

Final Land Protection Plan and Environmental Assessment



Establishment of a New Southern Maryland Woodlands National Wildlife Refuge

July 2024

Prepared by

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Table of Contents

Proposed Action.....	Page 7
Background.....	Page 7
Purpose and Need for the Action.....	Page 8
Alternatives.....	Page 13
Alternative A – No Action.....	Page 13
Alternative B – Proposed Action – Southern Maryland Woodlands NWR.....	Page 14
Affected Environment and Environmental Consequences.....	Page 19
Natural Resources.....	Page 19
Cultural Resources and Subsistence.....	Page 39
Socioeconomics.....	Page 42
Environmental Justice.....	Page 47
Monitoring.....	Page 49
Summary of Analysis.....	Page 49
List of Sources, Agencies, and Persons Consulted.....	Page 50
Tribal Consultation.....	Page 50
Public Outreach.....	Page 50
List of Preparers.....	Page 52
References.....	Page 53
List of Acronyms.....	Page 58
Glossary.....	Page 60
Appendix I – Acquisition Plan	
Appendix II – Conceptual Management Plan	
Appendix III – Stakeholder and Public Consultation	
Appendix IV – Finding of no Significant Impact	
Addendum – Landscape Conservation Design	

Tables, Maps, and Figures

Table 1. Key Wildlife Habitats Within the Proposed Acquisition Boundaries - Page 20

Table 2. Population Breakdown by County – Page 42

Table 3. Total number of individuals employed and median household income for each of the counties in the AOI – Page 43

Table 4. Employment breakdown for each of the counties in the AOI – Page 43

Map 1. Proposed Southern Maryland Refuge Acquisition Boundary – Page 17

Map 2. Proposed Southern Maryland Refuge Acquisition Boundary with Refuge System Strategic Growth Policy and other Natural Resource Priorities – Page 26

Figure 1. Comparison of Wood Thrush Relative Abundance over time between PWCA and Combined BCR 29 and BCR 30 – Page 29

Final Land Protection Plan and Environmental Assessment for the Establishment of Southern Maryland Woodlands National Wildlife Refuge

Executive Summary

The U.S. Fish and Wildlife Service (USFWS, FWS, we, us, our) proposes to create a new unit of the National Wildlife Refuge System (Refuge System) called the Southern Maryland Woodlands National Wildlife Refuge (NWR, refuge). This Land Protection Plan/Environmental Assessment (LPP/EA) identifies several watersheds that exhibit the conservation values that the FWS and its partners seek to protect. These largely forested habitats remain intact but are vulnerable to conversion from development within the Washington DC metropolitan region. If protected, these watersheds will continue to provide resilience to climate change, conserve waterfowl and other migratory bird habitat, aid in the recovery of listed threatened and endangered species and provide nearby outdoor recreational opportunities for the 10 million people who live and work in the Washington-Baltimore metropolitan region.

The refuge would consist of four watershed-based units: the Lower Patuxent-Calvert Unit, Nanjemoy-Mattawoman Unit, Zekiah-Wicomico Unit, and McIntosh Run-St. Mary's Unit (Map 1). The total area encompassed by the proposed Refuge acquisition boundary is approximately 577,420 acres. Of these, 169,151 acres are contained in undeveloped parcels of 20 acres or greater, and all of these are located within areas designated by the State of Maryland as Targeted Ecological Areas and/or Green Infrastructure Hubs and Corridors. USFWS acquisition authority within the refuge would be capped at 40,000 acres.

The effort to establish a new refuge in Southern Maryland has progressed over the past decade and this LPP/EA is the outcome of that work. The Director of the FWS approved a Preliminary Project Proposal in 2011 (USFWS 2011b) that represented the first concrete step by the FWS to evaluate and plan for an expanded Refuge System presence in Southern Maryland. Following the 2011 publication of *Conserving the Future: Wildlife Refuges and the Next Generation*, the FWS developed its Strategic Growth Policy which added new requirements that incorporate the concepts of Strategic Habitat Conservation, including creation of a Landscape Conservation Design (LCD). The policy also affirms that the three priority conservation targets of the FWS are waterfowl, migratory birds of concern, and species listed under the Endangered Species Act. These new requirements were not inconsequential, and it took the FWS and its partners years to prepare an LCD. This expansive work is captured in *A Conservation Design for Patuxent Waters Conservation Area* published in 2018 (USFWS 2018) and appended to this LPP/EA (Addendum). The Patuxent Waters LCD is the foundational work upon which the LPP/EA is based, and the information contained therein will be referenced and summarized in the body of the LPP/EA.

