property provides an upland Patuxent Greenway connection to Merkle Wildlife Sanctuary and abutting Prince George's County lands. Extensive unbroken tree canopy provides habitat for forest interior dwelling birds.	Prince George's
Doncaster SF	1,823	This is the only Southern Maryland forest managed to demonstrate stewardship and forestry practices.	Charles
Elms Power Plant Site	1,020	This site has 6500 linear feet of protected Chesapeake Bay Shoreline, including the Elms Public Beach operated by St. Mary's County. There are extensive contiguous natural areas of forest and wetlands (tidal and nontidal).	St. Mary's
Full Mill Branch NRMA	189	This Patuxent River Greenway link protects a large tidal wetland and habitat area.	Prince George's
Greenwell SP	596	One of only two publicly protected parcels on the	St. Mary's

		Patuxent River in Saint Mary's County, Greenwell State Park is under development to specialize in barrier-free programming and recreation. Historic remnants of 19th Century architecture are preserved in several structures here.	
Hall Creek NRMA	331	This Patuxent River Greenway link contains the largest expanse of protected oak-hickory forest on the Patuxent River. The site may have been a major historic access point for water-borne commercial traffic unloading at Ferry Landing.	Calvert
Hallowing Point	2	This is a public service center and regional office for DNR. It provides recreation access to the Patuxent River via boat ramps and piers.	Calvert
House Creek NRMA	248	This Patuxent Greenway link contributes to a nearly continuous protected waterfront adjacent to Jug Bay. Extensive tidal wetlands are protected.	Anne Arundel
Hughesville Pond FMA	3	This area serves local community recreation and for fire emergencies.	Charles
Indian Creek NRMA	660	This Patuxent Greenway link protects waterfront and open space, including two Bald Eagle nest sites, around the Town of Benedict. It is also the site of a black American Civil War regiment encampment.	Charles
Jonas Green SP	6	The primary public access on Severn River's north bank, this tiny park provides a unique scenic gateway to Annapolis across the river from the US Naval Academy.	Anne Arundel
Kings Landing NRMA	1,258	This is the largest contiguous protected land area on the Patuxent's eastern shore south of the Patuxent Wildlife Research Center and also buffers Cocktown and Chew Creeks from suburban development, preserving wildlife habitat. Calvert County operates an environmental education program and a number of recreational facilities, including a swimming pool, here.	Calvert
Mattawoman NEA	2,509	The Mattawoman Greenway, including this site, is rich in flora and fauna. At least 25 species of plants that are rare, threatened or endangered in Maryland are found here.	Charles
Meloy-Billingsley NRMA	430	Site of the 17th Century Billingsley Mansion, one of the oldest brick and mortar structures in Maryland, this property protects extensive wetlands and rural open space abutting the Patuxent River and Western Branch. Recreation opportunities include water access, historical interpretation and environmental education.	Prince George's
Merkle NRMA	1,680	DNR's primary center for public education and	Prince

		programming on natural resources and wildlife in the Patuxent River region is located here. Together with adjacent protected lands under MNCPPC management, several thousand contiguous acres are protected for wildlife habitat in a rapidly developing region of Maryland.	George's
Milltown Landing NRMA	264	This Patuxent River Greenway link protects a heron rookery, extensive tidal wetlands and river front. It is the site of a historic river boat landing and farm.	Prince George's
Myrtle Grove WMA	1,722	Myrtle Grove, part of the Mattawoman Greenway is the oldest State-managed public hunting land in Southern Maryland. Wood duck habitat in Myrtle Grove is optimized by manipulating water impoundments. The shooting range in Myrtle Grove is the only public range in Southern Maryland.	Charles
Patuxent Oxbow HCF	50	Site of a unique "oxbow" natural freshwater lake formed by an isolated meander of the Little Patuxent River, possibly the largest of its type in Maryland. The Oxbow area is a potential "major genetic reserve" for central Maryland based on listings of species found here.	Anne Arundel
Piney Point Aquaculture Center FMA	66	Piney Point Aquaculture Center is Maryland's most modern oyster hatchery and is the only oyster hatchery on Maryland's Chesapeake Bay western shore.	St. Mary's
Point Lookout SP	1,070	With over 3000 linear feet of shoreline on the Potomac River and the Chesapeake Bay, this park serves as an anchor for the Potomac Greenway. It is the site of a Civil War prison camp and features historic re-enactments, as well as a range of resource-based recreation.	St. Mary's
Purse SP	149	The riverfront cliffs in Purse are the only public access to Potomac River fossils. This Potomac Greenway component is presently undeveloped. The forest extending through Purse is probably part of the largest contiguous forest remaining in Southern Maryland.	Charles
Rosaryville SP	990	Rosaryville protects 1000 acres of open space straddling the drainage divide between the Potomac and Patuxent Rivers. The park includes a reconstruction of the 17th century Mount Airy Mansion (Dower House), homestead of the Calverts, descendants of Lord Baltimore.	Prince George's
Saint Clements Island SP	62	In 1634, the English sailing ships the Dove and the Arc, landed here. The Blessing of the Fleet, an annual event focusing on Potomac River watermen, is held on Saint Clements Island.	St. Mary's

Saint Mary's River SP (Sites 1 and 2)	3,480	The 200+ acre Saint River's River Fishing Lake on Site 1, built primarily for flood control, is the largest freshwater public recreation lake in Southern Maryland. Habitat significant to the State Endangered Eastern Narrow-mouth Toad, is found in Site 2, the largest block of protected undeveloped land in Saint Mary's County. The County leases 80 acres here for intensive recreation.	St. Mary's
Sandy Point SP	786	This park is a major focus for Chesapeake Bay public access, including beaches and a public marina facility. Tidal marshes in Sandy Point are habitat for the Black Rail, a Maryland Natural Heritage species.	Anne Arundel
Severn Run NEA	1759	The extensive riparian corridor along Severn Run protected in the Severn Run NEA preserves important capability for wildlife movement in this rapidly developing area. Aquatic habitat and water quality benefit directly from the protection afforded to the extensive areas of steep slopes and erodible soils found here. The County and a private group lease portions of the property for intensive recreation.	Anne Arundel
Smallwood SP	626	This Mattawoman Greenway link is the site of the General Smallwood house, Maryland's fourth governor and Revolutionary War Hero. A large marina is located here, and annual bass tournaments draw many visitors.	Charles
Spice Creek NRMA	659	This Patuxent Greenway link preserves an area for wildlife habitat and provides a rural/open space land buffer between River and upland development.	Prince George's
Upper Patuxent NRMAs	636	This NRMA consists of a number of individual properties (Chaney, Entzian/Glazer, Globe Comm, Pride Finance and Uhler) along the Patuxent Greenway north of Route 214. All buffer the river and provide wildlife habitat; some provide limited public river access.	Prince George's, Anne Arundel
Zekiah Swamp NEA	443	This area protects a portion of Zekiah Swamp, the largest natural hardwood swamp in Maryland. Public fishing access and opportunities for bird watching are available.	Charles

Other significant conservation and recreation holdings: As a public land manager, DNR provides the greatest acreage of natural area and associated outdoor recreation regionwide. However, public lands managed by local and Federal agencies are important and essential contributors. In Prince George's County, the Maryland-National Capital Park and Planning Commission owns more land than DNR, much of it in stream valley parks.

Other

- 56 - BODKIN ISLAND
- 57 - CAMBRIDGE MARINE TERMINAL
- 58 - CHURCH CREEK FT
- 59 - CRISFIELD MARINE TERMINAL
- 60 - DEVIL ISLAND AREA
- 61 - GALENA
- 62 - GREEN HILL FT
- 63 - INTERSTATE FT
- 64 - KENT STILL POND MARINE POLICE RADIO TOWER
- 65 - MARINE POLICE BOAT HOUSE
- 66 - NASSAWANGO FT
- 67 - OCEAN CITY BEACH EROSION CONTROL DISTRICT
- 68 - POWELLVILLE FT
- 70 - SOMERS COVE MARINA

Heritage Conservation Fund Sites

- 40 - ANDOVER FLATWOODS HCF
- 41 - BRIDGETOWN PONDS HCF
- 42 - CHICONE CREEK HCF
- 43 - GOLTS PONDS HCF
- 44 - HICKORY POINT HCF
- 45 - HOLLINSWORTH POND HCF
- 46 - LOWER MARSHYHOPE SWAMP HCF
- 47 - MARSHYHOPE CREEK NORTH HCF
- 48 - MASSEY POND HCF
- 49 - NANTICOKE CORRIDOR HCF
- 50 - POCOMOKE RIVER CORRIDOR HCF
- 51 - SAVANNA LAKE LODGE HCF
- 52 - SAVANNAH LAKE (ADKINS) HCF
- 53 - SHARPTOWN DUNES (AKA PLUM CREEK) HCF
- 54 - VAN DE GRAFF WOODS HCF

State Parks

- 6 - ASSATEAGUE SP
- 7 - CHOPTANK RIVER FISHING PIER SP
- 8 - HARRIET TUBMAN STATE PARK
- 9 - JANES ISLAND SP
- 10 - LOVE POINT STATE PARK
- 11 - MARTINAK SP
- 12 - POCOMOKE RIVER SP
- 13 - TUCKAHOE SP
- 14 - WYE OAK SP

Fish Management Areas

- 55 - BIG MILL POND FMA
- 69 - SMITHVILLE LAKE FMA
- 71 - UNICORN LAKE FMA
- 72 - URIEVILLE LAKE FMA
- 73 - WYE MILLS FMA

Wildlife Management Areas

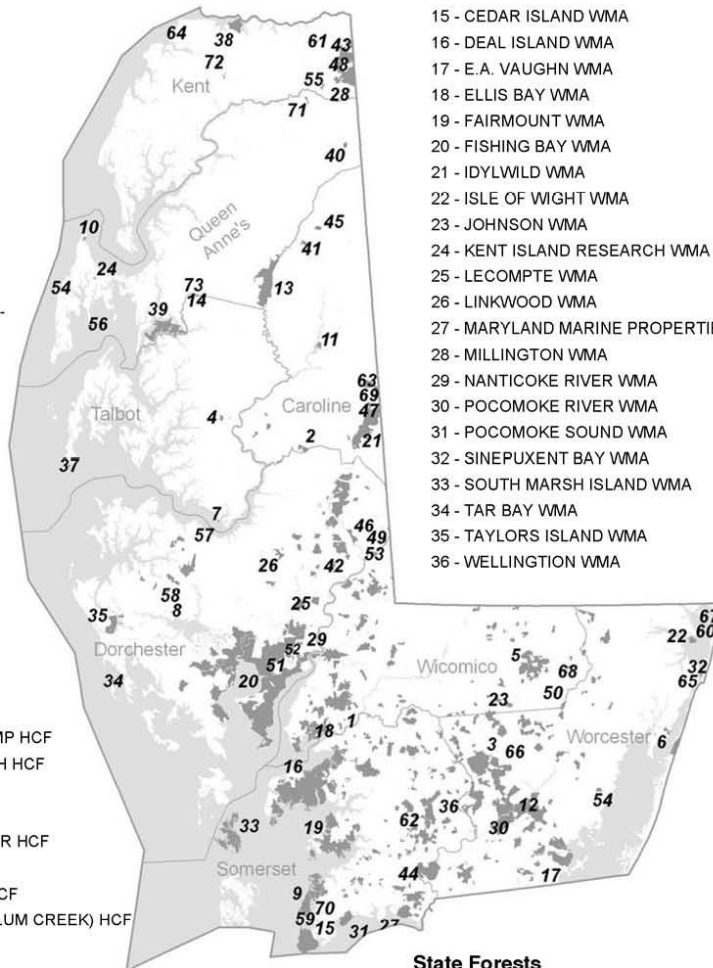
- 15 - CEDAR ISLAND WMA
- 16 - DEAL ISLAND WMA
- 17 - E. A. VAUGHN WMA
- 18 - ELLIS BAY WMA
- 19 - FAIRMOUNT WMA
- 20 - FISHING BAY WMA
- 21 - IDYLWILD WMA
- 22 - ISLE OF WIGHT WMA
- 23 - JOHNSON WMA
- 24 - KENT ISLAND RESEARCH WMA
- 25 - LECOMPTE WMA
- 26 - LINKWOOD WMA
- 27 - MARYLAND MARINE PROPERTIES WMA
- 28 - MILLINGTON WMA
- 29 - NANTICOKE RIVER WMA
- 30 - POCOMOKE RIVER WMA
- 31 - POCOMOKE SOUND WMA
- 32 - SINEPUXENT BAY WMA
- 33 - SOUTH MARSH ISLAND WMA
- 34 - TAR BAY WMA
- 35 - TAYLORS ISLAND WMA
- 36 - WELLINGTON WMA

State Forests

- 1 - CHESAPEAKE FOREST LANDS
- 2 - JOHN S. AYTON TREE NURSERY
- 3 - POCOMOKE RIVER SF
- 4 - SETH DEMONSTRATION SF
- 5 - WICOMICO DEMONSTRATION SF

Natural Resources Management Areas

- 37 - BLACK WALNUT POINT NRMA
- 38 - SASSAFRASS NRMA
- 39 - WYE ISLAND NRMA



Eastern Region - Map II - 4

Maryland Department of Natural Resources

In the Patuxent River area, several of M-NCPPC's properties are intermingled with DNR's, and some of DNR's properties are managed by the local agency.

The US Fish and Wildlife Service manages over 12,000 acres in the Patuxent Wildlife Research Center in Anne Arundel and Prince George's Counties. National Park Service properties on the Potomac, at Fort Washington and Piscataway, contribute to Potomac River protection and provide important recreational access. DNR funds were substantially involved in the development of the marina at Fort Washington.

Eastern Region

The Eastern Region, shown on **Map 4**, is comprised of the eight Maryland Eastern Shore counties: the Upper Shore consisting of Kent, Queen Anne's, Talbot and Caroline Counties, and the four Lower Shore counties: Dorchester, Wicomico, Somerset and Worcester. Although each county has a distinct cultural and natural setting, based upon their position relative to the Chesapeake Bay, the entire area is typified by a relatively flat land form interacting with a tidal shoreline and a climate moderated by its maritime location. An abundance of plants and wildlife, both in terms of quantity and diversity, existed and persist in the diverse habitats provided by this interactive landscape. This natural relationship, too, provided good conditions for Native Americans and early settlers to thrive and continues to make the region an attractive area to live and work.

This Coastal Plain land mass is soft, formed of sediments, and lacking rock formations. The primordial landscape was covered with a relatively consistent hardwood forest. This forest was uniformly cleared and converted to farm land. There is, however, a dynamic transition of terrestrial and aquatic habitats which progresses from north to south along the Chesapeake Bay shoreline. The fresh water tidal estuaries toward the north (Kent County) meet the land with high eroding bluffs. The middle (Queen Anne's and Talbot Counties) estuaries cut into the gently dropping landform with numerous inlets.

The Lower Shore (Dorchester and Somerset Counties) topography is so low that an expansive salt water marsh fringe typifies the shoreline. Some larger rivers, such as the Choptank, Nanticoke, Wicomico and Pocomoke, cut inland (through Caroline and Wicomico Counties) and create a mosaic of mixed fresh water tidal marshes and swamps. There is even a presence on the Atlantic Ocean (Worcester County), where coastal beaches, marshes and bays provide specialized habitats for wildlife and unique recreational opportunities for people.

With an economy historically based on agriculture and on harvesting the Bay's bounty, the Eastern Region's population settlement has focused on numerous small and mid-sized towns separated by expanses of farm and forest land. Construction of the Chesapeake Bay bridge in the early 1950's brought "the Shore" closer to the rest of the State and stimulated the development of Ocean City and its environs into a tourist and vacation mecca.

As depicted on the map and in **Table 4**, DNR's 57 units in the Eastern Region focus heavily on management for wildlife purposes and on protecting special resources. They total over 163,291 acres.

Table 4 - DNR Land Units - Eastern Region

Land Unit	Acres	Description/Significance	County
Assateague Island SP	855	Incorporating Ocean beach and sand dunes, and marsh and forest on the Sinepuxent Bay, this park was selected by <i>National Geographic Traveler</i> as one of 50 best state parks in the U.S.	Worcester
Andover Flatwoods	124	This area provides endangered species protection.	Queen Anne's
Black Walnut Point NRMA	58	A public/private bed and breakfast occupies much of this site. There is an observation area for migrating waterfowl and monarch butterflies.	Talbot
Bridgetown Ponds HCF	134	This area provides endangered species protection.	Caroline
Cedar Island WMA	2,880	This tidal marsh provides the best winter habitat area for black ducks. Extensive marsh fringes surround Tangier Sound, with nodes of activity in adjacent urban areas. There is a range of wildlife activities and resource protection practices.	Somerset
Chesapeake Forest Lands	58,334	This forest includes tracts scattered across 5 counties, many of lie contiguous with Pocomoke State Forest and other public lands as well as within several rural legacy area. Sustainable forestry management is the primary focus; however, the property includes several ecologically sensitive sites. Limited use passive recreation is offered, together with a demonstration of stewardship and forestry practices.	Caroline, Dorchester, Somerset, Wicomico & Worcester
Chicone Creek NHA	234	This area is important for endangered species protection and features Native American habitation.	Dorchester
Choptank River Fishing Pier SP	26	The former Route 50 Bridge over Choptank River at Cambridge has been converted into fishing piers, providing public access and connecting urban parks and resource protection areas and enhancement projects in a potential Choptank River greenway.	Talbot
Deal Island WMA	13,318	This tidal marsh, with a 3,000 acre wildlife impoundment and extensive marsh fringes surrounding Tangier Sound offers one of the best areas to observe concentrations of	Somerset

		migrating waterfowl and wading birds. There are nodes of activity in adjacent urban areas.	
E.A. Vaughn WMA	2,629	This WMA includes both marsh and upland along Chincoteague Bay and provides disabled hunter access.	Worcester
John S. Ayton Tree Nursery SF	299	This State nursery is responsible for propagation of tree stock for public lands.	Caroline
Ellis Bay WMA	2,886	Marsh and forested wetlands make up one of the first wildlife areas purchased; it provides habitat for ducks and wading birds.	Wicomico
Fairmount WMA	5,224	This tidal marsh area containing two small waterfowl impoundments is located between the Manokin and the Annemessex Rivers. It offers a range of wildlife activities, resource protection practices.	Somerset
Fishing Bay WMA	28,572	Incorporating expansive marshes surrounding Tangier Sound, this is the largest of DNR's tidal wetlands, adjacent to Blackwater National Wildlife Refuge. It includes sites of early Native American Indian settlements and offers the best area to observe winter concentrations of bald eagles.	Dorchester
Golts Ponds	48	This area provides endangered species protection.	Kent
Hickory Point HCF	588	This area provides endangered species protection.	Worcester
Hollinsworth Pond HCF	159	This area provides endangered species protection.	Caroline
Idylwild WMA	3,117	This area, including non-tidal floodplain and uplands of Marshyhope Creek, is a critical link in the Marshyhope Creek Greenway and connects urban park and waterfront revitalization project in the Town of Federalsburg and resource protection areas downstream.	Caroline
Isle of Wight WMA	224	This island in Assawoman Bay, astride Route 90 going into Ocean City, contains uplands and marsh.	Worcester
Janes Island SP	3,148	This Bay waterfront multi-purpose park offers a range of day use and overnight facilities. It is a destination point of a Tangier Sound Greenway.	Somerset
Johnson WMA	153	This uplands area includes an archery range and DNR police station.	Wicomico
Kent Island Research Center	31	This is U.S. Government surplus land, for which a use has not been determined.	Queen Annes

WMA			
LeCompte WMA	485	This hardwood forest is designated principally as a refuge for the Delmarva fox squirrel.	Dorchester
Linkwood WMA	313	This forested tract is a remnant of a larger forest ecosystem of oaks, maples, gums and pine.	Dorchester
Lower Marshyhope Swamp	415	This area provides endangered species protection	Dorchester
Marshyhope Creek North	375	This area provides endangered species protection.	Caroline
Martinak SP	105	This multi-use park provides a range of facilities, including campsites and boating access. As forest on the tidal upper Choptank River, it is a critical link in the Choptank River Greenway connecting urban parks, resource protection areas. It is the site of Native American habitation.	Caroline
Massey Pond HCF	131	This area provides endangered species protection.	Kent
Matapeake Marine Terminal SP	29	This open-Bay access point near the east end of the Bay Bridge is used for boating, fishing and enjoying the scenic view. It is the site of the eastern terminus of the old Chesapeake Bay ferry. <i>This property is sometimes shown as being in DNR's Southern Region because it is managed out of Sandy Point SP.</i>	
Millington WMA	3,744	This area offers endangered species protection and is the site of Native American settlements. Disabled hunter access is allowed with permit.	Kent
Nanticoke Corridor HCF	55	This area provides endangered species protection.	Dorchester
Nanticoke River WMA	1,687	Tidal Marshes and adjacent uplands along the Nanticoke River form an integral link in the Nanticoke River Greenway incorporating significant natural and ecologically sensitive areas.	Wicomico
Ocean City Beach Control District	15	This replenished Ocean beach provides a storm barrier for Ocean City development.	Worcester
Pocomoke River Corridor HCF	178	This area provides endangered species protection.	Worcester
Pocomoke River SP (Shad Landing 372 acres) (Milburn Landing	916	This two-site multi-use recreational park in the upland forest along the Pocomoke River provides an integral link in the Pocomoke River Heritage Greenway connecting upstream urban parks and significant natural and	Worcester

544 acres)		ecologically sensitive sites. Approximately 650 acres are designated for endangered species protection.	
Pocomoke River SF	13,348	This forest includes cypress swamps along 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.	Wicomico (10 acres) Worcester (17,275 acres)
Pocomoke River WMA	1,008	This property includes cypress swamps and some uplands along the Pocomoke River.	Worcester
Pocomoke Sound WMA	1,952	This tidal marsh, with some uplands along Pocomoke River, represents the northernmost extent of the Great Cypress Swamp.	Somerset
Sassafras River NRMA	1,008	This recently acquired property includes a diversity of land forms, including beach, bluffs and rolling farmland. There is a spectrum of potential uses.	Kent
Savanna Lake HCF	168	This significant Carolina bay provides endangered species protection.	Dorchester
Savanna Lake Lodge HCF	610	This area provides endangered species protection.	Dorchester
Seth SF	125	This forest is managed to demonstrate stewardship and forestry practices.	Talbot
Sharptown Dunes HCF	198	This area provides endangered species protection.	Wicomico
Sinepuxent Bay WMA	80	Dredged materials comprising this site are utilized by colonial nesting birds.	Worcester
Smithville Lake FMA	48	Fish stocking, boating, fishing occur in this integral part of the Marshyhope Creek Greenway connecting urban parks and resource protection areas and enhancement projects.	Caroline
Somers Cove Marina Facility	69	This large public boating facility, providing Bay access, is fringed by marsh.	Somerset
South Marsh Island WMA	2,968	This tidal marsh is home to the peregrine falcon, waterfowl and other wetland wildlife.	Somerset
Taylor's Island WMA	1,114	A range of resource protection practices and programs is carried out in this marsh habitat.	Dorchester
Tuckahoe SP	3,465	This property incorporates non-tidal floodplain and uplands of Tuckahoe Creek. The multi-use park has a range of facilities including a 20 acre boating and fishing lake and the Adkins Arboretum	Caroline (1,623) Queen Annes

			(1,842)
Unicorn Lake FMA	69	A stocked fishing lake provides boating and fishing.	Queen Annes
Urieville Lake FMA	54	Fish stocking, boating and fishing occur here.	Kent
Van der Graff Woods HCF	144	This area is for endangered species protection.	Worcester
Wellington WMA	428	This forested tract offers a range of resource protection practices and programs.	Somerset
Wicomico Demonstration SF	1,245	This demonstration forest is an environmental education facility, managed to demonstrate stewardship and forestry practices.	Wicomico
Wye Island NRMA	2,512	A conference facility and group use area are provided adjacent to the University of Maryland agricultural research area.	Queen Annes
Wye Mills Lake FMA	66	Fish stocking, boating and fishing occur here.	Queen Annes
Wye Oak SP	29	This is the site of a world record and National Champion white oak over 400 years old, now deceased.	Talbot

Other significant conservation and recreation holdings: Just as much of DNR's property in the Eastern Region is held primarily for its wildlife values, so are Federal holdings in the region. Important wildlife habitat protection is afforded by Eastern Neck Island and Martin National Wildlife Refuges, and the Blackwater National Wildlife Refuge. Blackwater attracts visitors from great distances to observe bald eagles, wintering geese and scores of other shorebird species. The other major piece of Federal land in the region is the Assateague Island National Seashore, which shares the barrier island with Assateague Island State Park and provides major recreational benefits to Maryland residents and tourists alike.

The Nature Conservancy owns and manages much of the Nassawango Creek corridor in Wicomico and Worcester Counties, providing both preservation and educational services on a significant length of the stream, which ultimately connects to the Pocomoke River just above DNR's State Parks.

III. Overview of Significant Resources of DNR Lands

Most properties owned by the Department of Natural Resources have been acquired because of the particular natural and cultural resources found on them. The Department's acquisition program has long been directed toward protection of stream valleys and of fish and wildlife habitat, and somewhat more recently, toward protection of rare and endangered species habitat. In the last several years, a new awareness of the importance of protecting larger ecosystems or entire landscapes has emerged. Thus, this chapter seeks to highlight not only particular habitats, but also the units which contribute to protection of Maryland's green infrastructure and those containing examples of the State's major landscape types.

Some of the Department's natural resource lands are of such high value and in such relatively untouched state that they have been designated Wildlands under the Maryland Wildlands Act. These lands, and the characteristics leading to their designation, are also described in the following pages.

Spurred in part by growing national interest in cultural heritage areas, as well as by awareness of the many cultural assets to be found on DNR properties, the Department is taking a fresh look at these resources and how better to protect and interpret them. For the most part this is covered in the next chapter, as are properties important for other recreational values. Here we touch on those historical assets which are of relatively less interest to visitor use and interpretation but which nonetheless require management attention.

Water Features and Water Access

The majority of DNR's properties have some kind of water body associated with them; many were acquired specifically to protect water resources, including their scenic values, or to provide public access to water for recreational purposes. Map III-1 highlights the most significant water features and access points.

Water Falls: Three State Parks have water falls as a major scenic attraction. Swallow Falls State Park features both the Swallow Falls on the Youghiogheny River and Muddy Creek Falls. Cunningham Falls State Park also derives its name from the water falls which attract thousands of visitors for both viewing and climbing. Rocks State Park in Harford County contains Falling Branch, which features a much-admired water fall.

Stream Valleys: Stream valley parks in the Central Region were among the earliest acquired and developed in the State system. Protection of the stream valley's water and related resources was a key function of Patapsco Valley, Gunpowder Falls and Seneca Creek State Parks and is the driving force for much of the public acquisition which has occurred in the Patuxent River corridor. The Youghiogheny is the only State-designated Wild River in Maryland and has been found eligible for Federal designation. It is the centerpiece of a corridor designated for acquisition by DNR in order to preserve its significant resource values.

Waterfront: Providing public access to the Chesapeake Bay and its tributaries is a goal of the interstate effort to restore the Bay as well as of long-standing interest to the Maryland Department of Natural Resources. Legislative mandates for acquiring Bay shoreline lands for public recreation date back at least to the early 1940's. Point Lookout SP, Sandy Point SP, and Elk Neck SP are a few of the properties providing access to the Chesapeake Bay, while Assateague SP provides access to the Atlantic Ocean.

Recreation Lakes: The value of water access for recreation is evidenced by the lakes constructed on several State Park properties, partly to compensate for the lack of any natural lakes in Maryland; Greenbrier, Cunningham Falls, Herrington Manor, Rocky Gap and New Germany State Parks all feature beaches on lakes man-made for recreation. Lakes at other State Parks, including Deep Creek Lake, St. Mary's River and Seneca Creek, were created for other purposes but provide recreational uses as well. The practice of building recreation lakes was discontinued in response to growing environmental awareness in the 1960's and 1970's. Several DNR land units were intended to have lakes which were never built, including Tuckahoe State Park, Cedarville State Forest and St. Mary's River State Park.

Representative Landscapes

Before European settlers massively altered Maryland's landscape to create farms and communities, much of the State was blanketed by diversified, mature forests and woodlands, with areas primarily in the Piedmont dominated by extensive savannah and grassland habitats. Today approximately 41% of Maryland's area is covered by regenerated forest growth. Many different types of forests, wetlands and other natural communities are present in DNR's land holdings; conserving representatives of these landscapes in the public domain encompassed by DNR's holdings allows Maryland's residents and visitors to see what this region was like in pre-European settlement times, and to experience parts of Maryland as the original inhabitants of eastern North America did.

Conservation of large areas within these landscapes provides a basic "coarse filter" approach to maximizing biological diversity.

Not only are the mammals, birds, reptiles, amphibians and plants conserved by this approach but also the poorly known species, such as most invertebrates, lichens and mosses, which are equally important to the long-term health and function of our ecosystems. In addition, forest interior dwelling species cannot adequately survive and reproduce in small tracts of forest. Conserving whole landscapes and the habitat corridors that still connect remaining landscapes minimizes the cost and effort of land management because these areas are more self-sustaining and are less vulnerable to impacts from adjacent land use, natural stochastic events, and climate change.

However, a number of the nearly 650 rare species and 50 rare natural communities still existing in Maryland require only smaller microhabitat niches to survive. Others can only be found now in remnant patches of once-larger habitats. By also focusing on conserving these smaller, but still intact, habitats that harbor our remaining rare species and natural communities, we can ensure that we will not abandon the “fine filter” approach to biodiversity conservation. This dual “coarse filter” and “fine filter” approach will steer us toward a goal of preserving the full complement of native plants and animals currently found within Maryland for future generations to observe, research, or simply enjoy.

Assessing DNR Lands: Assessing the habitats and landscapes Maryland and, specifically, of DNR lands is possible through the application of a classification system. Maryland currently has three classification systems available for this purpose, depending on the scale of the assessment. The finest scales of vegetation communities are included under the U.S. National Vegetation Classification and Maryland Natural Community Classification, while Maryland's classification of Key Wildlife Habitats is at a broader scale and with a slightly different emphasis.

The [United States National Vegetation Classification](#) (USNVC; Grossman *et al.* 1998), has been developed by NatureServe, The Nature Conservancy, and the network of Natural Heritage Programs and Conservation Data Centers, in conjunction with the Vegetation Panel of the Ecological Society of America and the Federal Geographic Data Committee. Much of the classification is completed, although small or rare types are still being added as they are discovered and named. The USNVC relies on physiognomic criteria, such as vegetation structure and predominant leaf phenology, in the upper levels of the hierarchy and on floristic criteria in the lowest levels. The basic unit of inventory and biodiversity assessment in this classification is the “association”, which is fine-scaled classification. The Maryland subset of USNVC vegetation communities, including associations, can be found online at:

http://www.dnr.state.md.us/wildlife/Md_Veg_Com/format.asp.

The Maryland Natural Community Classification directly compliments the USNVC. DNR's Natural Heritage Program has developed the first iteration of a comprehensive classification of all the vegetated natural communities in Maryland to help assess and

protect the full array of biological diversity. It outlines a broad framework for understanding and defining these communities at multiple hierarchical levels.

The framework is based on the concept of an ecological community, which is defined as an assemblage of co-existing, interacting species that when considered together with the physical environment and associated ecological processes, recur on the landscape. DNR outlines the framework of Maryland's classification and 77 nested Ecological Community Groups. Each Ecological Community Group includes from few to many Community Types, the equivalent of the USNVC "association" level. The Maryland Natural Community Classification has numerous applications on DNR lands and meets a variety of natural resource management needs. Each Ecological Community Group is assigned a state conservation rank (or "S-rank") based on regional rarity and vulnerability and using the general guidelines employed throughout the Natural Heritage Network. Such ranks assist managers in prioritizing DNR lands for inventory, monitoring, research, and other management activities.

Terrestrial and wetland ecosystems have also been classified into 22 Key Wildlife Habitats by DNR's Natural Heritage Program. An additional 13 aquatic habitats were developed in partnership with DNR's Maryland Biological Stream Survey and Fisheries Service. Conservation of these 35 Key Wildlife Habitats forms the core of the Maryland Wildlife Diversity Conservation Plan (WDCP), approved by the U.S. Fish and Wildlife Service in 2006. The full contents of the Wildlife Diversity Conservation Plan can be viewed online at: http://www.dnr.state.md.us/wildlife/divplan_wdcp.asp. Within this Plan, 502 animals are identified as species of Greatest Conservation Need and grouped into Key Wildlife Habitats for addressing threats and necessary conservation actions. Although a few Key Wildlife Habitats are very fine-scaled units, such as Vernal Pools and Carolina Bays, most, including Mesic Deciduous Forests and Tidal Marshes, occur broadly on the landscape. Overall, the Key Wildlife Habitats are more generalized types than the 77 Ecological Community Groups found within the Maryland Natural Community Classification. Therefore, it is possible to nest these Groups within the appropriate Key Wildlife Habitats.

Concurrently underway with the Maryland Natural Community Classification is the mapping of the Ecological Community Groups, starting with those most rare and those that fall within other mapping projects (e.g., federal lands vegetation mapping projects). Because this project is fairly new, the amount of data collected so far is insufficient for an assessment of DNR lands statewide. However, as some of the larger DNR land units update or develop long-term management plans, the habitats and natural communities are being determined and mapped. This, in conjunction with information on the rare species habitats located within Ecologically Significant Areas, will greatly aid in assessing the resource value of DNR lands in comparison to the lands within its region and statewide.

For purposes of conducting an initial assessment of the types of landscapes found on DNR land holdings, maps of the Department's lands were compared with the draft Key Wildlife Habitat maps developed for the 2006 Wildlife Diversity Conservation Plan. These data are considered draft or preliminary because many of the common habitats were derived from secondary data sources, such as the U.S. Gap Analysis Program and the National Wetlands Inventory data, rather than from actual field data. Although many of the rare habitats have field-derived data, these habitats still need additional fieldwork before maps can be considered to be complete. Therefore, current data may be sufficient for very generalized analyses, but are not suitable for more detailed analyses, such as compiling meaningful acreage statistics. Also, as more habitats and communities are discovered and mapped, any high quality examples of Maryland's natural communities found on DNR lands will be priorities for conservation. Many high quality examples are known to or are likely to occur on DNR lands; however, specific management programs may be necessary to protect them from invasive species, to abate threats such as excessive human disturbance, or to mimic natural successional and disturbance processes.

A table of the first iteration of the Key Wildlife Habitat classification showing the general distribution and relative representation of these habitats within DNR's four land management regions is provided in **Table 5**. Until our assessment and mapping of these habitats and/or Maryland's Ecological Community Groups is more robust, it is difficult to determine meaningful ratings as to whether DNR holdings adequately represent and conserve them.

Table 5 - Key Wildlife Habitats and Prevalence on DNR Lands

KEY WILDLIFE HABITAT	DNR REGION			
	Western (64 Units)	Central (34 Units)	Southern (50 Units)	Eastern (69 Units)
TERRESTRIAL & WETLAND HABITATS				
Old Growth Forests	9	0	0	2
Early Successional Forests	17	14	13	18
Maritime Forests and Shrublands	0	0	0	1
Loblolly Pine - Oak Forests	0	2	31	48
Mesic Deciduous Forests	56	28	42	34
Dry Oak - Pine Forests	42	25	15	26
Northern Conifer - Hardwood Forests	42	9	0	0
Floodplain Forests	19	19	38	48
Upland Depressional Swamps	0	1	4	17
Carolina Bays	0	0	0	9
Vernal Pools*	8	5	11	21

Forested Seepage Wetlands*	8	2	0	1
Bog and Fen Wetland Complexes	7	0	3	1
Nontidal Shrub Wetlands	12	16	18	20
Tidal Shrub Wetlands	0	5	20	15
Nontidal Emergent Wetlands	15	12	17	16
Tidal Marshes	0	7	25	35
Grasslands	27	16	21	12
Barrens and Dry Glades	11	4	0	0
Cliffs and Rock Outcrops	27	6	4	1
Caves, Mines, and Springs	12	1	1	0
Coastal Beaches, Dunes, and Mudflats	0	4	7	17
STREAM & RIVER HABITATS				
Coldwater Streams	25	6	0	0
Limestone Streams	5	0	0	0
Highland Streams	27	1	0	0
Piedmont Streams	2	21	0	0
Coastal Plain Streams	0	6	32	30
Blackwater Streams	0	0	7	16
Highland Rivers	17	1	0	0
Piedmont Rivers	1	12	1	0
Coastal Plain Rivers	0	2	10	8
ESTUARINE & MARINE HABITATS				
Oligohaline Estuaries (low salinity)	0	4	10	6
Mesohaline Estuaries (medium salinity)	0	2	17	16
Polyhaline Estuaries (higher salinity)	0	0	0	10
Ocean	0	0	0	1
* Data are very incomplete for this habitat.				

Plant and Wildlife Habitat

Protection and enhancement of plant and wildlife habitat is a key reason for DNR's ownership of much of its property. DNR lands provide tremendous acreage of native plant and wildlife habitat for a whole host of species from the common to the rare. In the context of Maryland's increasingly fragmented and altered landscape, these lands are absolutely critical to the maintenance of wildlife populations and biological diversity. In addition, they provide opportunities to teach our citizens about the environment, land ethics and society's impacts upon the natural world.

The majority of Maryland's native plant and animal species depend on common terrestrial, wetland, and aquatic habitats, many of which are in good supply on DNR lands. Unfortunately, the number of native species that are rare or declining in Maryland continues to rise. Maryland's Wildlife Diversity Conservation Plan includes 502 animals that fall within this category and are considered species of Greatest Conservation Need (see WDCP Chapter 3). These include about 35% of the mammals, 40% of the regularly-occurring birds, 47% of the amphibians and reptiles, and over 30% of the freshwater fishes found within the State. Species of Greatest Conservation Need include not only those animals considered rare, threatened, and endangered by DNR's Natural Heritage Program, but also species that are more common at present but are believed to be rapidly declining or under great threat and may become rare in the foreseeable future. The statistics for plants are similar, with about 30% of Maryland's native flora thought to be of concern or already added to DNR's list of rare, threatened or endangered species.

Rare Species Habitats: Approximately 60% of the rare, threatened, and endangered (RTE) plants and animals currently occurring in Maryland have at least one population on DNR land. Of the total 400 RTE species on DNR lands, 90% have 5 or fewer occurrences protected on DNR property and the majority (63%) have only 1 or 2 occurrences on DNR land. Within a regional context, the land holdings of the Western Region harbor 62% of all rare species found in that region and half of all rare species populations found on DNR lands throughout Maryland. In the Central Region, 40% of the RTE species occurring in those counties are located on DNR lands, and the Southern Region is similar at 37%. The DNR lands in the Eastern Region contain 52% of all RTE species documented on the Eastern Shore. In general, most rare species habitats are depicted in Maryland through the mapping of Ecologically Significant Areas (ESAs) by DNR's Natural Heritage Program. The development of these ESA boundaries follows guidelines created in the 1980's by The Nature Conservancy as a component of the standard Natural Heritage methodology.

As part of strategic planning for DNR lands, Maryland's Key Wildlife Habitats have been grouped into two very general categories: aquatic habitats and terrestrial/wetland habitats. A detailed description of each Key Wildlife Habitat, including location, condition, threats, conservation actions, and inventory, monitoring, and research needs is found in Chapter 4 of the WDCP (http://www.dnr.state.md.us/wildlife/divplan_wdcp.asp).

Aquatic Habitats: Aquatic habitats are critical because water is the most significant component of viable self-sustaining natural habitats. Clean water is the lifeblood of healthy ecosystems. As a greater percentage of Maryland becomes developed land, it is increasingly important that remaining natural lands be self-sustaining. The 13 types of aquatic habitats within the Key Wildlife Habitat classification include 6 types of freshwater streams and 3 types of rivers, 3 types of estuarine habitats (based on salinity gradients), and the open waters of the Atlantic Ocean.

As indicated in **Table 5**, stream and river habitats are classified, in part, by their geographic location, as well as other factors such as water temperature and chemistry. Coldwater and Highland Streams are both well represented on DNR lands in the Western Region; however, Limestone Streams are poorly represented, being found on only 8% of DNR land units. Piedmont Streams are found on 62% of state lands in the Central Region, while Coastal Plain Streams occur on 52% of DNR properties in the Southern and Eastern Regions. An indication of their relative scarcity, Blackwater Streams flow through only 23% of Eastern Region holdings.

Properties that border Maryland's estuarine habitats occur in the Coastal Zone, of which most lands occur in the Eastern and Southern Regions. The statistics, occurring in **Table 5** were calculated using surface salinity data from 1997-1999. Bottom salinities vary greatly from surface salinities, with polyhaline waters moving up into the Chesapeake Bay much farther than surface salinities. Therefore, these values will change appreciably depending on the salinity data that are used in the analysis.

Finally, the only state property with Atlantic Ocean habitat is the state park on Assateague Island. However, the state also has jurisdiction seaward from Assateague and Fenwick Islands for three miles.

Terrestrial and Wetland Habitats: Each region of the State has its own mix of habitats; some are fairly ubiquitous and others very rare. During strategic planning, DNR land units have been characterized, at a more generalized level, according to the kinds of habitat found there. Some units contain a good number of individual habitat types, while others are less varied. **Table 5** portrays the number of land units in each region containing each of 22 types of terrestrial and wetland habitats, based on the preliminary Key Wildlife Habitat data compiled for the Wildlife Diversity Conservation Plan. Of these 22 types, about half are wetlands and the other half more terrestrial-oriented, although many occur as an matrix of types, associated and interdependent with each other. For example, Forested Seepage Wetlands are often found adjacent to or within Floodplain Forests, and Vernal Pools can be found within a variety of forested habitats. However, these smaller habitats patches are classified as distinct Key Wildlife Habitats because of their extreme value to wildlife within the more generalized forest habitats.

The relative presence of each habitat type on DNR lands reflects both the overall rarity of that habitat type, as well as its distribution within Maryland. Also, the distribution of these habitats is fairly evenly spread throughout the state. Fifteen (or 68%) of the 22 types occur in the Western Region; 18 (or 82%) occur in the Central Region; 16 (or 73%) are in the Southern Region; and 19 (or 86%) can be found in the Eastern Region. All are found on at least one DNR land unit. At least 2 habitats, Vernal Pools and Forested Seepage Wetlands, currently have a very limited amount of mapped data regarding their distribution, so their analysis is not an accurate reflection of presence on DNR lands. However, these preliminary data should provide a fairly accurate indication of

the relative presence and abundance on DNR lands for the more common habitat types, such as Tidal Marshes and Mesic Deciduous Forests.

Wildlands

A second means DNR uses to enhance and protect biological diversity is to designate some parts of some of its landholdings as Wildlands. The Maryland General Assembly has designated select areas of land and water, retaining their wilderness character as Wildlands under the 1971 Maryland Wildlands Act. The Wildland designation, once enacted by the General Assembly, is an overlay on existing DNR land unit designations (e.g., State Park or NEA), protecting the designated area from such landscape modification as road or building construction and limiting the natural resource management activities which can be practiced. Some non-intrusive recreational use of Wildlands may be allowed, including hunting, fishing, horseback riding, scientific research and nature appreciation.