In this document, the FWS evaluates two alternatives: No Action and the Proposed Action of establishing a new Refuge boundary or boundaries in Southern Maryland. The FWS considered including a third alternative describing a smaller refuge footprint but concluded that eliminating any of the currently proposed watersheds would reduce the FWS's ability to work with landowners and partners to conserve habitats that are vital to sustaining populations of the FWS's targeted fish and wildlife resources. The importance of the watersheds included in the Proposed Action to populations of waterfowl, migratory birds of conservation concern, and threatened and endangered species is well documented. Removing any

of the proposed watersheds would lessen the FWS's ability to work with willing sellers to conserve these habitats, which in turn could result in their unavailability to wildlife from incompatible land use changes.

The Acquisition Plan (Appendix I) describes the procedure used for ranking parcels based on their ecological value and the Refuge System's Strategic Growth Priorities. The top two highest quality ranking tiers accounted for 44,105 acres. Thus, it was decided to request the authority to purchase interest in 40,000 acres of land over 30 years. Additionally, the FWS also gave considerable attention to the practical limits of the FWS's proposed acquisition authority of 40,000 acres, as described in the Proposed Action section.

The Refuge System's Strategic Growth Policy priority conservation targets (602 FW 5) are Recovery of Federally Threatened and Endangered Species, Conserving Migratory Birds of Conservation Concern, and Implementing the North American Waterfowl Management Plan (NAWMP). The priorities for the growth of the Refuge System are the principal priorities for this proposed refuge establishment project (Map 2).

Federally listed species that occur within the Area of Interest include the federally endangered dwarf wedgemussel, which benefits from the high-water quality in Nanjemoy Creek and McIntosh Run. Federally endangered Atlantic and shortnose sturgeon forage in the Potomac River and at the mouths of several Potomac River tributaries, including Mattawoman Creek, Nanjemoy Creek, and Zekiah Swamp. Cliffs and beaches along the Chesapeake Bay shoreline provide breeding and foraging habitat for the federally threatened Puritan and Northeastern beach tiger beetles. Extensive forests throughout the region provide roosting habitat for the federally threatened long-eared bat. For an LPP/EA to fully address the Refuge System Strategic Growth Policy in regard to listed-species, recovery plans for listed species found within the proposed acquisition boundaries should identify land acquisition as a recovery task necessary to achieve recovery goals and objectives. Recovery plans for the dwarf wedgemussel, Puritan tiger beetle, and Northeastern beach tiger beetle include land acquisition as a recovery task (USFWS 1993a, USFWS 1993b, and USFWS 1994).

Forests, fields, and wetlands within the proposed acquisition boundaries support numerous **Birds of Conservation Concern**. Extensive freshwater and brackish emergent wetlands and associated mudflats provide breeding and foraging habitat for willet, king rail, saltmarsh sparrow, and least tern, and foraging habitat for whimbrel, Hudsonian godwit, dunlin, short-billed dowitcher, lesser yellowlegs, and semipalmated sandpiper. Vast tracts of interior forest provide breeding habitat for 20 of 24 Maryland-nesting Forest Interior Dwelling Species (National Audubon Society 2010), some of which are also Birds of Conservation Concern, including wood thrush, Kentucky warbler, scarlet tanager, and whip-poor-will and other habitat specialists such as prairie warbler and red-headed woodpecker. Grasslands and shrublands provide breeding and foraging habitat for the grasshopper sparrow and yellow-breasted chat, and foraging habitat for migrating bobolink.