Wildland designation currently applies to over 43,000 acres, located in 19 DNR units statewide. There are Wildlands covering over 23,000 acres in six Western Region land units. Wildland areas covering nearly 8,100 acres currently exist in five DNR properties in the Central Region. All of these Wildlands are located in metropolitan Counties in close proximity to population centers. Four Southern Region Wildlands have been designated on just over 4,700 acres on four DNR properties, while Wildland designation currently applies to over 7,700 acres in four land units in the Eastern Region.

The Wildlands law provides for three types of wildland. **Type 1** is a primitive area which by its size or location is in effect untouched by urban civilization and can offer the experience of solitude and self-reliance. **Type 2** is a scientifically important unit, especially for ecology, and with outstanding value, research and appreciation of natural processes. Visitation is regulated to ensure preservation on a permanent basis. A **Type 3** area is not of ecological or primitive stature but has the appearance of being in an untouched natural state, or could attain that appearance if held and managed for such a purpose. **Table 6** provides a complete listing of currently designated Wildlands, including the location, acreage and type.

Table 6 -Maryland Wildlands Preservation System

Name	Acres	DNR Land Unit	Type	County
<u>WESTERN REGION</u>	<u>23,182</u>			
Savage Mountain	2691	Savage River SF	1	Garrett
Bear Pen	1517	Savage River SF	1	Garrett
Middle Fork	1916	Savage River SF	1	Garrett
Savage Ravines	2427	Savage River SF	1	Garrett
High Rock	650	Savage River SF	1	Garrett
South Savage	1934	Savage River SF	2	Garrett
Deep Run	1260	Green Ridge SF	2	Allegany
Maple Run	2760	Green Ridge SF	1	Allegany
Potomac Bends	2034	Green Ridge SF	2	Allegany
Rocky Gap	943	Rocky Gap SP	2	Allegany
Sideling Hill	922	Sideling Hill WMA	2	Washington
Islands of Potomac	194	Islands of Potomac WMA	1	Frederick
Cunningham Falls	3452	Cunningham Falls SP	1	Frederick
<u>CENTRAL REGION</u>	<u>8143</u>			
Black Marsh	667	North Point SP	2	Baltimore
Gunpowder Falls	792	Gunpowder Falls SP	2	Baltimore
Patuxent River	1579	Patuxent River SP	2	Howard/Montgomery
Soldiers Delight	1526	Soldiers Delight NEA	2	Baltimore
Morgan Run	499	Morgan Run NEA	2	Carroll
Panther Branch	735	Gunpowder Falls SP	2	Baltimore
Sweathouse Branch	1073	Gunpowder Falls SP	2	Baltimore

SOUTHERN REGION	4739			
Belt Woods	610	Belt Woods NEA	2	Prince George's
Calvert Cliffs	1079	Calvert Cliffs SP	2	Calvert
St. Mary's River	1445	St. Mary's River SP	2	St. Mary's
Mattawoman	1605	Mattawoman NEA	2	Charles
EASTERN REGION	7715			
Pocomoke River	2481	Pocomoke SF/SP	2	Worcester
Cypress Swamp	1784	Pocomoke SF	2	Worcester
Idylwild	570	Idylwild WMA	2	Caroline
Cedar Island	2880	Cedar Island WMA	2	Somerset

Historical and Cultural Resources

In addition to managing vast natural resources in the state, DNR is also the steward of over 500 structures, many of which may meet the first criterion for historical value set by the Maryland Historical Trust, in that they are over 50 years old. Some of these buildings span almost three hundred years of our history and include simple farmhouses, tidewater mansions, tobacco barns, and military structures. Many of these are key features of the State Parks where they are located, providing part of the recreational experience. In addition, DNR is also the steward of properties listed on the National Register of Historic Places. They include:

- ♣ Catoctin Furnace Site
- ♣ Casselman Bridge
- ♣ Elkridge Furnace Complex
- ♣ Fort Frederick
- ♣ Jerusalem Mill Village
- ♣ Knock's Folly
- ♣ Mount Aventine
- ♣ St. Clement's Island
- ♣ Sandy Point Farmhouse
- ♣ Seneca Quarry and House
- ♣ Todd Farmhouse (Todd's Inheritance)
- ♣ Washington Monument (Washington County)
- ♣ William Paca House (garden only)



In addition to National Register properties and archaeological resources, DNR is the steward of other historically significant properties; with the vast majority of them not regularly accessible to the public. In an effort to preserve those other properties that are not used for public programs or office space, DNR developed the now recognized national model Resident-Curatorship Program. The program offers a means to restore and maintain important structures on DNR lands without using public funds whereby a private individual is granted lifetime tenancy in exchange for undertaking the supervised restoration of the building at their own expense. Currently there are about 43 Curatorships, located throughout Maryland, but primarily in the Washington/Baltimore corridor. To date, curators have contributed over \$8 million toward the maintenance and restoration of these buildings.

IV. Recreational Use of DNR Lands

Recreational use of some type occurs on most of the land units managed by the Department of Natural Resources, but only in the State Parks is recreation the primary reason for owning and maintaining the property. Generally, very few improvements are made to facilitate recreational use of State Forests and Wildlife Management Areas. A somewhat greater level of improvement can be found in some of the units designated as Natural Resource Management Areas or Natural Environment Areas. Regardless of the type of designation, protection and interpretation of the natural and cultural resources is a key management purpose. The recreational uses which occur on the property are, in almost all cases, centered on the public enjoyment of the property's resources, with varying levels of improvements to facilitate public access to and comfort in the natural setting. In a few DNR land units more intensive, user-oriented activities occur; in rare cases these activities are not dependent upon the particular natural characteristics of the site. (See **Amenities Table**)

Recreational Water Use

Some of the most popular land units in DNR's system are those featuring water-based recreation, particularly swimming beaches and boating opportunities. Fishing is available in some form at most properties having water access; at some units significant site improvements have been made to provide expanded fishing opportunities, and some units host major fishing events. **Table 7** summarizes DNR properties which feature water-based recreation with significant visitor drawing power from beyond their immediate environs.

Swimming areas and shore fishing in short supply: Although DNR properties are generally well-provided with facilities for boating, major shore-fishing opportunities are in short supply, as is swimming in natural waters. A swimming beach on Chesapeake Bay at the Elms property is operated for essentially local use by St. Mary's County; pools for local use are available at Dan's Mountain State Park and King's Landing NRMA. Many of the Bay beaches share the disadvantage of sea nettle presence during much of the major swimming season.

State Parks and Forests Amenities

	Marshall Island	Wildlife - Hardwood Swamps	Boat Launch	Boat Ramps	Cabins	Campsites	Chaparral	Chaparral	Cross-Country Skiing	Dumping Station	Fishing	Hiking/ Biking	Hiking/ Biking	Historic Interest	Hunting	Interpretive	Swimming/ Open	Swimming	Visitor Center
Assateague SP																			
Big Run SP																			
Calvert Cliffs SP																			
Casselman River Bridge SP																			
Cedarville SF																			
Chapman State Park																			
Cunningham Falls SP																			
Dans Mountain SP																			
Deep Creek Lake SP																			
Elk Neck SF																			
Elk Neck SP																			
Fair Hill NRMA																			
Fort Frederick SP/UMRT*																			
Gambrell SP																			
Garrett SF																			
Garthland SP																			
Green Ridge SF																			
Greenbrier SP																			
Greenwell SP																			
Gunpowder Falls SP/NCRT**																			
Hart-Miller Island SP																			
Herrington Manor SP																			
Janes Island SP																			
Martinak SP																			
Merkle US																			
Monocacy NRMA																			
Morgan Run NEA																			
New Germany SP																			
North Point SP																			
Patapsco Valley SP																			
Potomac River SP																			
Pocomoke River SP																			
Pocomoke SF																			
Point Lookout SP																			
Potomac SF																			
Rocks SP																			
Rocky Gap SP																			
Rosaryville SP																			
St. Clement's Island SP																			
St. Mary's River SP																			
Sandy Point SP																			
Sassafras NRM																			
Savage River SF																			
Seneca Creek SP 6																			
Smallwood SP																			
Soldiers Delight NEA																			
Somers Cove Marina																			
South Mountain Battlefield																			
Susquehanna SP																			
Susquehanna SP																			
Tuckahoe SP																			
Washington Monument SP																			
Wye Island NRMA																			
Wye Oak SP																			
Youghiogheny Scenic & Wild River																			

Table 7 -DNR Land Units Featuring Water-Based Recreation

*Note: Jennings Randolph Lake is a Federal facility; boating access is provided by DNR.

Land Unit	Fishing	Boating	Swimming
Assateague Island SP	Surf fishing	Launch ramp	Ocean Beach
Big Run SP		Launch ramp	
Brownsville FMA	Shoreline fishing		
Brunswick FMA	Shoreline fishing	Shoreline fishing	
Choptank River	Major fishing piers		
Cunningham Falls SP		Boat rental; launch ramp	Lake with beach
Deal Island WMA		Launch ramp	
Deep Creek Lake SP		Launch ramps; pier with tie-ups	Lake with beach
Elk Neck SP		Launch Ramp	Chesapeake Bay beach
Fort Frederick SP		Launch Ramp	
Greenbrier SP		Boat rental; launch ramp	Lake with beach
Greenwell SP		Mooring area, 200 ft. pier	
Gunpowder Falls SP		Launch ramp, marina, rental	(Hammerman) Beach
Hart-Miller Island SP		Mooring area	Chesapeake Bay beach
Herrington Manor SP		Boat rental	Lake with beach
Indian Springs WMA	Shoreline fishing	Boat Launch	
Janes Island SP	Shoreline fishing	Canoe rental; launch ramp	

Jen. Randolph Lake*		Launch ramp	
Martinak SP	Fishing bulkhead	Launch ramp	
Matapeake SP	870 ft. fishing pier	Launch ramp	
Milburn Landing Area	Fishing pier	Launch ramp	
New Germany SP		Launch ramp	Lake with beach
North Point SP	1000 ft. fishing pier		Chesapeake Bay beach
Point Lookout SP	900 ft. fishing pier	Launch ramp; charter tie-up	Potomac River beach
Rocky Gap SP		Launch ramp	Lake with beach
Sandy Point SP		Marina; ramps; off-beach sailing	Chesapeake Bay beach
Savage River SF		Launch ramp	
Seneca Creek SP		Launch Ramp, boat rental	
Shad Landing Area		Marina; ramp; canoe rentals	Pool
Smallwood SP	Bass tournament	Marina, launch ramp	
Somers Cove		Marina	
St. Clements Island SP		Mooring area, blessing of fleet	
St. Mary's River SP		Launch ramp	
Susquehanna SP		Launch Ramp	
Urbana FMA	Shoreline fishing		
Youghiogheny River		Whitewater rafting	

Hunting, Shooting and Wildlife-Related Recreation

The Wildlife and Heritage Service works to balance the needs of a diverse group of users and provides opportunities for wildlife dependant recreation including hunting on Wildlife Management Areas across the state. Areas are maintained and suitable for hunting, hiking, nature photography, birding, and other recreation activities.

Hunting occurs on the majority of DNR properties across the state. Hunting is a viable component of scientific wildlife management as well as a highly valued outdoor recreation activity. An analysis of current hunting demands on public lands conducted by the U.S. Fish and Wildlife Service through the National Survey of Fishing, Hunting, and Wildlife-Associated Recreation Survey reports approximately 41% of all Maryland hunters use Maryland’s public lands each year. The Wildlife and Heritage Service in cooperation with the Maryland Park Service and the Maryland Forest Service annually review hunting opportunities across the state with the goal of managing individual species and providing a balance of opportunities for hunters.

A limited number of DNR areas offer more specialized activities. The Department has provided for shooting ranges in each region: at Green Ridge State Forest, Elk Neck and Savage River State Forest, and Myrtle Grove Wildlife Management Area. Additionally, there are archery ranges at Cheltenham, Johnson and Strider WMA and at Susquehanna and Tuckahoe State Parks. Ranges provide public shooting opportunities and promote firearms proficiency, a primary attribute of hunter safety education.

Table 8 - Major Wildlife Viewing Opportunities

Land Unit	Facils.	Type	Resource Description
Assateague Island SP		3	Shore bird concentration
Belt Woods NEA		1,3	Forest interior dwelling birds (visitation by appointment only)
Black Walnut Point NRMA		2	Monarch butterfly migration concentration
Chapel Point SP		3	Waterfowl concentration area
Deal Island WMA		2,3	Waterfowl and wading bird migration concentration; waterfowl summer nesting
Dierssen WMA		2,3	Lots of beaver; wood ducks
Fishing Bay WMA		1,2	Bald eagle winter concentration
Gwynnbrook WMA		urban	Butterflies, songbirds, fox, snakes.
Hart-Miller Island SP		2,3	Wintering waterfowl; seabirds and

			shorebirds.
Hickory Point NHA		1,3	Forest interior dwelling bird nesting
Indian Springs WMA		2	Wintering waterfowl, beaver pond, wood ducks.
Janes Island SP		2,3	Shore bird migration concentration
Kings Landing NRMA	yes	3	Osprey, eagles, water birds. Handicapped accessible observation deck.
LeCompte WMA		1	Delmarva fox squirrel
Mattawoman NEA		1,3	Wetland and tidal species, wild turkey
McKee-Beshers WMA		3	Beaver, waterfowl, wading birds, bluebirds, grassland birds.
Merkle NRMA	yes	2,3	Canada geese, osprey, water birds. Observation towers, boardwalks, visitor center.
Millington WMA		1,2,3	Diversity: Delmarva Bays, waterfowl, wild turkeys.
Milltown Landing NRMA	yes	2,3	Great blue heron, water birds. Observation blind, boardwalk.
Myrtle Grove WMA		2,3	Wood duck, wintering waterfowl.
North Point SP			Bald eagles
Pocomoke River SF		2,3	Forest interior dwelling bird nesting
Point Lookout SP		2,3	Bald eagles.
Purse SP			Bald eagles
Sandy Point SP	yes	1,2,3	Boardwalk in tidal marsh.
Sassafras River NRMA			Bald Eagles
Severn NEA		3	Diverse species.
Sinepuxent Bay WMA		1,2,3	Colonial waterbird nesting
South Marsh Island WMA		1	Peregrine falcon nesting

Spice Creek NRMA	yes	3	Waterfowl. Boardwalk in tidal marsh.
St. Mary's River SP		3	Diverse species.
Tuckahoe SP		2	Snow goose wintering concentration
Wye Island NRMA		2,3	Waterfowl wintering concentration

Key: Facils. = Special viewing facilities are provided

Type 1 = Rare, threatened or endangered species, 2 = Quantity of individuals of a single species
 3 = Diversity of species

Heritage Tourism (Historical and Cultural Interpretation)

A number of DNR properties are noteworthy for the historic features they contain or the historic events which occurred on them. In some cases these historic associations are the centerpieces of the parks in which they are located; in other areas historic resources provide more incidental points of interest to visitors. In either case, heritage tourism opportunities abound at many DNR owned properties. While currently an underutilized recreational use of DNR lands, heritage tourism should be enhanced by greater promotion, visibility, and interpretation.

Some significant events and activities have taken place on DNR owned lands, which provide excellent heritage tourism opportunities:

French and Indian War: Fort Frederick, in western Washington County, was built during the French and Indian War (1756-1763) and has been designated a National Historic Landmark. It contains two reconstructed barracks and features living history and re-enactments. Fort Frederick is connected by the Western Maryland Rail Trail to the site of Fort Tonoloway, another mid-eighteenth century fort. State Parks are named after both of these forts.

South Mountain Civil War Sites: At several locations in the South Mountain Recreation Area there are important historic associations. The Battle of South Mountain, during the Civil War, preceded the more famous battle at Antietam and helped to assure the Union victory there. Historic markers and a self-guided tour help a visitor to interpret the battle. An unusual historic marker is the monument to war correspondents found at Gathland State Park, itself the home of Civil War correspondent George Alfred Townsend. And at Washington Monument State Park is found the country's oldest monument to George Washington, a rock tower built by local residents in the early nineteenth century.

Southern Maryland: Founding to Civil War: Southern Maryland saw the initial settlement of Maryland in the 17th century. Saint Clements Island State Park was the location of the first landing of settlers arriving in the *Ark* and the *Dove*. Two state parks in Southern Maryland contain homes of important Marylanders. Rosaryville State Park is the site of the reconstructed Mount Airy mansion, a country estate of the Calvert family,

Lords Proprietor of Colonial Maryland, while Smallwood State Park is named after General William Smallwood, a Revolutionary War hero and governor whose home is located there. Point Lookout State Park is the site of a Civil War hospital and prison camp; buildings in the Fort Lincoln area have been reconstructed by volunteers who also carry out re-enactments in the park.

War of 1812: North Point State Park, southeast of Baltimore, is near the scene of the Battle of North Point during the War of 1812 and marks the British line of march. This battle was fought at the same time as the more well-known bombardment of Fort McHenry, which gave the inspiration for the Star Spangled Banner. This area will eventually become part of the Star-Spangled Banner National Historic Trail.

Industrial Development in Maryland: Several State Parks contain restored or reconstructed examples of early industrialism in Maryland, primarily highlighting the milling which was prevalent along the fall line in the Central Region's stream valleys. Examples of mill buildings are found in Seneca Creek, Gunpowder Falls, Patapsco Valley and Susquehanna State Parks. Early iron making is interpreted through the ruins of the Catocin Furnace at Cunningham Falls State Park.

Transportation: The corridor of the historic Northern Central Railroad now serves as a multi-purpose trail providing scenic recreation along the Big Gunpowder Falls in Baltimore County; the Monkton train station has been restored as a visitor center. A second abandoned rail corridor, the Western Maryland between Forts Frederick and Tonoloway in Washington County, has been developed as a hiking and bicycling trail. In Seneca Creek State Park, near its interface with the C & O Canal National Historical Park, is a stone quarry which provided materials for the aqueduct carrying the Canal over the creek and for much of Washington D.C.'s early architecture. Casselman River Bridge State Park in Garrett County, the smallest in the system, features a stone arch bridge, the longest in the world when it was built in 1813; it carried the old National Road over the Casselman River. Susquehanna State Park in Harford County includes the remains of a historic canal.

Agricultural History: The growing and exporting of tobacco were the basis of Maryland's economy in the early colonial period; early tobacco culture is interpreted at Smallwood State Park. The Steppingstone Museum, operated by a private foundation, occupies a nineteenth century farm at Susquehanna State Park and interprets local agricultural history. The ruins of early pioneer settlements, and nineteenth century family cemeteries, may be seen at Indian Springs and Warrior Mountain Wildlife Management Areas. Mount Aventine at Chapman State Park on the Potomac River in Charles County is a National Register listed property that is an excellent example of a late 18th/ early 19th century tidewater farm. In addition, Grove Farm WMA is a good example of an intact Eastern Shore farm complex.

African-American History: Harriet Tubman State Park in Dorchester County is just beginning to be developed as a central location for the interpretation of Tubman's life,

and with a broader focus on slavery and the abolitionist movement. Additional opportunities abound on other DNR lands to highlight the many contributions of African-Americans. Recently, Button Farm at Seneca Creek State Park was leased to the Menare Foundation as a museum of dedicated to interpreting slavery.

Historic Recreational Facilities: At the end of the nineteenth century and in the first decades of the twentieth, North Point State Park was the site of the Bay Shore Park, served by trolley from Baltimore City and containing elaborate recreation facilities, including a swimming beach. The trolley barn, a pier and a fountain, all that remain of the Bay Shore structures, have been restored as part of park development. The Woodmont property in Western Maryland is the Edwardian clubhouse and associated buildings of the Woodmont Rod and Gun Club which, in its heyday, hosted sportsmen including six U.S. Presidents, various Senators and Congressmen, and such noteworthies as Richard Mellon, Babe Ruth and Gene Tunney.

John Smith: Sassafras River NRMA and Grove Farm WMA are located near the site of the Native American village of Tockwough, where John Smith visited on two occasions as he travelled around the Chesapeake. Opportunities for additional heritage tourism exists at these properties and others owned by DNR that may be linked with the Captain John Smith National Historic Trail. DNR should continue to encourage the protection of open spaces associated with John Smith.

Overnight Destinations

Giving the public opportunities to spend several days in a natural setting requires provision of some form of overnight accommodations. DNR land units offer a variety of these, ranging from primitive camping having no amenities, to cabins or lodges available for weather-proof vacations. In between are camp sites with varying levels of improvement ranging from simple pads with picnic tables, through camper-ready sites supplied with tent and equipment or shelter cabins, to sites providing water, sewer and electric hook-ups for recreational vehicles.

Primitive camping for organized youth groups is offered at a number of locations, including Swallow Falls and Gunpowder Falls State Parks, and Cedarville State Forest. For families and individuals, this kind of camping occurs informally at many of the Forests and Parks and a number of Wildlife Management Areas, where hunters are the primary customers. Primitive camping is of statewide drawing power in the Western Region's State Forests and is an important adjunct to long-distance hiking on the Appalachian Trail.

Lodging: At the other extreme of overnight accommodation, only seven State Parks presently have full-service rental cabins; two-thirds of the available cabins are located at Herrington Manor and New Germany State Parks in the Western Region. The other units with cabins available to rent are Janes Island, Gunpowder, Pt. Lookout, and Martinak State Parks. In all of these cases, availability of water-based recreation is a key feature adding to the desirability of cabins.

Map 4 depicts the land units having various levels of improved camping facilities. In the cases of Green Ridge State Forest and Big Run and Fort Frederick State Parks, improvements are minimal. Camping loops at many of the other units are being further improved, as funds permit, with water and electric hook-ups. As the map illustrates, over half the units with camping are located in the Western Region. It is worth noting that over 40% of the campsites in the DNR system are located in these units; nearly a third of the campsites are in the Eastern Region.