Large expanses of tidal and non-tidal wetlands provide migrating and wintering habitat for **waterfowl** including Canada geese, mallard, American black duck, Northern pintail, gadwall, American widgeon, ring-necked duck, green-winged teal, lesser and greater scaup, canvasback, redhead, tundra swan, and ruddy duck. Maryland supports one-fourth of the North American ruddy duck population, a large percentage of which winter on the Patuxent River (ACJV 2005). Additionally, forested wetlands and riparian forests in the region provide breeding and wintering habitat for large numbers of wood duck.

The establishment of the Southern Maryland Woodlands NWR would result in positive impacts to wildlife and aquatic species; habitat, vegetation and wetlands; threatened, endangered, and other special status species and their habitats; geology and soils; air quality; cultural resources; socioeconomics; and environmental justice. Habitats protected would benefit native fish and wildlife species; preserve healthy soils; maintain or improve water quality and air quality; and prevent the loss of historical and cultural resources. Southern Maryland communities would most likely see positive economic impacts associated with wildlife-dependent recreation and Environmental Justice communities would accrue the localized benefits of protected open space essential to human wellbeing and quality of life.

Final Land Protection Plan and Environmental Assessment for the Establishment of Southern Maryland Woodlands National Wildlife Refuge

Date: July 23, 2024

This Land Protection Plan and Environmental Assessment (LPP/EA) is being prepared to evaluate the effects associated with the proposed action and complies with the National Environmental Policy Act (NEPA) in accordance with Council on Environmental Quality regulations (40 CFR 1500-1509) and Department of the Interior (43 CFR 46; 516 DM 8) and U.S. Fish and Wildlife Service (550 FW 3) regulations and policies. The NEPA requires examination of the effects of proposed actions on the natural and human environment.

Land acquisition for the National Wildlife Refuge System (Refuge System) is authorized by several laws, including the Endangered Species Act of 1973, as amended (16 U.S.C. 1531-1544); the Migratory Bird Conservation Act (16 U.S.C. 715a-715r); the Fish and Wildlife Act of 1956, as amended (16 U.S.C. 742a-754j-2); the Fish and Wildlife Coordination Act, as amended (16 U.S.C. 661-667e); and the Emergency Wetlands Resources Act of 1986 (16 U.S.C. 3901-3932). The authorities under which refuge lands are acquired are important in that they also create the “purposes” of the individual refuge, which in turn is the benchmark against which compatibility determinations are evaluated.

Proposed Action

The U.S. Fish and Wildlife Service (USFWS, FWS, we, us, our) proposes to create a new refuge called the Southern Maryland Woodlands National Wildlife Refuge (NWR, refuge). The refuge would consist of the Lower Patuxent-Calvert Unit, Nanjemoy-Mattawoman Unit, Zekiah-Wicomico Unit, and McIntosh Run-St. Mary’s Unit (Map 1). The total area encompassed by the proposed refuge acquisition boundary is approximately 577,420 acres. Of these, 169,151 acres are contained in undeveloped parcels of 20 acres or greater, and all of which are located within areas designated by the State of Maryland as Targeted Ecological Areas and/or Green Infrastructure Hubs and Corridors. USFWS acquisition authority within the refuge would be capped at 40,000 acres.

A proposed action may evolve during the NEPA process as the agency refines its proposal and gathers feedback from the public, tribes, and other agencies. Therefore, the final proposed action may be different from the original. The proposed action was finalized at the conclusion of the public comment period for the EA.

Background

National wildlife refuges are guided by the mission and goals of the Refuge System, the purposes of an individual refuge, FWS policy, and laws and international treaties. Relevant guidance includes the National Wildlife Refuge System Administration Act of 1966 (NWRSA), as amended by the National Wildlife Refuge System Improvement Act of 1997, Refuge Recreation Act of 1962, and selected portions of the Code of Federal Regulations and Fish and Wildlife Service Manual.