Trails

A growing population, accelerating land development, increasing transportation costs, public health concerns and the need to reconnect people to natural areas have increased the demand for trails and natural corridors close to home. Trails are a low-cost, low impact way to achieve/solve many of the State's objectives. Trails can serve as alternative transportation routes, thus reducing our dependence on the automobile and the associated environmental benefits due to the reduction in vehicle miles driven. According to the 2001 National Household Travel Survey, one half of trips Americans take can be completed within a 20-minute bicycle ride, and one quarter of the trips are within a 20-minute walk. Trail users also contribute to local economies through spending at restaurants, hotels, and stores, which in turn can help revitalize and attract businesses, create jobs and increase public revenue. Trails provide a mechanism for increased physical activity, which promotes active, healthy lifestyles. Trails also provide corridors that connect schools and communities to natural areas. Therefore, the development of a statewide trails system contributes to Smart Growth, sustainable communities and an enhanced quality of life for all of Maryland's citizens and visitors.

Virtually all of DNR's land units accommodate hiking or walking and provide more or less well-marked trails; some units encourage other trail uses or make special provision for particular users - for example, the handicapped or those interested in nature study. During the planning process, trails in each unit were examined for the types of recreational uses they provide and for their relationship to other trail systems in their vicinity. **Table 9** summarizes for each region the prevalence of different types of trail use accommodated, beyond walking or hiking. It should be noted that many trails accommodate more than one use, so there is overlap in the table.

Table 9 - DNR Properties Accommodating Various Trail Uses

Trail Use Region	Bicycle	Horse	Self-Guided, Nature	Cross-Country Ski	Snow-mobile	Wheelchair Access
Western	5	3	6	6	2	8
Central	6	8	1	2	0	2
Southern	2	4	5	0	0	4
Eastern	2	1	3	0	0	2

Trail types and distribution: Clearly, the need for large amounts of snow accounts for the limited distribution and overall scarcity of trails for cross-country skiing and snowmobiling. The reason there are fewer bicycle trails in the Southern and Eastern Regions is less clear, as is the general scarcity of self-guided nature trails. Since equestrian trails are not infrequently developed and maintained by horseback riders, their location is apt to reflect the numbers of participants in the vicinity of particular properties. With regard to trails accommodating wheelchairs, there is clearly a mismatch between where population is concentrated and where these trails are provided. DNR is also currently assessing Off-Road vehicle use, both legal and unauthorized, on its lands as well as evaluating trails as a means to “Connect Children to Nature”.

Trail connections: Maryland is located at the cross-roads of two nationally important long-distance trails, the C & O Canal towpath and the Appalachian Trail. A substantial number of DNR land units, particularly in the Western Region, tie into one or other of these trails. Trails in the stream valley parks of the Central and Southern Regions - Seneca, Patuxent, Patapsco, Gunpowder - connect in some instances with local trails, and the Torrey C. Brown Railroad Trail in Gunpowder Falls State Park connects to a trail in Pennsylvania. Maryland also hosts portions of several other long-distance trails such as the East Coast Greenway, the American Discovery Trail, and the Great Eastern Trail.

User-Oriented Day-Use Recreation of Regional or Statewide Significance

We noted above that DNR's primary responsibility is to provide resource-based recreation opportunities emphasizing the natural and cultural resources of the property. For the most part, user-oriented recreation, focused on individual athletic skill, team sports, entertainment or social interaction, is not dependent upon the natural characteristics and resource values of the site. This kind of recreation is normally provided by local governments and the private sector. Occasionally, however, the Department makes space available for special events, or it provides intensive recreation facilities to support the overall recreation program at a particular land unit or to assist in

meeting local objectives. Often private enterprise is involved in the provision of these services or facilities.

Table 10 identifies five DNR units currently hosting special uses and 19 land units either currently providing user-oriented facilities of this type.

Table 10 - Significant User-Oriented Recreation

Land Unit	Special Use or Event	Facilities
Cedarville SF		Picnic shelter complex
Cheltenham WMA		Archery skills range
Dan's Mountain SP		Swimming pool
Elk Neck SF		Shooting Range
Fair Hill NRMA	Equestrian events	
Green Ridge SF		Shooting range
Johnson WMA		Archery range
Myrtle Grove WMA		Shooting range
Patapsco Valley SP		Equestrian center
Pt. Lookout SP		Picnic shelter/beach/concession complex
Rocky Gap SP		Golf course and lodge
Rosaryville SP	Equestrian events	
Sandy Point SP	Multiple festivals	Picnic shelter/playfield complex; marina; beach/concession complex
Seneca Creek SP		Frisbee golf
Shad Landing Area		Swimming pool
Smallwood SP	Bass tournaments	Marina
Somers Cove		Marina
St. Clement's Island SP	Annual Blessing of the Fleet festival	
Strider WMA		Archery range

Susquehanna SP	Archery range
Tuckahoe SP	Equestrian center
Wellington WMA	Shooting range

In addition to providing for some intensive user-oriented activities directly, as noted in the table, the Department has leased portions of a few of its properties to local governments for development and operation of intensive recreation of the sort most often provided by local governments. Land units where this occurs include Patapsco Valley and St. Mary's River State Parks, Severn Run NEA, Nanjemoy NRMA, and King's Landing NRMA. Generally this has occurred where large DNR holdings are located close to population centers.

Capabilities to Accommodate Expanded Recreational Facilities

As a part of the comprehensive planning process, all DNR land units were described in terms of the purposes for which they were acquired, their current uses, and the significant natural and cultural features present. They were evaluated for the sensitivity of their lands according to characteristics established by the Economic Growth, Resource Protection, and Planning Act of 1992, and in some cases for additional features considered sensitive by the Department. Our preliminary assessment of the units' capability to support expanded or intensified recreational use depends both on these resource sensitivities and a number of other factors:

- Consistency with the Department's mission and legislative, regulatory and program policies.
- Consistency with the land unit's master and management plans.
- Consistency with the significance, character, and attributes of the land unit.
- Visible degradation of natural resources or infrastructure due to overuse or misuse.
- Demand by visitors for unavailable or insufficient recreation opportunities that may result in management conflicts.

The following pages present tables for each region, describing the general capability of present DNR land units for recreational facility expansion. "None" indicates there is virtually no capability in the unit for additional recreational facilities; "Limited" indicates low or very limited capability, certainly no major change of direction or program. Units rated "Mixed" have a combination of capabilities, usually because they are very large, with substantial developable land intermixed with sensitive areas.

Units rated "High" appear to have capability for greatly expanded recreational development, including new uses. *It must be emphasized that this is a coarse screening of*

these units. Master planning is required to refine the assessment and an environmental review of specific proposals is further needed in all cases.

Western Region

The topographic character of most of the Western Region's land units is a limiting feature for recreational intensification in many cases. Most of the developable land is already committed to use; in a number of cases there are growing signs of over-use. The substantial number of units managed primarily for wildlife purposes also poses questions about compatibility or acceptability of other recreational uses on these properties, beyond hiking trails and hunting.

Table 11 - Western Region Land Unit Capabilities

Land Unit	None	Limited	Mixed	High	Comment
Belle Grove WMA		X			This area is intensively managed for wildlife but has some potential for additional low-key resource-based recreation.
Billmeyer WMA		X			Entire area committed to wildlife management.
Big Run SP		X			This property contains an extensive sensitive area; most developable acreage is built out and committed to existing uses.
Casselman Bridge SP	X				The limited area in this property precludes additional uses.
Cunningham Falls SP		X			Wildlands cover most of land unit. Most developable acreage is built out and committed to existing uses. There are localized signs of degradation from compaction. Some infrastructure requires upgrading.
Dans Mountain WMA		X			Property is reserved for wildlife management.

Dans Mountain SP			X		There are significant sensitive areas on this property due to steep slopes. There is a mixed capability to accommodate some additional recreational uses on top of the mountain adjacent to the pool complex.
Deep Creek Lake SP		X			Most developable acreage is built out and committed to existing and pending uses. Many trees damaged from compaction have been removed from the day use areas. Some shoreline has experienced erosion due to wave impacts from boats.
Fort Frederick SP		X			The developable acreage on this property is largely committed to existing uses, including special events. The site's character and high potential for archeological resources limit the site's capability for extensive, new development.
Fort Tonoloway SP		?			Originally a youth camping area leased to the Boy Scouts, the site is closed to the public. Development capability of the site is unknown pending a required archeological survey.
Gambrill SP		X			Most developable acreage is built out and committed to existing uses. Signs of wear are occurring where mountain bikers now use hiking trails. Infrastructure requires upgrading.
Gathland SP	X				The Appalachian National Scenic Trail corridor covers much of this land unit, which has significant archaeological and environmental sensitive area. Most developable acreage is built out and committed to existing uses.
Garrett SF		X			This tract is reserved for multiple use management. Several primitive campsites showing signs of overuse have been temporarily closed, and a rotating closure system is now in place.

Greenbrier SP		X			There is extensive sensitive area surrounding west side of lake. Most developable acreage is built out and committed to existing day use and camping, [although there is some near the southern boundary of the park.] There are signs of compaction and overcrowding. Some infrastructure requires upgrading.
Green Ridge SF			X		This property is managed for multiple uses. Several primitive campsites showing signs of overuse have been temporarily closed, and a rotating closure system is now in place.
Herrington Manor SP			X		This park contains a significant sensitive area, although there is developable acreage available near the park office and in a red pine plantation near the park entrance.
Indian Springs WMA		X			Entire site is committed to wildlife management, with the exception of the office-maintenance complex.
Monocacy NRMA			X		Lack of management staff has limited use of this unit; upland areas can accommodate additional uses.
Mount Nebo WMA		X			Entire site is committed to wildlife management, with the exception of the office-maintenance complex.
New Germany SP		X			Although there is a significant sensitive area in this park, due to steep slope and stands of Hemlock, there is some developable acreage in the vicinity of a pine stand on the west side of the lake and near the park entrance.
Potomac SF			X		This forest is managed for multiple uses. Several primitive campsites showing signs of overuse have been temporarily closed, and a rotating closure system is now in place. Some areas in fragmented holdings and near the edge of the forest boundary may, upon environmental

				review, be suitable for special uses.
Rocky Gap SP	X			A Wildland covers a portion of this property and there is extensive sensitive area. Remaining developable acreage is committed to existing uses and to a golf course and conference center soon to be under construction.
Roundtop Hill NHA	X			This entire site is sensitive and designated as natural heritage area. There is no recreational development, although deleterious use occurs in caves and along impromptu trails.
Savage River SF			X	This forest is managed for multiple uses, including primitive camping and year-round trail-related recreation.
Sideling Hill WMA		X		Entire site is committed to wildlife management and hunting.
South Mountain SP		X		Much of the site is located within the Appalachian National Scenic Trail corridor. Corridor regulations preclude most other forms of use or development other than hiking. There are localized areas of degradation due to compaction.
Swallow Falls SP		X		There is significant sensitive area and limited developable acreage in this park. Localized areas show signs of degradation; of particular concern is the stand of virgin hemlock, which is showing signs of stress from compaction.
Warrior Mountain WMA		X		Other than office/maintenance area, entire site is committed to wildlife management and hunting.
Washington Monument SP			X	Sensitive areas include archaeological and historic sites and steep slope. Additional developable acreage is available around the day use area and a group camping site.

Western Maryland Rail Trail			X		Parts of the ROW in the Hancock town limits are available for urban types of use including economic development.
Weverton-Roxbury Corridor	na	na	na	na	Corridor is land banked until assessment of ROW and potential uses can be examined.
Wills Mountain SP	X				This entire land unit is sensitive area; no uses occur, official or informal.
Woodmont NRMA (interim designation)	?	?	?		This property needs detailed site exploration, as well as master planning, to determine its potential for recreational development beyond what is there.
Youghiogheny Corridor	X				The entire site is sensitive due to steep slopes and floodplain. Development in the corridor is limited by special regulations. Commercial whitewater boating is regulated, and DNR receives requests to limit other public uses as well.

Very limited capability: On the basis of our existing information, it appears that only about eight of DNR's existing Western Region land units may have more than very limited capacity for additional recreational development. And even in these units the capability is, at best, mixed.

Central Region

Generally, the units in the Central Region do not present the kind of natural sensitivity problem found in both the Western and Eastern Regions. Although DNR's overall land portfolio in this region is relatively small, over half of the properties are in the State Park system, where institutional constraints on recreational use are less problematic than with either State Forests or Wildlife Management Areas

Table 12 -Central Region Land Unit Capabilities

Land Unit	None	Limited	Mixed	High	Comment
Bush Declaration NRMA		X			This property includes a large wetland and a forest mitigation site; the uplands can accommodate few additional uses.
Dierssen WMA	X				Deed restriction prohibits non-sanctuary uses.
Earlville WMA			X		There are few limitations to development based on sensitive area restrictions.
Elk Neck SF				X	There are few development limitations based on sensitive area restrictions. Several areas are committed to existing uses, and any future uses should be compatible with the forest management objectives.
Elk Neck SP				X	This park is easily accessible and contains a good deal of existing recreational infrastructure. There are large areas which do not contain sensitive resources.
Fair Hill NRMA				X	There is good access to the property and large upland areas without limitations due to streams, wetlands, etc. However, many areas are leased to a variety of groups.
Gunpowder Falls SP			X		The land along the rivers presents limitations due to floodplain, wetlands and other sensitive features. Upland areas can accommodate additional uses, but most are committed to existing or planned use.
Gwynnbrook WMA		X			This small area is committed to an urban wildlife demonstration area and a Natural Resources Police office.
Hart-Miller Island SP		X			Lack of accessibility and the nature of dredged material limit recreational uses.
Hugg-Thomas WMA			X		Entire area is committed to wildlife management; however, there are upland areas which can accommodate additional uses.

Islands of the Potomac WMA	X				Deed restrictions prohibit non-sanctuary uses on all but one island. Access is by small boat only.
Matthew Henson SP		X			This is a small stream valley corridor, mostly in floodplain. Montgomery County, which has management responsibility, discourages further use.
McKee-Beshers WMA		X			This property contains a large wetland area and is devoted to wildlife management and hunting.
Morgan Run NEA		X			The recently-completed master plan commits most areas to a variety of low-intensity day use activities.
North Point SP		X			Large sensitive wetland area and wildland designation restrict uses. The master plan commits the rest of the area to a variety of day use activities.
Palmer SP			X		Steep slopes and floodplain limit use in some areas. A lack of management staff limits additional use, although the upland area is capable of supporting use.
Patapsco Valley SP		X			Floodplain, wetlands and steep slopes limit use in some areas of this stream valley park. The upland areas can accommodate additional uses, but most are committed to existing uses.
Patuxent River SP			X		This is a stream valley park in which floodplain and wetlands limit use. The upland areas can accommodate additional uses, but lack of management staff limits these uses.
Rocks SP			X		Steep slopes and floodplain limit use in some areas. Upland areas can accommodate additional uses, but most are committed to existing uses.
Seneca Creek SP			X		Floodplains, wetlands and steep slopes limit use in some areas. Upland areas can accommodate additional uses, but many of these are committed to existing uses.

Soldiers Delight NEA	X				This land unit contains the rare serpentine ecosystem, which is habitat to approximately 39 rare or endangered species.
Stoney Forest SF		X			This is a demonstration forest committed to educational purposes.
Strider WMA	X				Deed restriction requires use for conservation purposes.
Susquehanna SP			X		Some areas are limited by floodplain and steep slopes. Upland areas can accommodate additional use, although a few of these are committed to existing use.

Expanded Use: Given our present level of knowledge about Central Region properties, it appears that fewer than half could accommodate more than limited expansion of recreational use.

Southern Region



A number of units in the Southern Region are relatively unconstrained by sensitive area, or at any rate include substantial acreage with good public access offering some capability for recreational facilities which would not interfere with the sensitive areas present elsewhere on the property. Several of these properties are currently unimproved, or only partially improved, units of the State Park system.

Table 13 - Southern Region Land Unit Capabilities

Land Unit	None	Limited	Mixed	High	Comment
Belt Woods NEA	X				A designated Wildland covers the entire land unit.
Bowen WMA	X				Sensitive area (tidal marsh) covers nearly the entire site.
Buckingham SF				X	This small site is in a suburban area and contains no sensitive area.
Calvert Cliffs SP		X			A designated Wildland covers a significant area. The park's master plan commits the remaining area to a mix of day use activities.
Cedarville SF			X		Some areas having potentially high capability may exist, though large areas are sensitive and/or are committed to other uses.
Chapel Point SP			X		Recreation improvement capability may be high in selected areas. Extensive area is sensitive (buffer, steep slopes).
Cheltenham WMA				X	This small site is adjacent to a highway and is suited to public services.
Croom NRMA			X		Extended road frontage offers some recreational access, though sensitive area limits capability.
Doncaster SF			X		Capability may exist where compatible with demonstration forestry, sensitive areas (buffer), existing site uses.
Elms Power Plant Site		X			This property is committed as a potential power plant site. There is significant sensitive area, road frontage.
Full Mill Branch NRMA	X				There is very limited access to this site, and very extensive sensitive area (tidal marsh and nontidal wetlands).

Greenwell SP			X		There is extensive road frontage; useable area is limited by significant sensitive area (wetlands and steep slopes.)
Hall Creek NRMA		X			Significant sensitive area and limited access constrain this site.
House Creek NRMA	X				Poor access and preponderance of sensitive area (tidal marsh and nontidal wetlands) limit this site.
Hughesville Pond FMA		X			There is good road access to this very small site; deed restricts it to current use.
Indian Creek NRMA			X		This property contains large open fields and has good road access. Significant sensitive area includes tidal and non-tidal wetlands.
Jonas Green SP		X			This very small suburban site has limited parking.
Kings Landing NRMA			X		Large fields may offer significant capability. A lease commits a portion of the site and extensive sensitive area (wetlands, steep slopes) constrains portions of the site.
Mattawoman NEA		X			Extended road frontage may offer some limited capability but very extensive sensitive area (wetlands, steep slopes, natural heritage species) severely limits many areas.
Meloy/Billingsley NRMA		X			This site is committed under a long term lease. It offers mix of capabilities and sensitive areas (wetlands.)
Merkle NRMA			X		Some areas may offer significant capability, but limited access and extensive sensitive area constrain many areas.

Milltown Landing NRMA		X			Large farm fields offer some capability, but poor access and extensive sensitive area (tidal marsh, steep slopes and colonial water bird nesting) constrains the site.
Myrtle Grove WMA			X		Portions of the site have significant capability, but extensive sensitive area (wetlands) and area committed to habitat reduce useable area. Most land is committed to hunting and fishing.
Patuxent Oxbow NHA	X				This entire site is sensitive area.
Piney Point		X			The site is committed to aquaculture use. Significant sensitive area (wetlands) also constrain the site.
Point Lookout SP		X			Significant recreational capability exists, but extensive sensitive area (wetlands and floodplains) limits development in the Park.
Purse SP		X			Good road frontage provides accessibility. Significant amount of sensitive area (wetlands and steep slopes) constrains much of the Park.
Rosaryville SP			X		A good deal of capability for recreation exists, though sensitive area (steep slopes and buffer) constrains significant areas of the Park.
Saint Clements Island SP		X			Island land unit limits access to boats.
Saint Mary's River SP			X		Significant capability for recreation exists in some Park areas. Sensitive areas (wetlands, buffers, floodplains, steep slopes) limit Park use in other significant areas.
Sandy Point SP			X		Some portions of the Park have untapped capability; however,

					extensive commitment to existing uses, a deed restriction on a portion of the land unit, and sensitive areas limit overall capability.
Severn Run NEA		X			Only limited areas of the NEA may have usable capabilities. Most of NEA has extensive sensitive area (wetlands, buffers, steep slopes.)
Smallwood SP			X		Portions of the Park offer new capability, but significant sensitive areas (wetlands, steep slopes) constrain others.
Spice Creek NRMA			X		Significant capability for recreation may be present in select areas. Extensive sensitive area (wetlands) also exists.
Upper Patuxent NRMAs		X			Several small sites in these scattered properties offer some capability, but extensive sensitive areas and generally poor access limit overall capability.
Zekiah Swamp NEA		X			Capability for compatible recreation may exist on very limited acreage. Most of NEA is sensitive (tidal and nontidal wetlands.)

Capability for expanded use: Some 15 units in the Southern Region appear to offer capability to provide expanded services to the public, although even here the capability is mostly mixed, due to sensitive features present on the properties. Only two properties, and these very small, offer a high capability. Generally, the Wildlife Management Areas and many of the Patuxent River corridor properties are less suited to recreational development than are the free-standing units of the State Park system.

Eastern Region

The huge acreage of wetland areas in DNR's Eastern Region accounts for there being relatively few properties here with anything but highly limited recreational capability. Some of them, indeed, are largely inaccessible except by boat. Most of the Department's properties in this region were acquired for wildlife management purposes, which also has an impact on their potential for intensified recreational uses.

Table 14 - Eastern Region Land Unit Capabilities

Land Unit	None	Limited	Mixed	High	Comment
Assateague Island SP		X			Located on a barrier island, beach and dune comprise much of the park. Site also contains marsh and forest on Sinepuxent Bay. Capacity is reached only on long holiday weekends. Capability for additional improvements on the island are minimal. Development on the mainland is possible.
Black Walnut Point NRMA	X				This property is under lease as a bed & breakfast. Lease agreement covers a major portion of the site.
Cedar Island WMA	X				Most of this property is tidal marsh; it is accessible only by boat and is a candidate wildland.
Choptank River SP		X			Limited area precludes additional uses in this fishing pier/park. Lease agreement covers a major portion of the site.
Deal Island WMA		X			This wildlife management area is mostly tidal marsh, containing a waterfowl impoundment. Limited upland area limits additional uses other than hunting.
E. A. Vaughn WMA		X			This area is a combination of marsh and uplands, devoted to wildlife management and hunting.
Ellis Bay WMA	X				The site combines marsh and forested wetlands.
Fairmount WMA	X				This property is largely comprised of expansive marshes.
Fishing Bay WMA	X				This property is largely comprised of expansive marshes.
Hickory Point NHA	X				This site is committed to endangered species protection and hunting.
Idylwild WMA		X			The property is a mix of non-tidal floodplain and uplands of Marshyhope Creek.