Additionally, the NWRSAA mandates the Secretary of the Interior in administering the NWRS (16 U.S.C. 668dd(a)(4)) to:

- Provide for the conservation of fish, wildlife, and plants, and their habitats within the Refuge System;
- Ensure that the biological integrity, diversity, and environmental health of the Refuge System are maintained for the benefit of present and future generations of Americans;
- Ensure that the mission of the Refuge System described at 16 U.S.C. 668dd(a)(2) and the purposes of each refuge are carried out;
- Ensure effective coordination, interaction, and cooperation with owners of land adjoining refuges and the fish and wildlife agency of the states in which the units of the Refuge System are located;
- Assist in the maintenance of adequate water quantity and water quality to fulfill the mission of the Refuge System and the purposes of each refuge;
- Recognize compatible wildlife-dependent recreational uses as the priority general public uses of the Refuge System through which the American public can develop an appreciation for fish and wildlife;
- Ensure that opportunities are provided within the Refuge System for compatible wildlife-dependent recreational uses; and monitor the status and trends of fish, wildlife, and plants in each refuge.

This LPP/EA documents several watersheds within the project area exhibiting the conservation values that the FWS and its partners seek to protect. These largely forested habitats remain intact but vulnerable to conversion from expansion of development within the Washington DC metropolitan region. If protected, these watersheds will continue to provide resilience to climate change, conserve waterfowl and other migratory bird habitat, aid in the recovery of listed threatened and endangered species and provide needed outdoor recreational opportunities for the 10 million people who live and work in the Washington-Baltimore metropolitan region.

Purpose and Need for the Action

Consensus is growing around the world that more actions must be taken to conserve biodiversity in order to combat the growing effects of climate change and to sustain humanity. In January 2021, President Biden issued Executive Order (EO) 14008 entitled “Executive Order on Tackling the Climate Crisis at Home and Abroad.” The EO directed the departments of the Interior, Agriculture, and Commerce and the Council on Environmental Quality to issue a report “recommending steps that the United States should take, working with State, local, Tribal, and territorial governments, agricultural and forest landowners, fishermen, and other key stakeholders, to achieve the goal of conserving at least 30 percent of our lands and waters by 2030.” This has become known as the “30x30” initiative.

The report, entitled *Conserving and Restoring America the Beautiful* (AtB Report), was issued in the Spring of 2021, and summarizes the urgent need for action as follows:

“Both globally and nationally, scientists are sounding the alarm about a catastrophic extinction crisis that threatens the biodiversity of our planet and the health of the natural systems that supply our food, water, and other resources. In the U.S., approximately 12,000 wildlife species need

conservation assistance to avoid the threat of extinction. The disappearance of bees and other pollinators is reducing crop yields and threatens food security. Already, there are three billion fewer birds in North America than there were 50 years ago. Critical ocean habitats are declining, including an estimated 90 percent loss of live corals in the Florida Keys over the past 40 years and up to a 90 percent loss of bull kelp off the northern coast of California in less than 10 years. Roughly half of the riparian ecosystems and wetlands in the lower 48 States have already been lost, while more than 17,000 square miles of ranchland and farmland were lost to development or fragmented in the last two decades.”

On April 10, 2023, the Maryland General Assembly set a Statewide goal for Maryland to conserve 30 percent of its lands by 2030 and 40 percent by 2040 through voluntary conservation efforts. The legislation would create a revolving loan fund from which land trusts can borrow in order to secure capital for land conservation projects. The legislation would also authorize grant funding to the Maryland Environmental Trust (MET) to support land conservation efforts such as monitoring and stewardship. The legislation would authorize an additional MET grant program, called the “40 x 40 Land Conservation Implementation Grant Program,” which would provide funding for capacity building and educational conferences and trainings for land trusts in Maryland.

Habitat loss is the greatest threat to biodiversity in the United States. In Maryland, conversion of important natural areas to other land uses is the primary threat to fish and wildlife. More than half the extent of pre-European-contact forests and wetlands in Maryland has been lost. By 1973, 650,000 acres of land in Maryland had been developed. Since then, 1 million acres of land have been developed. While it took 300 years to develop the first 650,000 acres, an additional one million acres was developed in only 37 years.

The AtB Report lists eight principles to guide the work of implementing the 30x30 vision:

Principle 1: Pursue a Collaborative and Inclusive Approach to Conservation.

Principle 2: Conserve America’s Lands and Waters for the Benefit of All People.

Principle 3: Support Locally Led and Locally Designed Conservation Efforts.

Principle 4: Honor Tribal Sovereignty and Support the Priorities of Tribal Nations.

Principle 5: Pursue Conservation and Restoration Approaches that Create Jobs and Support Healthy Communities.