Isle of Wight WMA		X			This Coastal Bay island includes uplands and marsh. South of Route 90, day use and boating are at or exceed capacity. There is potential for minimal site improvements to support existing uses.
Janes Island SP		X			Recreational capacity limited to uses identified in draft master plan. A large portion in the site is sensitive (Critical Area and tidal wetlands).
Johnson WMA	X				Upland site includes a DNR police station; remainder of area is committed to wildlife management.
Kent Island WMA	X				Entire area is committed to wildlife management.
LeCompte WMA	X				This hardwood forest is a refuge for Delmarva fox squirrel; the land unit is committed to wildlife management.
Linkwood WMA	X				This is a forested tract committed to resource protection activities.
Matapeake SP		X			This small site near the Bay Bridge is committed to existing uses and the current construction of a major new fishing pier.
Martinak SP		X			Small upland area limits development. Site contains sensitive areas (tidal wetlands and Critical Area).
Milburn Landing Area (Pocomoke River SP)			X		Site is largely non-sensitive except for Critical Areas.
Millington WMA		X			This property provides endangered species protection and is entirely committed to wildlife management.
Nanticoke River WMA		X			Tidal marshes and adjacent uplands along the Nanticoke River comprise this recent acquisition. Master plan outlines wildlife management uses, programs, water access.

Pocomoke Sound WMA	X				This mixed tidal marsh and upland site is committed to wildlife management.
Pocomoke River SF			X		Capability may exist for additional uses where compatible with demonstration forestry and existing site uses.
Pocomoke River WMA		X			There are some uplands on this property, which is largely committed to wildlife management.
Sassafras River-Bloomfield Farms NRMA			X		This newly acquired area is largely non-sensitive. Capability for resource uses and recreational improvements is limited by some sensitive areas (tidal marsh, natural heritage species protection, Critical Area)
Seth SF	X				Capability may exist for additional uses where compatible with demonstration forestry practices.
Shad Landing Area (Pocomoke River SP)		X			Pool area is only at capacity during peak times. Site is already fully developed within its non-sensitive boundaries. Additional capabilities are limited by sensitive areas (tidal wetlands, Critical Area).
Sinepuxent Bay WMA	X				Man-made dredged material site, habitat of colonial nesting birds.
Smithville Lake FMA		X			Site committed to fisheries management; limited day use, group use.
Somers Cove Marina	X				Large public boating facility, concessions. Capability is limited by commitment to the existing use.
South Marsh Island WMA	X				The site is a tidal marsh and committed to wildlife management.
Taylors Island	X				The entire site is committed to wildlife management and provides marsh habitat for waterfowl.

WMA					
Tuckahoe SP			X		Sensitive areas include non-tidal floodplains. Capability exists for improvements in existing use areas and extensive upland areas. Portions of the agricultural areas are restrictively designated for conservation.
Unicorn Lake FMA		X			The site is committed to fisheries management with limited day use, group use, boating.
Urieville Lake FMA		X			The site is committed to fisheries management with limited day use, group use, boating.
Wellington WMA	X				This forested tract is committed to wildlife management, habitat manipulation and programming.
Wicomico SF			X		The entire site is a demonstration forest which supports environmental education programming and limited day use. Capability may exist for additional uses where compatible with demonstration forestry practices.
Wye Island NRMA	X				This is a group use area for limited recreational use.
Wye Mills FMA	X				The site is committed to fisheries management with limited day use, group use, boating.
Wye Oak SP	X				This very small site is committed to existing use.

Only **five** of DNR's properties in the Eastern Region, one of them recently acquired, appear to offer more than very limited capability for expanded recreational use and development.

V. *Gauging the Need for Change*

The preceding pages have described the existing DNR land system and offered a preliminary assessment of its capabilities to provide increased recreational services. In order to point the Department toward the future, the "supply" represented by the existing system needs to be weighed against both some estimate of the public's demand for services and DNR's own goals. The first version of this chapter was published and discussed in a series of regional workshops and has been amended to incorporate salient public comments as appropriate. Summaries of comments from these workshops, and responses to a questionnaire distributed to participants and others, are found in Appendix B.

Land Conservation Needs

A comprehensive statewide survey about how the citizens of Maryland regard open space conservation has recently been completed. We can supplement what this tells us about future needs to conserve open space by looking at the implications of Maryland Office of Planning data on recent consumption of land for urban development, information which is supported by published reports on consumer preferences in housing. Some findings of an in-house study group and comments offered by participants at the workshops and subsequently can also be used to suggest additional future needs for land conservation.

Participation in Local Park and Recreation Activities Survey

During the summer of 2003 a survey was conducted by the University of Maryland which sought to gauge citizen attitudes about a number of land conservation issues. Eight hundred households were randomly selected for phone interviews, during which participants in each region of the State were asked to respond to questions concerning the State's role in land conservation, the kinds of lands which should be protected and the respondents' feelings about the importance of maintaining open space in their living environments, the level and frequency of their participation in park and recreation activities, and State parks in general.

Ninety per cent of the survey respondents agreed that conserving land for public parks, recreation and water quality protection is a good use of public funds; a similar percentage felt that some parts of Maryland should be left in their natural state forever. Over four fifths of the participants in the survey felt land conservation should keep pace with the rate of land development and nearly as many felt it is important to have parks and natural areas near where they live or work. A substantial majority of the survey's

respondents felt public funding for parks and open space should be maintained or even increased. Sixty-six per cent visited parks, greenways or other natural areas at least seasonally. Most expected that housing development in their area would continue to grow.

Trends in Land Consumption

Natural resource lands are purchased and managed by the Department of Natural Resources for a number of reasons. These include fish and wildlife protection and enhancement, maintenance of the State's rare or unique features and overall biological diversity, as well as a number of environmental protection purposes. And a growing and increasingly urban population needs the aesthetic relief provided by simple visual access to natural areas. For all of these reasons, the conversion of land from forests and farms to urban uses is a more important factor than population figures alone in determining the need to conserve important resource lands through public ownership or a combination of public ownership and other protective mechanisms.

Population growth in Maryland in the decade of the eighties consumed land for residential, commercial, industrial and institutional purposes at a rate far greater than previous generations. Maryland Department of Planning data compiled from aerial photography in 1990 indicate that per capita land consumption by the new population was over twice that which prevailed when the decade opened. Between 1985 and 1990, Maryland experienced a loss of some 145,000 acres of farm and forest land, which translates into an average rate of loss of 29,000 acres, or 45 square miles, per year.

When the Maryland Department of Planning prepared projections of future land consumption for a 1992 report, adjustments were made in order to distinguish very low density residential use (one house per 5-20 acres) from the forest and agricultural land with which it was lumped in previous analyses. Although these adjustments make direct comparisons between the projections and earlier land use data problematic, the ability to identify very low density residential development is important.

Rapid Growth in Land Consumption for Development: Table 15 aggregates by region the change in acreage developed from 1973 to 2002. The table also includes projections for 2030.

Table 15 - Changes in Developed Acreage by Region

Region	1973	2002	Projected 2030
Western	72,409	231,584	310,422
Central	284,179	609,661	858,442
Southern	193,262	420,669	588,363
Eastern	58,540	198,404	263,361
Total State	608,390	1,460,318	2,020,588

Source: Maryland Department of Planning

The enormous increase in acreage developed between 1973 and 2002 translates to an increase of 220% in Western Maryland, 115% in Central Maryland, 118% in Southern Maryland and 239% on the Eastern Shore. For the State as whole, the 140% increase means more land developed in Maryland between 1973 and 2002 than in all of Maryland's history before 1973.

Very low density development: Much of this growth in land development represents the conversion of farm and forest land to the very low density residential category. And perhaps ironically, low and very low density residential growth results in part from local efforts to limit growth through large-lot zoning in rural areas. This pattern also reflects the preference of home buyers, as reported in a recent article in *The Washington Post*, for being surrounded by, or at least backed up to, "wilderness." This preference suggests the importance people attach to conservation of natural areas, an importance supported by the 2003 survey. To the extent, however, that large amounts of natural area are added to the living space of private residences, very low density residential development stimulates both a variety of negative impacts on natural resources and increased demands on public lands for some kinds of outdoor recreation.

Natural resources impacts of development pattern: As human uses consume more and more land, areas of natural vegetation become more fragmented--smaller, fewer in number and more disconnected; replacement plantings are frequently of non-native species, such as lawn grasses and ornamental plants, and disturbed areas become colonized with invasive species. Topography tends to be reshaped to meet the needs of development, and hydrology is often altered by increases in impervious surfaces like roofs, roads, parking lots and driveways. Wildlife species sensitive to human presence are squeezed into smaller and fewer areas, and aquatic life dependent on clean and consistently flowing streams is stressed or eliminated as streams receive increased storm flows and decreased base flow. Even human use of open space is impacted: at the same time that more urbanized populations are demanding recreation that provides a sense of independence and distance from other people, opportunities to use private land for

hunting, fishing, hiking or riding horseback are decreasing, putting additional pressure on public lands to provide these services.

Resource Conflicts and a Focus on Stewardship

A Trends Analysis Team was assembled by DNR to look into environmental trends and issues which might be expected to have impacts on the Department during the next few years. In a working paper for the Department, this group reflected on the increasing dispersion of the State's population into more and more remote areas, noting that such a pattern will generate or aggravate conflict between people who want to use natural resources for commercial purposes or for their own living environment, and people who want to conserve and protect those resources for the public and for future generations. Just as public acquisition of natural resource lands becomes both more difficult and more costly, private conservation of important resource lands becomes difficult to maintain when market pressures drive land values continually higher (recent market trends notwithstanding). Some of these conflicts were aired in discussions at the public workshops, expressed as the desire of some to limit timber harvest in State Forests or otherwise restrict private profit-making activities on State lands.

Green Infrastructure and Water Access - Special Conservation Needs: Sprawl development such as we are seeing in Maryland highlights the need to protect particular resource lands from damaging encroachment. Formal protection of connecting corridors between blocks of natural resource lands through conservation easement is one means of compensating for the fragmentation of habitat which occurs as land is converted to urban use. Another land conservation need is protection of the edges of publicly owned resource lands, including cultural resource lands like battlefields, from encroaching residential and commercial development. And as more and more far-flung waterfront areas attract private residential development, even at very low density, the need to insure public access to water, including simple visual access, becomes more pressing. Strong support for continued DNR acquisition of these types of lands was expressed in the public workshops.

Sustaining Biological Diversity: As a result of mounting stress on the State's ecosystems, attention is being directed toward the concept of sustainability of the resource base, which is increasingly compromised by the pressure of population growth and economic development. Recognition of the danger this poses is reflected in the Governor's *Declaration on Biological Diversity for State Owned Lands Containing Forests*, issued in the summer of 1994, which establishes the conservation of biological diversity as a "fundamental long-term goal" in planning for the use of State-owned forested lands. Further recognition of the needs for biological diversity and sustainability are reflected in recent approaches to planning for wildlife diversity as contained in the Maryland Wildlife Diversity Conservation Plan.

Importance of Stewardship: A recurring theme at the public, and in the subsequent submittal of questionnaires, was the importance people in the State attach to DNR's role as a steward of Maryland's natural resources.

This was expressed in written comments and an apparent concern that "balancing" resource conservation with provisions for outdoor recreation, tourism and economic development would result in a sacrifice of some natural values. It was also expressed in an insistence that recreational improvements avoid negative impacts on the land units where they are undertaken, and a distinct preference of most of those who responded that expenditure of limited funds be directed toward acquisition of land rather than recreational development.

Recreation Needs

The last general survey of Maryland residents about their participation in various forms of outdoor recreation was carried out in 2003. This survey, like its predecessors, lacked the information necessary for planning the acquisition, use and development of DNR properties for recreational purposes. We have examined State Park visitation and use data, the 2006 National Survey of Fishing, Hunting, and Wildlife Associated Recreation, and Maryland demographic projections, as well as published reports and surveys from other States, to discern some trends which could generate demand for DNR recreation services. Recreation needs, issues, and expectations for DNR's lands were also discussed extensively with local planners and parks and recreation staff, and with the public at the workshops.

Visitation Trends and the Use of Existing DNR Units

Data on the numbers of visitors to most units of the State Park System are available, although their reliability varies depending on the method used to gather the information. In some cases counts are fairly accurate, at least for the summer season, because they are tied to entrance fee collection. These counts indicate that camping, for example, has nearly doubled in some parks in the last five years. In other cases mechanical automobile counters are placed on entrance roads, which may yield over-estimates when vehicles go in and out more than once, or counts are made of parked vehicles. Day use of State Forests and Wildlife Management Areas cannot be calculated with any degree of reliability because of their great size and lack of controlled access.

Rising Use: With these caveats in mind, we can use visitation data from the State Parks to estimate a rising demand for the type of outdoor recreation provided by the Department's land units. In 2008, 10.5 million people visited our State Parks for either a day or overnight, which generated over \$7 million in revenue. In the Western Region, where operation of some units has been scaled back because of lack of operating funds, the number of visitors is reported to have increased at eight of 13 units over the past five years; it remained stable at the rest of the open units. In the Central Region, visitation is

up at eight of 11 developed units; in the Southern Region, six of nine parks report increases and in the Eastern Region, six of seven.

At some units, visitors must be turned away on good weekend days. This occurs on a regular basis at Cunningham Falls State Park, where visitation is quite stable and very high, and at Pt. Lookout and Greenbrier State Parks. Sandy Point, Assateague and Pocomoke (Shad Landing Area) State Parks have been closed to additional visitors on holiday weekends. Inability to meet requests for camping is reported at Smallwood and Pt. Lookout, and for cabin rental at Herrington Manor and Elk Neck. Generally, camping has increased substantially wherever it is available. And the evident popularity of Maryland units featuring water-based recreation, particularly swimming beaches, supports national trend data and the findings of surveys in other states, notably Virginia.

Signs of Over-Use: Additional evidence of demand for recreational services (of a somewhat negative sort) can be discerned from the signs of overuse appearing in some units--the public is loving them to death. For example, in the Western Region's Swallow Falls, Cunningham Falls and Greenbrier State Parks, soil compaction and tree damage are evident in the day-use areas. In Patapsco Valley and Seneca Creek State Parks, both in the Central Region, unauthorized trails have been established, and the authorized trails are eroded from heavy use. At Fair Hill Natural Resources Management Area, also in the Central Region, conflicts between different trail user groups are often reported to the Area's management. Judging from comments at the public workshops, conflicts among trail users and possible damage from both bicycles and horses are fairly widespread. The need for trails in the Central Region is supported by requests from local governments that DNR establish additional trails, as well as by crowding on the existing Torrey C. Brown Rail Trail and Anne Arundel County's B&A Trail.

Population Trends and Recreation Needs

Without assuming any kind of increase in people's rate of participation in outdoor recreation activities, which might be discovered in a new survey or tighter monitoring of visitor use, increasing demand for service can be expected simply on the basis of increasing population numbers. Maryland's population grew by over 10% between 1990 and 2000, and almost 1.4 million new residents are expected by 2030 (**See Table 16**).

Population Distribution and DNR Facility Locations: Far and away the largest fraction of the total population lives in the six counties and Baltimore City which comprise DNR's Central Region, almost twice as many people as live in the Southern Region. As **Table 16** demonstrates, the Central Region will continue to have over half the State's population into the foreseeable future.

Table 16 - Population Growth by Region

Region	1990	2000	Projected 2030
Western	374,685	439,400	487,500
Central	2,749,354	2,975,900	3,165,000
Southern	1,385,007	1,580,500	1,741,100
Eastern	272,422	304,400	327,300
Total State	4,781,468	5,300,200	5,720,900

Source: Maryland Department of Planning

Although it should not be assumed that demand for resource-based recreation must be met in the region where the participants live, there is quite evidently a great imbalance between the areas where DNR owns land and where most of the people in the State reside: less than 30% of DNR-managed land is in the Central and Southern Regions, where over 85% of Marylanders live. The inability of either the Central or the Southern Region to provide developed camping in any substantial way is note-worthy; only three units in each of these regions provide for this activity, and one of these in the Southern Region is presently not in use. Desire for mini-vacations focused on camping and the overall "outdoor experience" that goes with it clearly must be satisfied elsewhere, primarily in the Western Region.

Special Need for Public Hunting Lands: A number of people who attended the public workshops commented on the decreasing willingness of private landowners to make their lands available for hunting, traditionally a mainstay of rural recreation. Corporate or absentee ownership of farms, and the sprawl of low-density residential development described above, all may contribute to this situation. Hunting requires very large acreages away from conflicting human uses; even if hunting decreases in popularity, need to use public lands for this recreational pursuit will likely increase, as the comments stressed. DNR's lands, given their large acreage, are virtually unique in Maryland in being able to meet this need.

Outdoor Recreation Trends in Maryland

The Maryland Office of Tourism maintains survey data for travelers to Maryland. Data is available for travelers who participated in outdoor activities including hiking, biking, hunting, fishing, visiting state or national parks, participating in nature/culture, or camping from 2004-2007. This data represents responses from 725 households who reported participating in any of these activities while traveling in or around Maryland, including Maryland residents.

Nearly 1 in 10 household trips (9.6 percent) in or around Maryland include an outdoor activity. Households participating in outdoor activities in Maryland travel with an average of 2.4 people per trip, spend more than \$284 per trip, and stay in Maryland for an average 1.9 nights. The top five states of origin of households taking outdoors trips to Maryland include: Maryland (31%), Pennsylvania (22%), Virginia (7%), New Jersey (6%), and Florida (5%).

Trends in Outdoor Tourism in Maryland

Maryland anticipates continued growth in the outdoor adventure market based on information from the 2008 Adventure Industry Research Study prepared by XOLA Consulting Service. The Executive Summary indicates that the adventure tourism segment of global travel has been particularly resilient in 2008. It states that “It has been generally accepted that, amongst various niches of travel and tourism, adventure travel is more recession-proof than other segments. Adventure travelers are passionate about what they do, view travel as a fundamental part of their lifestyle and identity, and will cut back on other items of expenditure before they cut back on their trips.”

Looking forward, the adventure tourism segments that will grow significantly include biking, diving, sailing, surfing, paddling and cruising. National Geographic Adventure magazine found that adventure travelers are evenly split between men and women. Most adventure travelers in the US are married and 80% do not have children at home. About 50% have household incomes between \$75,000 and \$149,000. To ensure that Maryland has an adequate supply of products to meet the growing demand, it is imperative that new trails and outdoor recreation facilities be built and maintained.

Conclusion

Trends in public use of DNR's lands, and trends reported in the literature, support the notion that the kinds of resource-based recreation traditionally provided by the Department will continue to be in demand in the future. These uses may come into increasing competition with more intense, user-oriented activities. DNR has already been approached by various interests about accommodating such non-traditional uses in its existing land units. Clearly a new survey of citizen wants in the realm of recreation, and better monitoring of existing visitors, would help to get a better handle on all of these demands.

An important component of the quality of life enjoyed by Maryland's citizens is the wealth, variety and quality of the State's natural amenities. These amenities have been made accessible to the population in large part through their being set aside under Department of Natural Resources management. If the people living in Maryland in 2020 are to enjoy the same public accessibility of natural resource areas as the people living here in 2008, additional natural lands would need to be permanently protected for the wide variety of natural resource management purposes represented by DNR's mission.

VI. *Tools For Change: Planning and Budgeting*

Getting the DNR land system from its existing status to a desired future state, where it can better meet both public needs for service and the Department's own goals, is a sometimes cumbersome and often time-consuming process, or combination of processes. A sequence of activities, carried out by different organizational entities, is needed; multiple approvals at almost every step provide many opportunities for delays, modifications and changes in direction. Nonetheless, these are the tools which must be used to accomplish any kind of change.

Plans

Variety of Plans: Planning occurs, or is required, at several different points in the process of bringing about some change in the DNR land system. We have alluded before to several different land plans; these can be organized into a kind of hierarchy, moving from larger to smaller scale and from lesser to greater specificity and detail. Plans can also be organized according to which agency or program prepares them and the specific purposes for which they are undertaken. Some plans are written documents, undergoing a formal adoption procedure, while others find their primary expression in the support of particular budget proposals or in a set of internal management guidelines. There is no single focus, either organizational or functional, for the land planning carried out by the Department.

System Plan: The **LAND PRESERVATION, PARKS AND RECREATION PLAN** provides a framework for more detailed planning carried out for individual land units, and can help to integrate the acquisition planning carried out by Program Open Space for the Department as a whole. This Plan is intended to consider the overall land system, providing a general, "wide-angle-lens" picture of future direction both for the individual land units and for the system as a whole. It examines the land conservation needs of the entire State, the kinds of land the Department currently owns or should acquire, and the general areas where such opportunities might be found.

This plan does not start with a clean slate but acknowledges the prior existence of both area-specific plans and budget commitments. Future revisions to these existing plans and budgets, and development of new ones, will benefit by the broader context provided by this document.

Plans for Conservation

Land conservation through public acquisition is carried out by Program Open Space (POS), which funds both local and DNR projects (see section VII-6). For many existing State Parks, acquisition boundaries were established many years ago and provide the basis for continuing purchases of property. Plans for individual land units, such as Forest Management Plans or State Park plans, often contain a land acquisition component. Planning for State acquisition of lands to be administered by DNR agencies occurs through a very detailed targeting strategy as outlined in Chapter 7.

Because the Department has always relied on purchasing property from willing sellers, rather than using condemnation to acquire properties, acquisitions have been driven more by the opportunity to purchase offered land than by targeted planning. While DNR policy and this Plan provide some basic guidance, the more detailed and systematic targeting approach gives DNR programs affected by acquisitions better information for developing management strategies and budget adjustments.

Several large-scale conservation plans are undertaken in the Department, for the sake of improving public understanding of programs and providing guidance to the agencies charged with day-to-day management. A **WILDLIFE DIVERSITY PLAN**, completed by the Wildlife Division, focuses on management needs for those DNR properties managed primarily for wildlife purposes, including hunting. This plan shifts the traditional focus on managing lands for the benefit of particular species to an ecosystem-based approach which looks at larger landscape areas and overall balance in wildlife management. A statewide **WILDLANDS PLAN** was completed by the Department. It is based on an assessment of all DNR properties to identify areas meeting the criteria for legislative designation of Wildlands.

Plans for Use

Statewide or Regional Functional Plans: Several years ago, under the aegis of the Chesapeake Bay Program, an interstate **BAY ACCESS PLAN** was completed, identifying existing public access to the waters of the Bay and its major tributaries and opportunities for additional access. Although this plan has no legal mandate, it can be cited to support particular acquisitions by Program Open Space. Bay access is one component of the targeted acquisition program. A statewide **RAILS-TO-TRAILS** study was completed some years ago, evaluating abandoned rail corridors for their potential for trail development. Neither of these plans is required as a condition for taking some action; they can, however, supplement this Plan in providing a broader perspective for looking at particular kinds of recreational uses, especially uses which may extend beyond the boundaries of a particular land unit or which may link DNR properties to recreational facilities operated by Federal or local agencies.

Land Unit Plans: During the past 30 years, the Land Acquisition and Planning program has traditionally developed plans for each unit of the State Park system, detailing the uses to be accommodated, the areas to be developed and general locations of facilities to be built. These plans were historically called "master" plans and were comprehensive in scope. The development of these plans was labor-intensive and time-consuming, in part because of their comprehensiveness. In many cases there was such great delay in implementing plans that they became out of date before funding was available.

Reducing the scope and setting some priorities for development of new **LAND UNIT USE PLANS** is now the responsibility of the land management units. Because these plans must be developed and publicly reviewed in order for development funds to be made available from the State's Capital Budget, the emphasis is on recreational improvement and use, although resource management issues, including forest or wetland mitigation, wildlife and timber management, water quality protection and historic preservation, are increasingly important components.

In recent years, Land Acquisition and Planning has coordinated interagency efforts to develop **SUSTAINABLE FOREST MANAGEMENT PLANS** for the State Forests, and **WILDLIFE MANAGEMENT AREA PLANS** are programmed for the coming few years. While helping to guide the multiple uses of these properties, including recreation, the focus of these plans is primarily on resource management issues. This Plan offers a means of integrating the recreational uses of these properties with the recreation planning carried out for the State Parks.

Project or Site Plans: When a particular physical improvement is proposed to be constructed at a specific site in one of DNR's land units, the Land Acquisition and Planning and Engineering and Construction programs, in consultation with the unit manager, need to develop a site plan. This plan considers interactions between structures or facilities, and between recreational facilities and natural or cultural features, within an individual development envelope. It establishes size and/or number of facilities; specific locations and orientations; clearing, grading and planting requirements; and locations of supporting infrastructure such as parking or sanitary facilities.

Summing Up: Planning is, in general, a process of defining a problem, or a goal to be achieved, examining the resources available to get from the initial condition to the desired end, laying out alternative approaches to achieving the end, consulting with interested parties on the findings, and formulating a recommendation to the decision-maker, usually an elected or appointed official or body. Different kinds of planning can provide insight into different kinds or levels of decision; thus planning may occur at more than one point in changing a system like the DNR lands system. If an overall framework plan is available as a touchstone, each of the other kinds of plan can be developed independently but in such a way that movement is always toward the desired end and overlaps are reduced or eliminated.

Budgets and the Capital Improvements Program

The Department of Natural Resources is responsible for spending such a small percentage of total budgeted funds in Maryland that it does not even show up on the pie charts published in the newspaper each year at budget time: less than three quarters of one percent of State General Funds were allocated to DNR in Fiscal Year (FY) 1995, and just over one and a quarter percent of the total funds which pass through the State's treasury. The Department's use of general funds has been declining steadily as a percentage of its total budget.

Fund Sources: DNR relies primarily on three sources for money to operate its programs: the State's General Fund, Federal funds and some thirty special funds spelled out in legislation specifying in varying detail where the funds come from and what they may be spent for. For example, some WMA's were purchased at least in part with Federal funds and are thus limited, with respect to future use or development, by Federal requirements.

One particular source, the State's real estate transfer tax, accounts for roughly half the total special funds accruing to the Department. Revenue from this tax is largely earmarked for Program Open Space and provides for most of the Department's expenditures for land and improvements to land. Since a large portion of this fund is devoted to grants to local governments for park and open space purposes, we will continue to treat it separately from the rest of DNR's funds.

Two kinds of budget are important in carrying out plans for the acquisition, development and use of DNR properties: the Operating Budget and the Capital Budget. Both must be prepared by DNR a year or more before the expenditures are to be made. Both must be approved, and can be modified, by the Department of Budget and Management and the Governor's Office before being voted upon, often with further modification, by the General Assembly.

Operating Budget

Operating budgets are enacted annually by the General Assembly and provide for expenditures on salaries, supplies and equipment, routine maintenance of facilities, and some minor capital improvements. Sources of the funds to be expended for all of the programs and activities involved in DNR's land management functions--planning and engineering, acquiring land, and operating land units--are the State General Fund, some Federal sources and special funds including monies collected from the sale of various licenses and a variety of user fees. One source of the latter is the range of fees and service charges paid by visitors to State Forests and Parks, the bulk of which go to the Forest and Park Reserve Fund. (In most cases 15% of these collections go to the counties where the land units are located, in lieu of property taxes; in Allegany and Garrett Counties, 25% of collected fees are returned to the County.)

Because operating budgets each year are based largely on previous years' allocations, it is extremely difficult for the managing agencies to open new land units or substantially expand services at existing units--they require "new" personnel, equipment and other operating funds. "New facility" money is sometimes non-existent, and often insufficient, to cover subsequent years' operating costs. There is thus a built-in disincentive to develop newly acquired properties for recreational use or to otherwise expand the services provided by the Department to the public unless they can be made essentially self-sustaining. If charges are sufficiently high to attain this objective, substantial segments of the public may not be able to participate.

Intensification of Use: As use is intensified in existing units, increasing pressure is placed on the natural resources in those units, with resulting damage and evidence of overcrowding. A related result of the combination of intensified use and reductions in operating funds is the deferral of maintenance on buildings and other park infrastructure. When maintenance needs grow so great as to require major reconstruction or rehabilitation efforts, these become capital items, competing for capital budget funds with development of new or expanded facilities. To the extent such expansion does not occur, overcrowding of existing facilities builds, and we are caught in a spiral from which it becomes increasingly difficult to recover. This, then, becomes a second way in which operating budget problems are translated into a draw on capital development funds.

Capital Budget

The Capital Budget is the means used to acquire and make physical improvements to lands in the DNR system. For many years, Program Open Space, deriving funds from the State transfer tax on real property, has provided virtually the sole source of funds for land acquisition by DNR; since 1995 it has also provided the majority of the funds used to develop recreational and operational facilities on DNR lands, the remainder coming from the State's sale of General Obligation bonds.

Capital Improvements Program: In addition to the overall budget approval process discussed above, capital expenditures made for development in a land unit are further conditioned by a requirement that they be included in a five-year Capital Improvements Program (CIP), moving from their introduction in the fifth year of the program to the Capital Budget itself. Each year the Department reviews and amends its CIP as it prepares its capital budget request for the upcoming year.

Current rules of the Department of Budget and Management require that projects be highly detailed as to cost, size, location and special features. The intent is that once a project is included in the fifth year, it should work its way through the program without substantial modification and take precedence over any new project proposal. Thus the Department is committed through the year 2015 to improvements programmed in the current CIP, including capital improvement projects programmed for North Point,

Assateague, Janes Island, Pocomoke River, and Point Lookout State parks, and Black Walnut Point and Sassafras, NRMA and Wellington, WMA.

Reductions in Capability: Increases in funds available to POS that were projected a few years ago have been revised downward due to recession effects on the real estate market. Funds available in FY 2010 will be 1/3 of the amount available in FY 2008 and less than 1/2 of those available in FY 2009.

Several recent decisions and proposals cumulatively serve to reduce the amount of available capital improvement money to levels lower than we saw in the recent past. These decisions include contributing POS capital development money to the fund used to maintain the beach replenishment project at Ocean City, to shore erosion control projects and critical maintenance projects on DNR lands. Together, these projects represent about a 60% draw on projected POS capital development funds. Recent legislative changes also direct a portion of the POS capital development funds to the operating budget, to alleviate some of the difficulties noted above.

VII. Plan Recommendations

The following pages present the recommended plan of action which the Maryland Department of Natural Resources proposes over the next several years. Note that priorities for most recommendations refer to targeted time periods or the general order in which the actions should be carried out. Note also that there is some overlap between the major categories of recommendations outlined below.

These recommendations were derived from consideration of DNR's mission, and the systemwide goals for land conservation and recreational development as outlined in Chapter I; evaluation of our existing system's strengths and needs in terms of those goals and our existing land units' physical capabilities; and a preliminary assessment of demand for change as reflected in recent literature and surveys, together with some public review of the earlier phases of plan development.

Programmatic Activities

While most of the recommendations in this chapter relate to the physical elements of DNR's land management system, there are a number of more general needs for action which are not geographically oriented. A number of these arose out of the public review of the assessment phase of planning; others came about as reorganization of the Department brought additional agencies' involvement in the land conservation and recreation planning process.

Education and Interpretation

It is clear from both DNR's mission and public comments on the assessment report that the Department has a major role in environmental education and the development of a stewardship ethic, much of which occurs in the outdoor setting provided by State Forests, Parks and Wildlife Management Areas. As evident by the Governor's Partnership for Children in Nature, there is a recognized need to connect children to nature and the outdoors. A number of recommendations address improvement in the Department's delivery of educational services. Work on the following programs should be initiated and substantially completed in the next five years, although some will continue over a longer time period.

- The Land Acquisition and Planning Program should work with the Forest Service and the Maryland Park Service (MPS) and other appropriate units of the Department to develop, or complete, and publish educational materials describing each land unit's important natural and cultural features (geology, landscape types, flora and fauna both rare and common, historic structures or archaeological sites), why they are important, how they can be viewed by visitors.
- DNR should identify opportunities to connect schools and communities to natural areas using trails.
- In cooperation with ongoing program development of the Maryland Conservation Corps, Justice Corps and MPD, DNR should implement a program package with school systems to utilize high school volunteers for construction and maintenance projects on DNR properties as a means for students to fulfill community service requirements. Because there are existing cooperative education programs between MPS and Allegany, Baltimore and Wicomico Counties, these counties could serve as prototypes, with expansion to other parts of the State in five to ten years.
- DNR should expand partnerships with local school systems, colleges and universities to use DNR properties as laboratories for conservation education initiatives.

Funding

While Program Open Space should continue to provide funding for land purchases and some development of capital improvements to facilitate public access and enjoyment, new mechanisms for financing day to day operation of our land units are clearly necessary in a time of continually dwindling General Fund availability and Federal cut-backs of special funds. Concern about this was widely expressed in all the public workshops held at the end of the assessment phase of planning. All recommendations about expansion of service are dependent upon finding additional ways to finance operation and maintenance. Highest priority should be given to several steps to be completed within five years.

- DNR should develop and implement a market-based fee structure for non-DNR related uses of DNR lands (e.g., rights-of-way, structure sites).
- Adjust budget procedures as necessary to insure that all revenue enhancements are allocated to operation and maintenance of Forests, Parks and Wildlife Areas.
- LAP and MPS should develop and implement policy with respect to private development and/or operation of particular types of recreational facilities or services on DNR properties. The policy should spell out the types of activities which can appropriately be

Additional recommendations which should be implemented over a somewhat longer time frame would also help to make operations more self-sustaining:

- In cooperation with State and local tourism officials, the Maryland Park Service should develop a marketing approach for increasing park visitation in off-peak periods.
- DNR should review leases or other use arrangements and make adjustments as necessary to reflect market value of the property rights utilized while maintaining compatibility with wildlife habitat and recreation requirements.

Technical Assistance and Other Partnerships

One means by which scarce dollars can be stretched to continue important DNR land conservation and recreation programs is to enter into partnerships with local governments or other land conservation interests to protect or manage land. This is probably most evident in the establishment of protected land corridors, involving multiple land-owners and stewards. Program Open Space itself allocates half of available acquisition and development funds to local governments to advance their own conservation and recreation goals, an acknowledgement of partnership needs dating to the program's inception in 1969. Another form of partnership in land protection occurs when the Department partners with non-governmental organizations to secure DNR ownership of important properties in a more expeditious manner than is often possible using ordinary State channels.

In addition to such financial partnerships, DNR provides technical assistance to many local governments and private landowners on a wide range of resource management matters. An example is the Wildlife Division's cooperatively managing, under lease, wildlife and hunting programs on lands owned by local governments or Federal agencies. In the context of land conservation and recreational development, assistance in planning and coordinating open space action at the local level offers an important means for carrying DNR interests forward.

- Upon formal request, LAP and POS should provide technical assistance to local governments in developing local parks or greenways where DNR does not have an ownership presence.
- POS should continue and expand its partnership arrangements with the Maryland Environmental Trust, private land trusts, counties and municipalities and other state agencies, to: 1) expedite the acquisition of lands and easements, 2) leverage private, local and other state funds for land conservation, 3) improve public outreach and communications with local communities, 4) maximize the benefits of combined use of POS state and local funds, and 5) minimize management burdens of additional protected land on DNR land management units, when private or local ownership of land can protect the State's interest.

Beyond assisting financially in local governments' land acquisition and recreational development through Program Open Space, DNR's role in providing local recreational opportunities is somewhat unclear. This is evidenced by instances where DNR has leased properties for local park purposes. Any ambiguity on this issue needs to be clarified within the next five years.

- ♣ Within the constraints imposed by natural resource conditions, POS should identify and promote joint DNR-local construction and operation of recreational facilities serving a local need while helping to forward DNR purposes.

While DNR has purchased and leased abandoned rail lines and worked to develop some of them into regional trails, others are more local in character and offer an opportunity for the Department to provide technical and financial assistance to local project sponsors.

- ♣ One potential rail-to-trail project on which LAP and POS should provide technical and financial assistance include working with the Counties in the Mid-Shore region, where an extensive network of inactive and abandoned railroad lines exist. This network could connect Denton, Easton, Ridgely, Greensboro, Queenstown and Stevensville; Tuckahoe State Park could be a destination.

Research and Planning

During the course of preparing this plan, a number of needs for additional, more current or more refined information became evident. Planning is the means by which this information is applied to improve in-the-field management or delivery of services.

Future revision to this plan, and DNR's active participation in the Counties' Land Preservation, Parks and Recreation Plans, will benefit from improved information about our resources and the public's use and expectations of them.

Immediate attention should be directed to gaining better understanding of recreational demands on DNR's land system:

- Within the next several years, LAP should cooperate with the Maryland Office of Planning to conduct a new statewide survey of outdoor recreation participation and preferences. This survey should be updated at no greater than 10-year intervals.
- LAP should assist MPS to initiate regular and consistent monitoring of State Parks visitors in order to be able to profile who uses our facilities, where they come from and why, and what they do when they visit.
- Improved understanding of the natural resources to be found on DNR properties can lead to better targeting of needed land acquisition as well as development of improved stewardship practices on our present properties:
- DNR should give high priority to field verifying mapped or other data on DNR units used as the basis for this plan. Continuing attention should be given to this activity over a period of years, and the information should be made available to the public.
- The Natural Heritage Program should apply its new community alliance classification system to identify natural plant communities throughout the State which are rare or threatened and to identify highest quality examples of common communities. Highest priority should be given to identifying these communities on DNR properties.

Improved management of existing units requires attention to several operational details not always readily apparent to the public:

- The Engineering and Construction program should, within five years, lead a study of opportunities to consolidate existing office and shop facilities (vehicle, woodworking, sign, etc.) to support operations statewide.
- LAP and the land management units (MPS, FS, and WHS) should survey, verify and mark existing state land boundaries in order to avoid encroachments and optimize use of existing lands. There should also be an effort to resolve existing intrusions onto DNR land.

Land Acquisition

The Department of Natural Resources is one actor among many involved in land conservation in Maryland, and acquisition of land by the Department is one means for advancing overall land conservation purposes. Both to assist with DNR's internal programming and to assure coordination with our land conservation partners--which include local governments, the Maryland Environmental Trust, Agricultural Land Preservation Foundation, The Nature Conservancy and local land trusts--it is important that this plan identify what the Department feels are its priorities for acquiring land over the next several years.

A detailed timetable is not possible when we discuss land acquisition for a number of reasons: DNR relies on acquiring land from willing sellers, the amounts of money attained from the real estate transfer tax to fund Program Open Space are not entirely predictable, and the negotiating process can often be time-consuming in ways difficult to foresee. In addition, improved information and mapping related to the State's biological resources has refined if not substantially modified recommendations related to enhancing biological diversity. The recommendations which follow retain a degree of flexibility and will be reviewed at regular intervals and revised as needed.

Program Open Space

In 1969 State Legislators advocated for the environment and Maryland's way of life when they supported Program Open Space (POS) legislation that provided for the perpetual conservation of open space and the provision of outdoor recreation opportunities. Title 5, Subtitle 9 of the Natural Resources Article established Program Open Space (POS) for the purpose of expediting the acquisition of outdoor recreation and open space areas and accelerating the provision of needed outdoor recreation facilities, by the state and its subdivisions, before the escalating cost of land prevented its purchase for public use or the land was devoted to some other purpose. These two charges, the acquisition of public open space and the provision of public outdoor recreation facilities, have jointly formed the cornerstone of Program Open Space, a nationally recognized conservation and recreation program, for the past 39 years.

Through the use of various funding sources, including state special and bond funds, as well as the federal Land and Water Conservation Fund and other federal programs, Program Open Space has served as a model for other land conservation and recreation programs across the nation. Primary funding is provided by the State Real Estate transfer tax of .5% of the consideration paid for the transfer of real property from one owner to another. The greater the development pressure, the more transfers, and thus the more transfer tax revenue realized for land conservation and recreation facilities. This direct correlation between development pressure and available funding for open space and recreational facilities is a key factor contributing to the Program's success.

How is the administration of Program Open Space funded?

Administration of Program Open Space is also linked to State Real Estate transfer tax revenue. Title 13, Subtitle 209 of the Tax-Property Article provides that up to 3% of revenues in the special fund (funded by the State Real Estate transfer tax), not required for the payment of principal and interest on bonds issued under the Outdoor Recreation Land Loan of 1969, may be appropriated in the State budget for salaries and related expenses in the Departments of General Services, Natural Resources and Planning necessary to administer Title 5, Subtitle 9 of the Natural Resources Article (Program Open Space).

How does Program Open Space accomplish its Overall Mission?

The appropriation of Program Open Space funds is split between State and local government. While both state acquisitions and local grants fund projects that protect open space and provide recreation facilities, state acquisitions tend to place a greater emphasis on natural resource conservation and management. Local governments emphasize the provision of areas for more intensive recreational use. State Program Open Space funds are allocated for state land acquisition, capital improvements, critical maintenance, and operations. Local Program Open Space funds are used by local recreation and parks departments for acquisition, development, and planning projects. Local governing bodies prepare *Local Land Preservation Park and Recreation Plans* and submit them to the Department and to the Maryland Department of Planning (MDP) for joint approval consistent with the criteria and goals set forth in the current *State Land Preservation Park and Recreation Plan*. Local governing bodies revise their plan at least every six years, concurrent with the MDP's revisions of the *State Land Preservation Park and Recreation Plan*. These revisions shall also be submitted to the Department of Natural Resources and the MDP for joint approval. These *Land Preservation Park and Recreation Plans* help to ensure the thoughtful and efficient utilization of Program Open Space funds. A local governing body may use up to \$25,000 annually from its 100% (Acquisition) money to fund planning projects that update the *Local Land Preservation Park and Recreation Plans*.

Each local governing body receiving Program Open Space funding must submit an *Annual Program* to the Department and the MDP by the first day of July each year, after obtaining approval of proposed projects by their local governing bodies. Upon review, the *Annual Program* becomes the basis for allocations to each of the local governing bodies within the limits imposed by the formula developed for the apportionment of the annual appropriations to POS. The local governing body of any municipal corporation may submit an annual program through the local governing body of the County in which it is located. Any *Annual Program* may be revised by the local governing body. A revised program shall be substituted for the original program only after the Department and the MDP review it, and the Department approves it.

Each local governing body applying for POS grant assistance has the option of continuing to submit individual applications for its projects, along with the traditional required Annual Program, or to submit all of its proposed projects as components of a *Consolidated Annual Program and Grant Application* in order to expedite review by the MDP and approval by the Department and the Maryland Board of Public Works. This consolidated application will provide an overview of the local jurisdiction's proposed use of its annual POS allocation and how these projects will fulfill the goals of the local plan. A *Consolidated Annual Program Grant Agreement* will be similar to the Project Agreement used for individual projects. It will include documentation sufficient to allow for review and approval of several component projects under one set of grant terms and contract provisions by the Department and Board of Public Works.