Principle 6: Honor Private Property Rights and Support the Voluntary Stewardship Efforts of Private Landowners.

Principle 7: Use Science as a Guide.

Principle 8: Build on Existing Tools and Strategies with an Emphasis on Flexibility and Adaptive Approaches.

Potential Role of the National Wildlife Refuge System

The USFWS is an agency of the Department of the Interior and is responsible for management of the Refuge System. The mission of the Refuge System is to administer a national network of lands and waters for the conservation, management and, where appropriate, restoration of the fish, wildlife and plant resources and their habitats within the United States for the benefit of present and future generations of Americans. The Refuge System administers lands and waters across the U.S. and territories, including:

- 567 National Wildlife Refuges
- 38 Wetland Management Districts

- 5 Marine National Monuments
- 63 Refuges with Wilderness Areas

Each refuge is established to serve a statutory purpose that targets the conservation of native species dependent on its land and waters. Where consistent with their primary purpose, refuges also offer activities for people, such as:

- Hunting and fishing
- Bird watching and other wildlife observation
- Nature interpretation
- Photography
- Environmental education

The Refuge System has the legal mandate, opportunity, and responsibility to contribute to the AtB initiative.

Authorities and Policy for Establishing or Expanding National Wildlife Refuges

In addition to supporting the AtB initiative, this LPP/EA represents the application and implementation of multiple FWS directives, policies, and planning guidance. The concept of Strategic Habitat Conservation (SHC) has been adopted by the FWS to work with partners to conserve landscapes capable of supporting self-sustaining populations of fish and wildlife, and to address conservation challenges that cross jurisdictional boundaries. In addition, the Refuge System has adopted an approach in which refuge land protection proposals result from participation in Landscape Conservation Design (LCD) efforts, developed by the greater conservation community, and facilitated through multi-partner regional landscape conservation cooperatives. LCD efforts are consistent with SHC and involve the development of a partnership-driven conservation strategy.

These concepts are memorialized in the FWS’s Strategic Growth Policy ([602 FW 5, Strategic Growth Policy, Fish and Wildlife Service Manual \(fws.gov\)](#)). The Strategic Growth policy was an outgrowth of the Service’s 2011 visioning process, *Conserving the Future: Wildlife Refuges and the Next Generation* (USFWS 2011a), and serves to fulfill a directive of the NWRSA of 1966 as amended by the Refuge System Improvement Act of 1997, which directs the Secretary of the Interior to “plan and direct the continued growth of the Refuge System in a manner that is best designed to accomplish the mission of the Refuge System, to contribute to the conservation of the ecosystems of the United States, to complement efforts of States and other Federal agencies to conserve fish and wildlife and their habitats, and to increase support for the Refuge System and participation from conservation partners and the public ...”

The Strategic Growth policy identifies the following priority conservation targets for the strategic growth of the Refuge System:

- 1. Recovery of Threatened and Endangered Species.** We may acquire interests in lands and waters where land acquisition is prescribed in threatened or endangered species recovery plans or subsequent revisions.
- 2. Implementing the North American Waterfowl Management Plan.** We may acquire interests in lands and waters that will contribute toward achieving the waterfowl population objectives that the North

American Waterfowl Management Plan (NAWMP) and associated joint venture step-down management plans have identified.

3. *Conserving migratory birds of conservation concern.* We may acquire interests in lands and waters to conserve groups of migratory birds that are of conservation concern if any of the following plans identify the acquisition as contributing toward achieving population objectives:

- (1) [*The Partners in Flight North American Landbird Conservation Plan*](#),
- (2) [*The United States Shorebird Conservation Plan*](#),
- (3) *The North American Waterbird Conservation Plan*, and
- (4) Associated step-down management plans.

It is the policy of the FWS to purchase interests in land only from willing sellers and to acquire the minimum interest in land necessary to meet refuge objectives. Owning land within a refuge boundary does not impose any additional regulatory burden for landowners.