Assistance will be granted for the acquisition of land or partial interests in land that is beneficial or necessary for providing general outdoor recreation or open space opportunities for the public. To be eligible for funding, acquisition projects must conform to the county's *Land Preservation Park and Recreation Plan* and the general terms and conditions of each Project Agreement and be included in the Annual Program. POS funds may be used to reimburse local governments up to 100% of costs for local acquisition projects. Counties that have not met the land acquisition goals of either their *Local Land Preservation Park and Recreation Plan* or the State's *Land Preservation Park and Recreation Plan*, must use at least 50% of their total POS annual allocation exclusively for acquisition projects. Those that have met both State and local goals may use up to 100% of their allocation for development projects. POS grant assistance will be provided for approved new recreation improvements and support facilities, or for major capital rehabilitation projects on land owned or controlled by the applicant, when such facilities or improvements are beneficial or necessary, and provide general outdoor recreation and open space opportunities to the public. Development and major Capital Renewal projects must conform to the county's *Land Preservation and Recreation Plan* and be included in the Annual Program. An applicant must have control of the project site property through fee simple title, or some other means of conveyance such as a long-term lease, easement or use agreement.

Land acquired or developed with Program Open Space grant assistance may not be used for any purpose other than public recreation or public open space, and will be restricted to such uses by covenants in the deed to the property. Prior approval from the Secretaries of the Departments of Natural Resources, Department of Budget and Management, and the Maryland Department of Planning is required before any acquisition or development sites may be converted to any other use. The local governing body of a county or municipal corporation responsible for a proposed conversion of use must immediately contact the appropriate Regional Administrator for Program Open Space when a conversion is proposed [Program Open Space Law, Natural Resources Article, Section 5-906 (e) 7].

Targeting and Ranking - Land Conservation

To ensure efficient use of limited land acquisition funding, the Department of Natural Resources has set several objectives:

- ❖ Need to be more strategic since conservation opportunities exceed available funding
- ❖ Target land conservation based first on ecological priorities
- ❖ Create a more transparent process supported by science

Being more strategic, the Stateside of POS will pursue ecological protection as its primary focus while still allowing for other land purchases of merit. The Department’s Rural Legacy Program, that prefers the conservation of natural resource and resource economy lands through the acquisition of easements, will follow a similar strategic approach. Since the selection of ecologically significant areas is based heavily on numerous sources of scientific statistical data, efforts will continue to update databases, identify Focus Areas and prepare a flexible system of analysis to enable programmatic adjustments which reflect the most current project data.

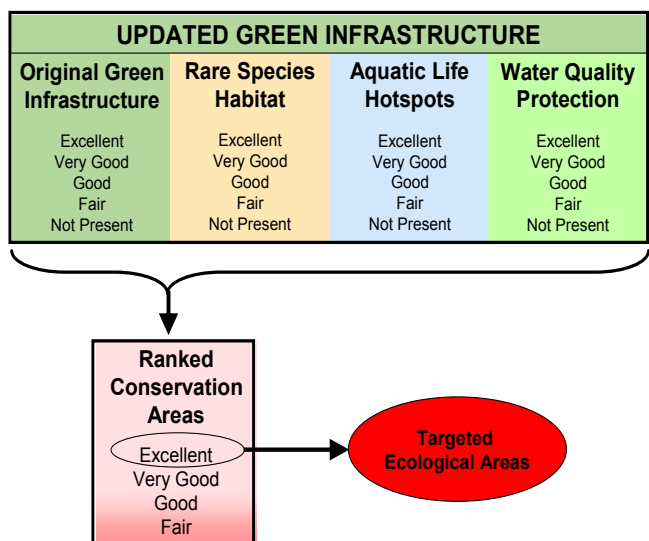
Ecological Screen

Scientific data will be used to develop an Ecological Screening system to select “Targeted Ecological Areas (TEA).” The Ecological Screen will include such things as an updated Green Infrastructure assessment with the addition of rare species habitat, aquatic life hotspots and water quality protection elements.

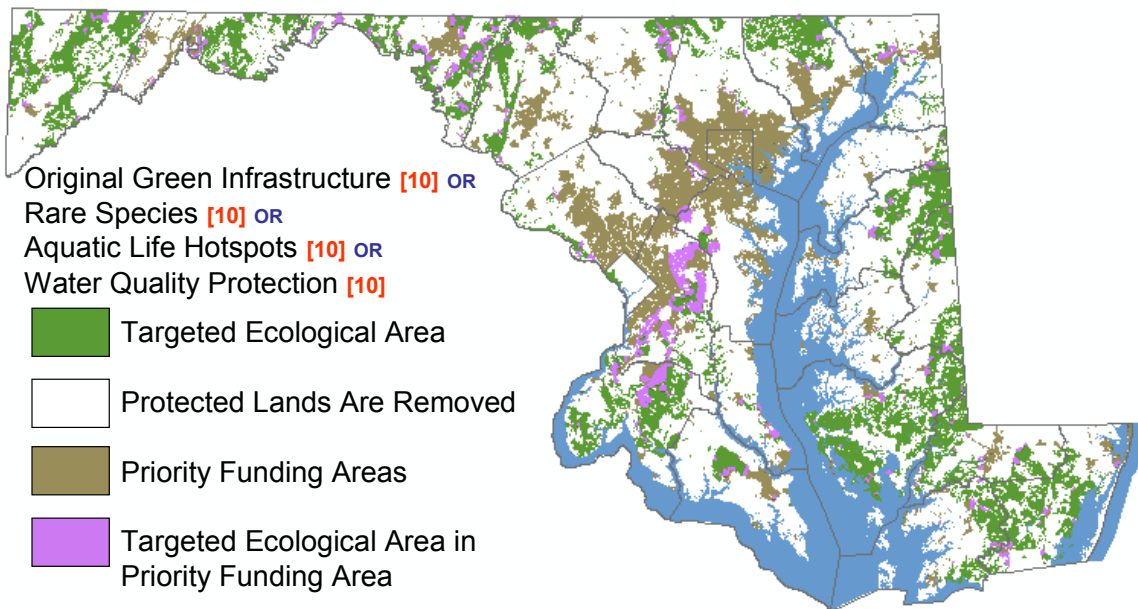
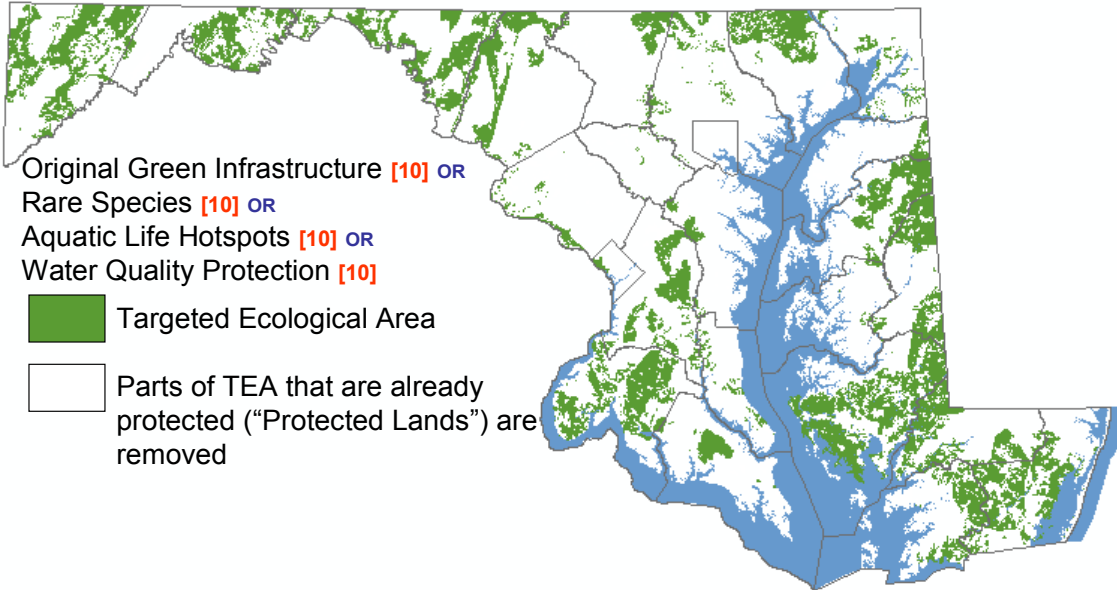


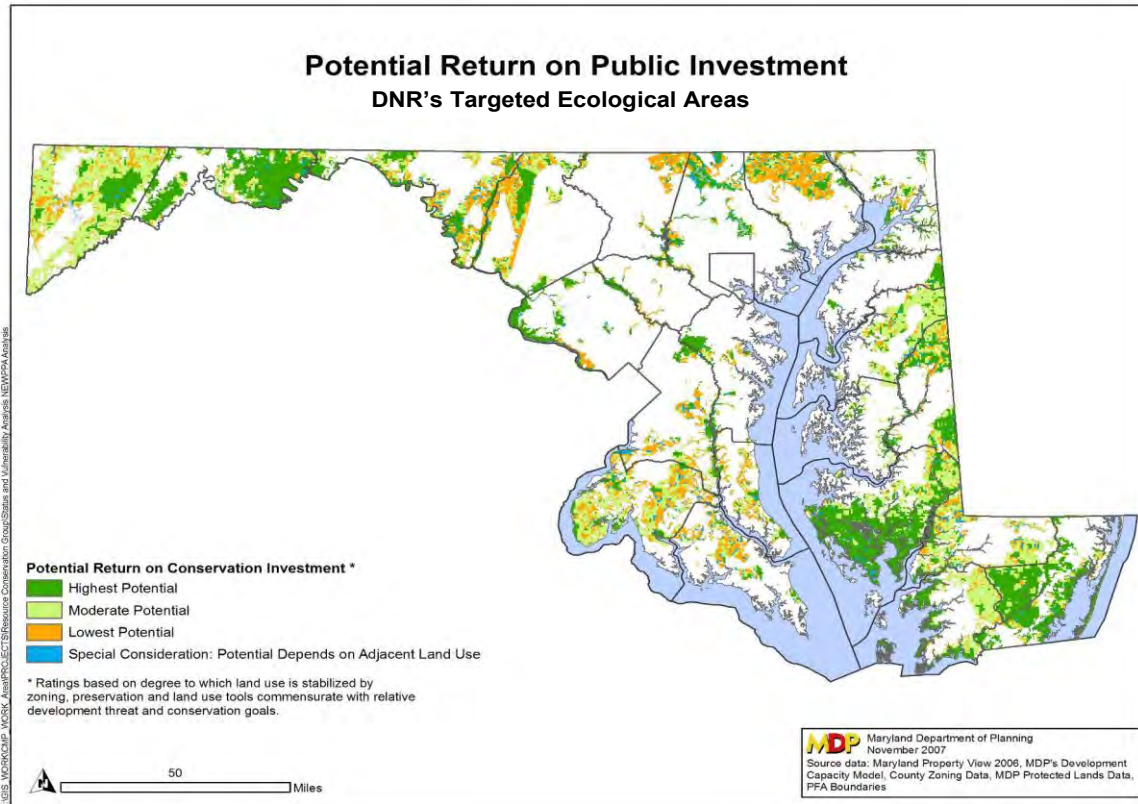
1) Ecological Screen

Select Targeted Ecological Areas Using Updated Green Infrastructure



Top 10's: “Best of the Best”





Programmatic Screen

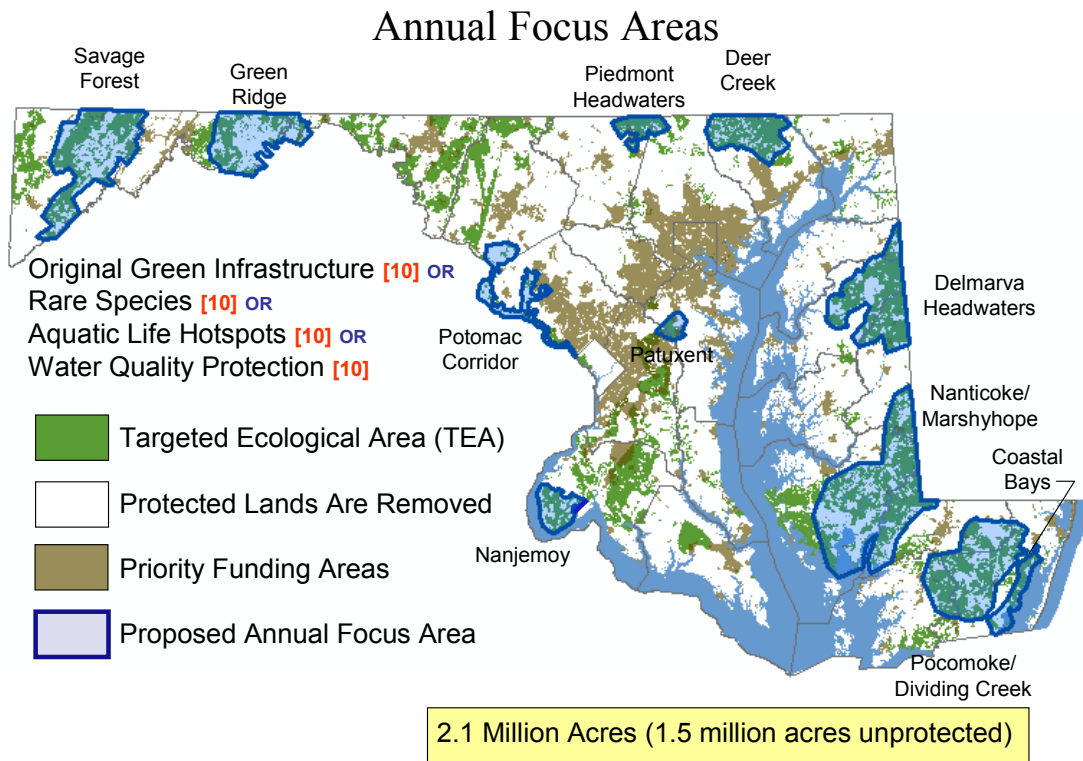
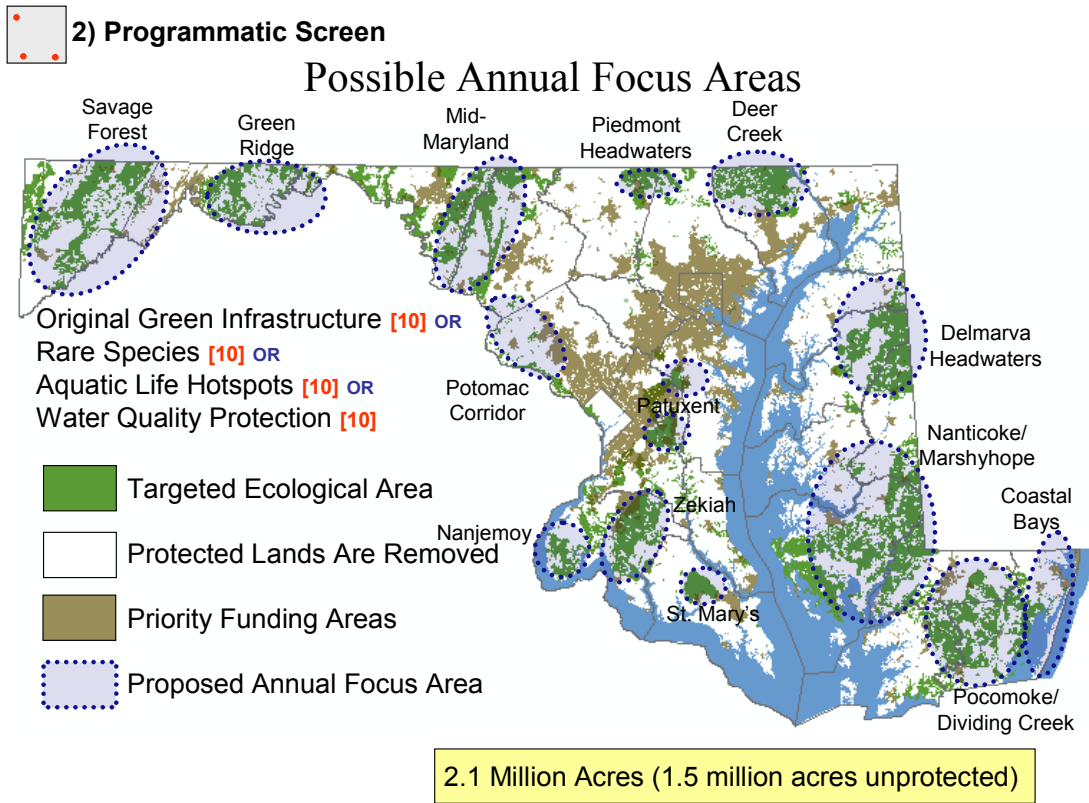
Once selected, these “Targeted Ecological Areas” will be processed through a Programmatic Screen to identify a sub-set of “Annual Focus Areas.” These will be selected based on how the area meshes with existing programs, funding, conservation partners, etc. Typical screening elements will include:

- Geographic balance
- Evaluation of different conservation strategies (other land protection programs, private stewardship programs)
- Available funding
- Evidence of willing sellers
- Degree of existing protection (protected lands and protective zoning) and potential for success in areas threatened by development
- Consultation with local governments, land trusts, and other partners (Priority Funding Areas and areas they are already working on protecting)

Annual does not mean that each year all new focus areas will be chosen and the prior years' areas will be rejected, but rather the Department will annually review the focus areas, after the budget for the State side of POS is determined and make any necessary adjustments.

Possible Annual Focus Areas Estimated Costs

Annual Focus Area	Total Cost (millions of dollars)	PCA Acres	Cost/acre	Total Acres	PCA Acres in PFA	Existing Protected Acres
Coastal Bays	305	27,712	\$11,024	38,920	284	9,863
Deer Creek	1,479	56,213	\$26,311	90,695	301	21,368
Delmarva Headwaters	3,386	115,366	\$29,348	172,898	2,028	29,124
Green Ridge	219	58,037	\$3,768	132,857	1,758	62,426
Mid - Maryland	858	98,234	\$8,734	221,830	3,778	49,533
Nanjemoy	184	24,722	\$7,458	44,365	31	14,418
Nanticoke - Marshyhope	2,172	199,664	\$10,880	361,032	2,872	97,388
Patuxent (nothern component)	94	7,507	\$12,577	17,188	1,603	2,182
Patuxent (southern component)	328	18,435	\$17,789	30,421	6,006	2,191
Piedmont Headwaters	524	22,540	\$23,259	31,764	1,263	4,118
Pocomoke - Dividing Creek	467	125,178	\$3,729	204,709	2,004	52,417
Potomac Corridor	678	13,517	\$50,182	61,908	133	32,075
Savage Forest	258	106,481	\$2,424	201,817	1,023	67,469
St. Mary's	70	17,087	\$4,077	20,708	1,215	351
Zekiah	514	64,213	\$7,997	106,387	3,475	11,678
Total	\$11,537	954,906	\$12,081	1,737,499	27,774	456,600



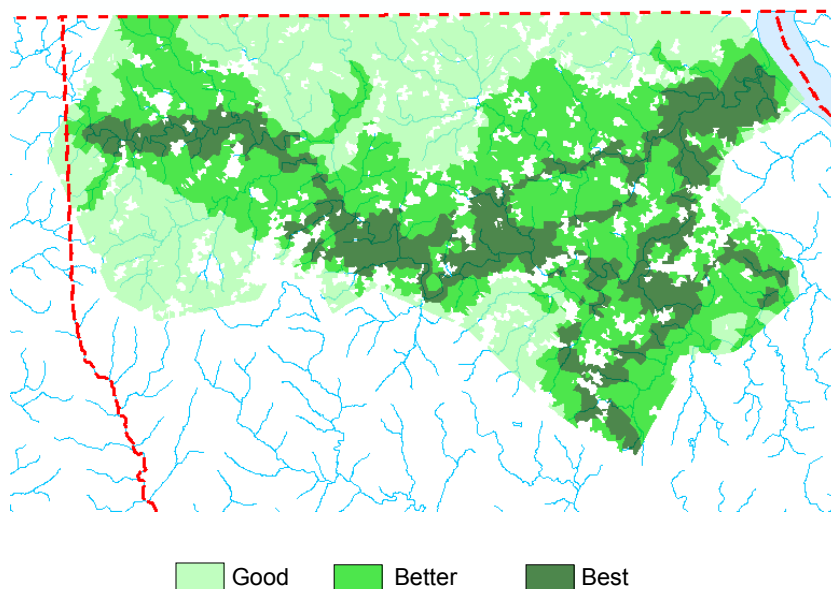
Explanation of Annual Focus Area Maps

These maps and the categories of “Good” “Better” and “Best” are meant to give guidance at a landscape level to partners of the State of Maryland, Department of Natural Resources, including local governments and non-profit land trusts. The three categories are based on scores assigned to approximate “parcel” shapes within an area, rather than actual parcel boundaries. “Parcels” less than 5 acres and areas identified as “developed” by the Maryland Office of Planning’s 2002 landuse data, have been removed from the maps. Also, the Department recognizes that there will certainly be situations where the data does not accurately represent the actual conditions of properties. As additional data is collected, focus areas, as well as the areas identified for each of the categories, may change.

These maps and the categories should not be interpreted as indications of the Department’s intention to buy all of the land shown on any map. The Department’s resources are far too small to accomplish this. Also, the Department does not and will not condemn any properties. All of its acquisitions are voluntary, from willing sellers. Although the Department wishes to make the majority of its acquisitions in these Annual Focus Areas, the Department will still be buying land outside of them for a variety of reasons, such as to provide the public with water access and to address management concerns in existing State lands. Again, the Department’s goal in providing this information is simply to communicate to its partners the places around the State that the Department will be focusing its limited land acquisition resources.

Deer Creek Annual Focus Area

On the right is an example of a typical Annual Focus Area in Maryland. The parcel areas within the Annual Focus Area have been analyzed and their respective prioritization is indicated by their shading.



Parcel Screen

The third and final screen will prioritize individual parcels, based upon the availability of multiple benefits and management considerations, within the “Annual Focus Areas.” The elements below are included in the screening process.



Third Phase - Parcel Screening Process

1. Ecological Value

- A. Landscape score
- B. Parcel score

2. Special Adjustments for Multiple Benefits

- A. Recreational, historic, or cultural value
- B. In-holding or adjacency

3. Habitat Maintenance or Restoration Value

- A. Active management needed to prevent degradation of unique natural resources
- B. Opportunities for habitat and water quality restoration

4. Management and Operations

- A. Responsibility for management has been identified

5. Consistency with Local Land Use

- A. Fragmentation due to development
- B. Vulnerability to additional development
- C. Level of threat
- D. Relevance of adjacent development

Below is the Ecological Ranking Protocol sheet providing an example of how the targeting system can be used to rank various parcels of land, offering guidance on which parcels should be pursued for acquisition.

Ecological Ranking Protocol														
Project	Final Score	Step 1 Ecological Value				Step 2 Special Adjustments for Multiple Benefits				Step 3 Habitat Maintenance or Restoration Value	Steps 1-3 Total	Step 4 Management and Operations	Step 5 Land Use Management Context	
		i. Overall Landscape Score	ii. Priority Conservation Area Bonus	B. Parcel Score Step 1 Total		A. Recreation	B. Historic or Cultural Value	C. In-holding or Adjacency Step 2 Total					A. Land Use Context	B. Stand Alone Acquisition
Property A	84	19	20	13	52	10	0	5	15	0	67	Yes	10	0
Property B	103	30	20	16	66	5	0	5	10	6.6	82.6	Yes	10	0
Property C	84	21	20	16	57	5	0	5	10	0	67	Yes	0	0
Property D	56	16	20	4	40	0	5	0	5	0	45	Yes	0	0
Property E	134	30	20	27	77	10	0	5	15	15.4	107.4	Yes	10	25
Property F	60	24	0	14	38	5	0	5	10	0	48	Yes	10	0
Property G	38	11	0	9	20	10	0	0	10	0	30	Yes	0	0

It should be noted that this targeting system is to enhance the existing procedures, assisting while not limiting The Department of Natural Resources’ ability to conserve parcels of significant natural resource and public recreation value. The Department of Natural Resources will apply reasoned judgment to parcel rankings by regularly ground-truthing scores and looking at total ecological benefits and cost factors. Program Open Space will still buy some lands outside of the updated Green Infrastructure for exceptional recreational, cultural, historical, educational, water access, resource-based economic and in-holding/management purposes. In addition, some Program Open Space funding will be assigned to special projects, for example, CREP easements on stream buffers, which leverage federal funds.

Statewide Principles and Values

- ❖ Connecting existing DNR land units to one another and to other protected lands should receive priority where there is a functional or operational purpose for such connections.
- ❖ Land acquisition activities should be directed to stream valleys, mountain ridges and other sensitive areas, such as rare species habitats and high quality examples of natural communities.
- ❖ Proposed major acquisitions of land for DNR ownership should be evaluated for Wildland designation.
- ❖ Interim use plans or management recommendations, including an evaluation of what should be done with existing structures, historic or otherwise, will be completed prior to acquisition for lands acquired outside of existing boundaries of parks or for land units where there is no master plan.
- ❖ Large tracts of land are more easily managed and protected to maintain biological diversity. Protecting small isolated sites, with significant though limited species diversity, can negate overall diversity and long term species protection while creating management difficulties. Expanding existing conservation areas or focusing efforts on large areas as identified by the targeting protocol should be the Department's general conservation strategy.

Historical and Cultural Sites

It is clear that DNR has many historic and cultural resources important to heritage tourism throughout the State. The interpretation of these historical and cultural resources through heritage tourism is an important public benefit which should be expanded and improved. Maryland has been a leader in the “heritage area” movement and has established a Heritage Area Program, whereby municipalities and counties work cooperatively to identify and promote the heritage of important areas of the state. Those heritage areas promote historic preservation and to assist in the preservation of many and varied cultural and natural resources. The preservation of historic and cultural resources in a heritage area is also dependent in many ways on the preservation of land. For example, a historic building surrounded by a strip mall loses much of its historic integrity and its traditional viewscape due to the loss of land to development. DNR can promote historic preservation by encouraging preservation of land and open space near historic resources.

While not all the historic properties owned by DNR merit preservation, there are many that are not currently interpreted in any meaningful way. Some structures aren't readily accessible to the public due to their remoteness, but many buildings; even some located in prominent places, suffer from deferred maintenance. A dedicated funding source that would provide the resources to adequately maintain our historic resources is needed. Perhaps a small percentage of Open Space funding should be dedicated to maintenance of historic resources.

For a variety of reasons, DNR has not always properly interpreted its historic resources for the public, nor have they invested the necessary resources into their preservation. While there may be many good reasons for this, DNR should develop a strategic plan dealing solely with historic and cultural resources. As the single largest owner of the most potentially historic buildings in the State, it is incumbent upon DNR to develop and follow a plan for their preservation.

Recommendations:

- ♣ DNR should develop cooperative working relationships with historic preservation groups throughout the state, in much the same way that they have with environmental organizations. These cooperative relationships can only be beneficial to DNR in its responsibility to appropriately manage their historic resources.
- ♣ A policy concerning acquisition of historic resources should be developed that discourages DNR ownership whenever possible.
- ♣ Maryland is the home to two pioneering figures in African-American history: Frederick Douglass, and Harriett Tubman. Additional opportunities to highlight African-American history and the experience of enslaved people should be developed. DNR should also work to protect the landscapes and open spaces around important African-American sites.
- ♣ Creative ways to obtain additional resources should be developed so that DNR is better able to manage and protect their historic and cultural resources. A stable funding source for the care and long-term maintenance of historic properties should be developed, along with a long-range plan to address deferred maintenance.
- ♣ The Resident-Curatorship Program should continue to be funded and staffed.

DNR should continue to work with the Maryland Historical Trust to enhance the Department's caretaking of historic and archaeological resources on its properties. A number of specific actions are necessary to improve DNR stewardship of its existing inventory of such resources, regardless of whether additional cultural or historic properties are acquired in the future.

- ♣ The Department should give priority to completing an updated inventory of existing historic structures. In cooperation with the Maryland Historical Trust the sites should be evaluated for eligibility on the National Register of Historic Places.
- ♣ The Department should determine future uses and operational needs for properties where life tenancies and curatorships will expire.

Conservation Practices

The Department of Natural Resources has a major responsibility to demonstrate sound stewardship on its properties. Improved conservation practices are the expected results of the land unit resource management plans called for under Programmatic Recommendations, above. Some particular opportunities identified during planning have resulted in a few recommendations at this time.

General

- ♣ Habitat specialists, species experts and land managers in the DNR's Wildlife and Heritage, Fisheries and Forestry Divisions should provide technical assistance for land use and habitat manipulation decisions on all DNR lands. Examples of areas incorporating technical input are agricultural leases, Soil Conservation and Water Quality Plans, habitat management plans for all DNR land units, and selection of species to be planted on any DNR land unit.
- ♣ An ecosystem-based approach to land management decisions and individual land unit plans should incorporate a landscape view to protect and enhance species diversity, density and richness. Inter-disciplinary teams should participate in plan development for all individual land units.
- ♣ DNR should strive to set an example in habitat protection through effective implementation of existing regulations, such as the Chesapeake Bay Critical Area habitat protection, and application of state-of-the-art conservation and green building techniques.

Regional Opportunities

- ♣ The Department should inventory State Parks to identify habitat restoration opportunities.
- ♣ The serpentine barrens of Soldiers Delight NEA provide a unique habitat restoration opportunity in the Central Region. This area contains a number of species listed by the Natural Heritage Program and has the potential to sustain a high diversity of species. The Department should restore and manage this area in a manner that will protect the unusual serpentine ecosystem.
- ♣ Hart-Miller Island State Park presents a unique opportunity to create a diversity of habitats on a large dredged material containment facility. It is large enough to provide areas capable of supporting species sensitive to human disturbance and presents numerous opportunities to create land/water transition areas. The Department should use Hart-Miller Island to demonstrate habitat creation on dredged material.

Recreation on DNR Lands Units

Recreation--for the most part resource-based uses such as fishing and hunting, camping, hiking and boating, nature study and exploration of historic sites--is a major function of many of DNR's properties. As the State's population continues to grow, recreation demand on our existing land base will increase, perhaps further stimulated by some of the trends identified in other sections of this document. A major purpose of this plan is to provide a foundation for expanded recreational use of DNR lands which is consistent with proper stewardship of the resources our ownership is intended to protect. Indeed, some expanded recreational development is necessary in order to improve the care we give our properties, unless needed steps to reduce crowding and ameliorate the effects of overuse are simply to result in further reductions of service to the public.

The Department recognizes the need in some circumstances to provide for intensive recreational development to meet local needs; however, the recommendations on the following pages largely envision low-key expansion of traditional resource-based uses at existing DNR land units, in recognition of the severe limitations the Department currently faces in its operating funds. Some of the uses contemplated can only occur if local government or other operating partners are found who can take over at least part of the management responsibilities.

General Statewide Objectives

- Promote hunting and other wildlife recreation opportunities on all DNR lands.
- Evaluate the long-term sustainability of resources and usage and take measures to ensure that future generations will enjoy the same opportunities.
- As the first priority, expand low-intensity, resource-based recreational development at existing State Park units with capability for increased development, completing master plan updates or site plans as necessary to support this objective.
- Create and enhance a statewide trail system on land and in water that connects communities, parks, waterways, and schools. Also, develop and implement a comprehensive program that connects children and families, particularly those that are underserved, to natural areas.
- Examine Wildlife Management Areas for opportunities to provide recreational development such as low-amenity camping, fishing/canoeing access and walking trails which are compatible with primary wildlife management purposes.

Water-Based Recreation

Public desires for all kinds of access to streams, lakes, the Bay and Ocean have been noted in the preceding pages. Expansion of fishing and boating opportunities can be carried out with fairly limited impacts on operating budgets. Expanding water-contact recreational opportunities is more problematic. For natural waters like beach areas, rivers or ponds, needs for lifeguards will have a major impact on the feasibility of developing new areas; creation of artificial areas, like swimming pools, presents major capital development needs as well as significant operational costs.

- In cooperation with local governments, DNR should identify potential fishing and boating access sites in the State. Location should take into account recreational demand, methods for operation and funding, and environmentally suitable areas.
- Water recreation enhancement in existing Parks is a high priority for projected funding in the Southern Region. The next areas in priority order are Point Lookout and Smallwood State Parks. Master Plans for both Parks will recommend recreational enhancements that compliment existing infrastructure and will focus on improved use of local natural resources including beaches, navigable water and/or fisheries.

- Myrtle Grove lake and Saint Mary's River fishing lake are immediate opportunities for enhancement.
- Bay bathing beaches should be provided in the Eastern Region where natural conditions are suitable and demand exists. Further investigation is necessary to determine the feasibility of creating swimming/beach areas. The following sites should be part of the study: Martinak, Janes Island State Parks and Sassafras River NRMA.
- •To meet local needs for swimming opportunities, DNR should give preference to providing assistance to local governments to establish bathing beaches and pond swimming areas where conditions are suitable and demand exists.
- Eastern Region land units which cannot be reached by small craft from county ramps should establish additional access points. Some areas, especially Fish Management Areas, should consider boat or canoe rentals to make boating more available to the public. Public access for small craft should be evaluated at the following sites: Isle of Wight, Fairmount and Nanticoke River WMAs; Martinak State Park; Wye Island NRMA; and Smithville Lake, Wye Mills and Unicorn Lake FMAs.

Hunting, Shooting and Wildlife-Related Recreation

Growing public interest in wildlife-dependant activities requires greater attention both to expanded opportunities for hunting and wildlife interpretation at state parks and to related wildlife dependant recreational uses at Wildlife Management Areas (WMA's.) Balancing the needs of a diverse user group remains an issue that warrants careful consideration and attention.

Statewide:

- During the next five years the Wildlife and Heritage Service will continue to write and implement WMA plans which will guide the service in all aspects of management including balancing the needs of a diverse user group.
- Within the next five years the Wildlife and Heritage Service will review and update regulations which govern the use of all WMA's
- During the next five years the Wildlife and Heritage Service will in consultation with the Maryland State Park Service, continue to review and update standardization of criteria and regulations for managed hunts in all DNR lands.

Regional Recommendations:

- Expanded hunting opportunities will continue to be explored within the State Park system, particularly at units most easily accessible to the State's urban population.
- Target shooting operations will continue to be monitored and assessed at existing shooting ranges to allow for the continued support of this activity in the local community and to provide adequate opportunity for target shooting in support of hunter safety programs and hunting generally.

Heritage Tourism

Relatively few of DNR's land units feature historical interpretation as a major focus although the Department owns many historical structures and, probably, many archaeological sites. While maintenance of historic structures must receive a considerable amount of attention, new construction to facilitate historic interpretation will be relatively minor in the foreseeable future, confined to those few areas with active volunteer support or where management partnerships can be arranged.

- Significant reconstructions at Fort Frederick State Park, including the governor's house, officers' quarters, gun decks and catwalks should go forward as programmed to support expanded interpretation activities at the park.
- The Department should work with the Maryland Historical Trust local Heritage Area partners, and other preservation and natural resources conservation groups to develop one central repository for heritage tourism information, including information on visiting sites of historic and environment interest.

Historic site interpretation at parks and management areas should be encouraged whenever possible. Expanded interpretation will encourage additional utilization of parks and heritage tourism to communities adjacent to parks. Therefore, additional opportunities to interpret historic resources on DNR owned land should be identified and promoted.

- In each park, a park service associate with the requisite education and experience should be designated as the resident historic site interpreter.
- Each park should have appropriate signage that interprets important historic places, events, or people.
- A comprehensive and easy to navigate website should list and map historic sites owned by DNR and incorporate that list into a statewide site of heritage tourism areas.

- DNR should continue to participate and assist in the efforts to create and develop the National Historic Trails (Star-Spangled Banner and Captain John Smith), and the Harriet Tubman State Park.

Overnight Accommodation

Camping, one of the more popular activities in many DNR land units, means many things to many people. Backpacking, where there is no provision of water or sanitary facilities and everyone hikes, or perhaps rides horseback, and carries his supplies on his back, has no capital funding requirements and no obvious operational needs. Varying levels of physical improvements are possible to support vehicle-based family camping, from simple fire rings and picnic tables with rudimentary shared sanitary facilities, through all-weather bath-houses on formal camping loops, to sites individually equipped with water, sewer and electric hook-ups for recreational vehicles. Lodging structures range from simple shelter cabins--essentially weather-proof tents--to fully equipped cabins. There are public constituencies for all possibilities.

While efforts to reduce capital and operating costs suggest keeping camping facilities as simple as possible, the need to raise operating revenues through fees argues in favor of the more elaborate facilities for which higher fees can more readily be charged. And an aging population may increasingly seek highly improved "camping" areas capable of serving recreational vehicles or elaborate trailers. A remaining issue is how, and how much, to accommodate these anticipated demands.

- **Unimproved Camping:** the potential expansion of primitive or unimproved camping should be evaluated.
- **Improved Camping:** Several parks offer modest opportunities to expand improved camping facilities, and this capability should be evaluated: expansion at the Western Region's Swallow Falls, Cunningham Falls, and Greenbrier State Parks should receive relatively low priority, although steps to offset adverse environmental impacts from existing use levels will be needed in the near term. In the Central Region, Elk Neck and Seneca Creek State Parks have the capability to attract significant overnight visitation from the general public. Additional camping and shelter cabins should have priority here. Overnight Facilities expansion is planned to meet existing and projected demand for improved camping or dormitory capabilities at three Southern Region State Parks: Point Lookout, Smallwood and Greenwell.
- **Youth Group Camping:** Several locations in the State Park systems are used for DNR's outdoor education/recreation programs, often in cooperation with local school systems. Other areas provide opportunities for scout or other youth groups to camp in relatively primitive settings. The Department should pursue the

potential for expansion in the near future as part of its efforts in support of Civil Justice Corps.

- **Cabins:** A feasibility/marketing study should be undertaken to determine possible sites for the construction of additional cabins.

Trails

Trails are among the most desired recreational improvements, increasingly called for in urban areas particularly. Trails are also relatively simple to develop and clearly support the Department's mission of making outdoor experiences available to the public. Trail maintenance is very labor-intensive, however, and conflicts between different trail users--hikers, bicyclists, equestrians and off-road vehicle drivers--can occur. Increased trail establishment is recommended in a number of locations as a high priority for recreational development in the near term, although even implementing many of the recommendations below is dependent upon developing long-term arrangements with private groups who can adopt particular trails or trail systems to assure proper maintenance.

Statewide

- Within five years, DNR should develop a statewide policy with respect to multiple use of trails, standard signage and appropriate protocols for design, maintenance and other management concerns.

Regional Recommendations

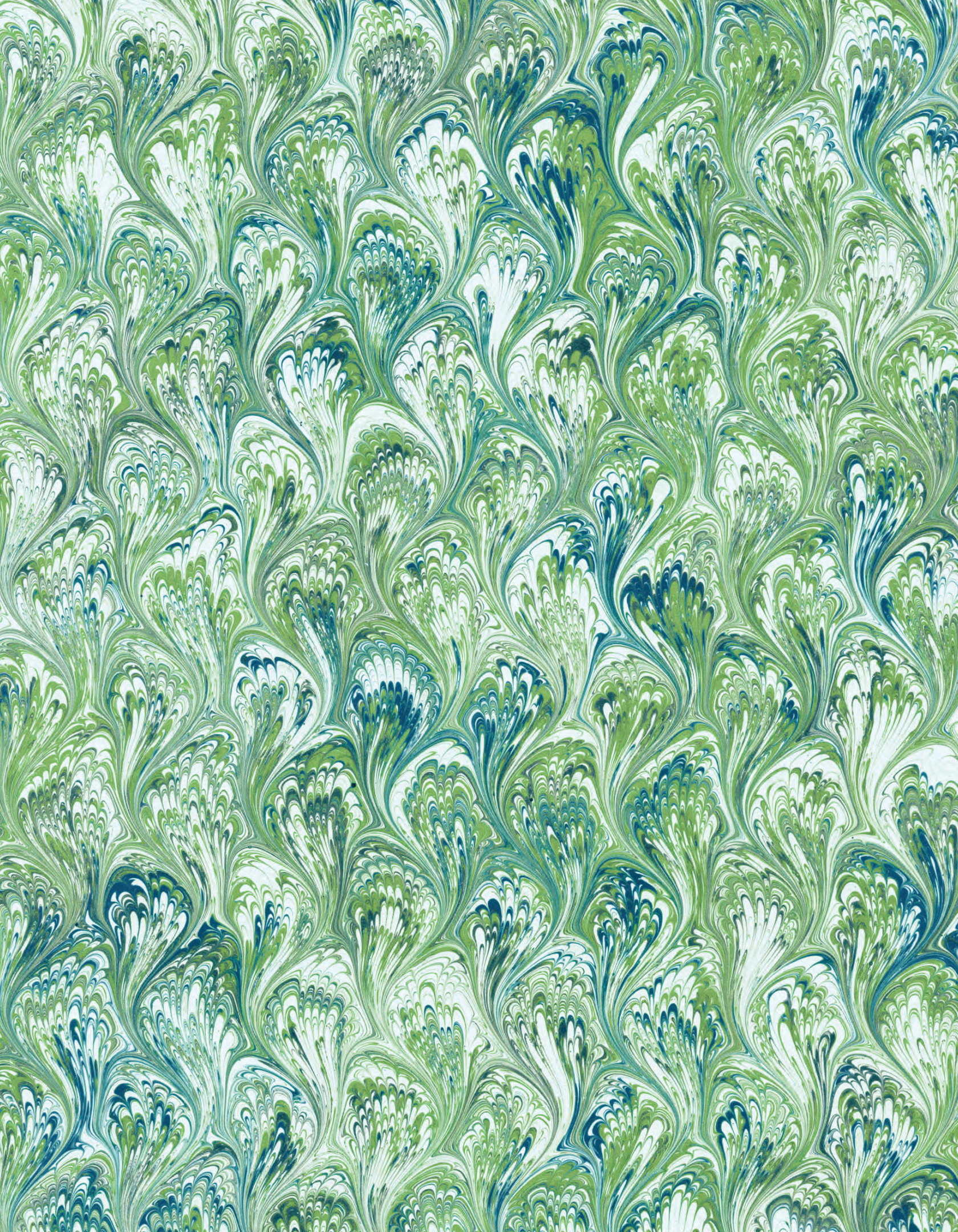
- In the Western Region, the Department should continue to place highest priority on working with the National Park Service to extend the Western Maryland rail-trail. DNR should also give priority to linking the Catoctin Trail to the Appalachian Trail and to expanding the northern portion of the Green Ridge State Forest trail into Pennsylvania.
- The Department should place highest priority in the Central Region on developing a sustainable trail plan for the Patapsco Valley to deal with overuse and to develop connections to the BWI trail and other local trails. Consideration should be given to the development of a multi-use trail system. As a cooperative effort with Montgomery County, DNR should give high priority to the development of a trail system to link areas of public ownership in the Seneca Creek Valley.
- POS should consider the acquisition of active rail lines for future trail use. This effort could eliminate future encroachment problems and might provide a revenue-generating mechanism. The CSX line, which runs through Patapsco Valley State Park, could be a pilot project.

- DNR should place a high priority on trails as a connection between communities, schools, employment centers and natural areas.

Resource-Based Day Use

Picnic facilities and related open play areas have long been a staple of State Parks in Maryland. Where these are associated with water features or other significant attractions, such facilities draw users from outside the regions in which they are located. Intensive picnicking facilities, incorporating shelters capable of seating upwards of 100 people have been developed increasingly in recent years, capable of accommodating uses such as company or church picnics or large school outings. Although less clearly related to DNR's overall mission, such facilities share with more elaborate camping facilities discussed above the characteristic of revenue generating potential with little management cost.

Expansion of resource-based day use recreation is programmed at a number of land units, but the potential for further expansion should be explored.





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