Authorities

Land acquisition for the Refuge System is authorized by several laws, including the Endangered Species Act of 1973, as amended (16 U.S.C. 1531-1544); the Migratory Bird Conservation Act (16 U.S.C. 715a-715r); the Fish and Wildlife Act of 1956, as amended (16 U.S.C. 742a-754j-2); the Fish and Wildlife Coordination Act, as amended (16 U.S.C. 661-667e); and the Emergency Wetlands Resources Act of 1986 (16 U.S.C. 3901-3932). The authorities under which refuge lands are acquired are important in that they also create the “purposes” of the individual refuge, which in turn is the benchmark against which compatibility determinations are evaluated.

Chronology of This Proposal

In the course of our conservation and restoration work around the country, FWS professionals often discover unprotected lands and waters that support plant and animal species that the FWS has targeted for increased attention due to habitat loss and declining population status. We also encounter conservationists at the local, regional, and State levels, and those who do conservation work for other Federal agencies, who have reached similar conclusions about the ecological values of specific places. The formation of partnerships is a natural outcome of these observations as we seek solutions that will ensure the long-term viability of these areas for their benefits to fish, wildlife, and people. Our collective work is aided by advances in remote sensing of the environment using geographic information systems and miniaturized devices for tracking wildlife movements, among more traditional methods like field-based observations. When the evidence becomes clear that action is necessary to protect important and vulnerable fish and wildlife resources in a specific geography, the FWS works with partners at all levels to assess whether inclusion within the Refuge System is warranted.

This has played out among conservation partners in Southern Maryland over the past decade and this LPP/EA is the outcome of that work. The Director of the FWS approved a Preliminary Project Proposal in 2011 (USFWS 2011b) that represented the first concrete step by the FWS to evaluate and plan for an expanded Refuge System presence in Southern Maryland. Following the 2011 publication of *Conserving the Future: Wildlife Refuges and the Next Generation* the Service developed its Strategic Growth Policy which added the new requirements outlined above for incorporating the concepts of SHC, creating an LCD, and affirming the three priority conservation targets of the FWS (waterfowl, migratory birds of

concern, and listed species). These new requirements were not inconsequential, and it took the FWS and its partners years to prepare an LCD. This expansive work is captured in *A Conservation Design for Patuxent Waters Conservation Area* published in 2018 (USFWS 2018) and appended to this LPP/EA (Addendum). The Patuxent Waters LCD is the foundational work upon which this LPP/EA is based, and the information contained therein will be referenced and summarized in the body of the LPP/EA.

Briefly, this LPP/EA documents several watersheds within the project area exhibiting the conservation values that the FWS and its partners seek to protect, including the three targets that the FWS lays out in its Strategic Growth Policy. These largely forested habitats remain intact but vulnerable to conversion from expansion of development within the Washington, DC metropolitan region. If protected, these watersheds will continue to provide resilience to climate change, conserve waterfowl and other migratory bird habitat, aid in the recovery of listed threatened and endangered species and provide needed outdoor recreational opportunities for the 10 million people who live and work in the Washington-Baltimore metropolitan region.

The process for establishing or expanding a national wildlife refuge is both deliberative and iterative, and it is not unusual for a proposal to take years from concept to establishment. The process is influenced by many factors, including shifts in national priorities, the need to gather and analyze data, funding and staff capacity, species modeling, policy changes and more. Since 2010, FWS staff, working closely with local, regional, and State partners, have been accumulating the information and support necessary to make a formal proposal to establish a new unit of the Refuge System in Southern Maryland. The President's AtB initiative provides the impetus to act now. In this LPP/EA, we propose to create a new unit of the Refuge System to the south of Patuxent Research Refuge. The proposed new refuge is located within and around the southern Patuxent River watershed drainage and is focused around four unique ecosystem features, namely, Mattawoman Creek, Nanjemoy Creek, Zekiah Swamp, and McIntosh Run. We have identified focus area boundaries for each of these four sub-watersheds that contain the highest concentration of fish and wildlife resources that the FWS seeks to conserve within the Southern Maryland landscape.

Purpose

The purpose of this LPP/EA is several-fold:

- To comply with NEPA and FWS policy.
- To inform landowners, tribes, local and State governments, and Federal agencies, non-governmental organizations - especially those who work in natural resource conservation and management - and other interested parties about who, what, where, when, why, and how the proposal would be implemented).
- To clearly state the proposed action of creating a new unit of the Refuge System along with alternatives to the proposed action, including a “no action” alternative to maintain the status quo.
- To describe the human environment of the affected area.
- To analyze and discuss the impacts of the proposed action and alternatives.
- To include a record of consultation and coordination with others past, present and future.
- To identify and prioritize parcels of land within the boundary of the proposed Southern Maryland Woodlands NWR, make this information available to landowners within the proposed boundary, and discuss proposed methods of protection. This is incorporated into the Acquisition Plan in Appendix I.
- To provide sufficient information for the Regional Director, Northeast Region, to determine whether the proposed action will or will not have a significant impact on the human environment.

In planning and implementing this proposal, we will follow the eight principles outlined in the AtB Report and listed on page 9 above.

Alternatives

Introduction

NEPA requires Federal agencies to evaluate a reasonable range of alternatives regarding actions they propose to undertake. Reasonable alternatives are those that are relevant to achieving the purpose and need of the proposal and are feasible for implementation. The development of alternatives allows the FWS to inform and work with landowners, interested citizens, other governmental agencies, and conservation partners to describe actions it proposes. NEPA requires that one of the alternatives must be a “no action” or “status quo” alternative that briefly describes a scenario in which the FWS does not take the proposed action of establishing a new refuge boundary.

In this document, the FWS evaluates two alternatives: No Action and the Proposed Action of establishing a new Refuge boundary or boundaries in Southern Maryland. The FWS considered including a third alternative describing a smaller refuge footprint but concluded that eliminating any of the currently proposed watersheds would reduce the FWS’s ability to work with landowners and partners to conserve habitats that are vital to sustaining populations of the FWS’s targeted fish and wildlife resources. The importance of the watersheds included in the Proposed Action to populations of waterfowl, migratory birds of conservation concern, and threatened and endangered species is well documented. Removing any of the proposed watersheds would lessen the FWS’s ability to work with willing sellers to conserve these habitats, which in turn could result in their unavailability to wildlife from incompatible land use changes.

The Acquisition Plan (Appendix I) describes the procedure used for ranking parcels based on their ecological value and the Refuge System’s Strategic Growth Priorities. The top two highest quality ranking tiers accounted for 44,105 acres. Thus, it was decided to request the authority to purchase interest in 40,000 acres of land over 30 years. Additionally, the FWS also gave considerable attention to the practical limits of the FWS’s proposed acquisition authority of 40,000 acres, as described below in the Proposed Action section. There are many more acres of exceptional habitats within the proposed acquisition boundary that support the FWS’s targeted resources. However, based on the FWS’s history of land acquisition at other refuges in the Northeast, it is likely to take decades to accomplish the initial 40,000-acre goal. For example, the Rappahannock River Valley NWR in Virginia was established in 1996 with a target of 20,000 acres, but only in 2022 did it cross the 10,000-acre threshold. Funding for acquisition of lands or interest in lands from willing sellers is available through two primary sources: the Land and Water Conservation Fund (LWCF) and the Migratory Bird Conservation Fund (MBCF). Given anticipated availability of funds for acquisition via these sources, 40,000 acres is a reasonable and achievable target over the next 30 years. When the limit is reached, and if significant habitats remain unprotected, the FWS may institute a new review that would follow the same public process in which we are currently engaged. Alternatives A (No Action) and B (Proposed Action) are described below, along with maps and other supporting information.

Alternative A – No Action

Under alternative A, there would be no additional FWS acquisition authority to augment current land conservation and outdoor recreation opportunities in Southern Maryland. The FWS would continue to work with landowners and partners using existing programs like the Coastal Program that helps protect and restore habitats on public and private lands. The S FWS’s Office of Conservation Investment would continue to work with the Maryland Department of Natural Resources (MD DNR) to conserve and restore

habitat across the State. No additional lands would be conserved as part of the Refuge System in Southern Maryland, outside of the current Patuxent Research Refuge boundary. Outdoor recreational and environmental educational opportunities provided by the Refuge System in Southern Maryland would be limited to those provided by the Patuxent Research Refuge, which houses the National Wildlife Visitor Center.

Existing legal protections for migratory birds would continue but these protections have been ineffective in stemming steep population declines for many species. The FWS would continue to support research and data collection on migratory birds and publish the results such that partners in Southern Maryland could work with existing public and private land conservation programs and entities to protect migratory bird habitat.

Wetlands used by waterfowl would continue to be protected by local, State, and Federal laws and regulations. Protection of upland buffers adjoining wetlands and other water quality measures that could be afforded by inclusion in the Refuge System would not be realized.

Under Alternative A, land conservation would occur via local zoning and subdivision ordinances, existing State programs and the work of others to conserve habitats used by waterfowl, other migratory birds and threatened and endangered species. Landowners who may wish to improve their lands for wildlife could seek technical expertise or information regarding incentive programs offered by the FWS or its partners to assist in habitat conservation.

Alternative B – Proposed Action

The FWS proposes to create a new refuge called the Southern Maryland Woodlands NWR. The refuge would consist of the **Lower Patuxent-Calvert Unit, Nanjemoy-Mattawoman Unit, Zekiah–Wicomico Unit, and McIntosh Run-St. Mary’s Unit** (Map 1). The total area encompassed by the proposed refuge acquisition boundary is approximately 577,420 acres. Of these, 169,151 acres are contained in undeveloped parcels of 20 acres or greater, and all of which are located within areas designated by the State of Maryland as Targeted Ecological Areas and/or Green Infrastructure Hubs and Corridors. See Chapter 3 for a description of the physical and biological resources of each focus area.

FWS acquisition authority within the refuge would be capped at 40,000 acres. FWS policy is to work with willing sellers only. Those who do not want to sell their land will be under no threat or obligation to do so. It is also FWS policy to acquire the minimum interest in land necessary to meet refuge goals and objectives, making use of conservation easements--an important tool for the FWS and for landowners who wish to conserve their land in perpetuity, but retain ownership.

We have also designated a “Partnership Area” which consists of Southern Maryland lands outside of but adjacent to and between the four refuge Units. Within the Partnership Area, refuge funding sources will not be expended, but the FWS will make a concerted effort to apply Coastal Program and Partners for Fish and Wildlife funding and staffing resources, coordinating and pooling funds and other resources with the Southern Maryland Conservation Alliance and other partners to implement on-the-ground restoration and conservation projects.

Land Conservation Methods

The FWS uses two primary means of land conservation: fee-title acquisition and the use of perpetual conservation easements. This approach offers options for landowners who either want to sell their land outright or wish to retain ownership with voluntary restrictions placed on the land to ensure its availability

for wildlife. It is also consistent with FWS policy of seeking only the minimal level of protection needed to accomplish refuge goals and objectives, and to acquire a FWS interest only from willing sellers.

Easements are often a good fit in working landscapes. Easement interests in land are acquired at market value from willing sellers to accomplish the purposes of the refuge, although easement interests can also be donated by other agencies, organizations, and individuals. The underlying fee title to the property is retained by the landowner, leaving the parcel in private ownership. Easements are best employed by the FWS as a conservation measure when: (1) only minimal land management is needed and there is a desire to ensure the continuation of current land uses while preventing fragmentation over the long term; and (2) a landowner is interested in maintaining ownership of the land, does not want it to be further altered, and would like to realize the benefits of conveying development rights, management rights, and/or public access rights.

Fee title acquisition is the most common tool to conserve lands for the Refuge System in the Northeast Region, under which the FWS would purchase all rights of ownership. This option provides us the greatest flexibility in managing priority lands, ensuring the perpetual protection of nationally significant wildlife trust resources, and providing opportunities to engage the public with wildlife-dependent recreation and education opportunities.

With both fee and easement acquisition, the FWS will make a market value offer to willing sellers based on appraisals conducted by real estate appraisers familiar with the local market at no cost to the landowner. The appraisal is based on comparable sales in the local real estate market and must meet stringent Federal and professional appraisal standards. Once an appraisal has been completed and approved by the Department of the Interior's Appraisal and Valuation Services Office, we can present an offer to the landowner. The FWS is required by Federal law to offer 100 percent of appraised market value for fee or less-than-fee acquisitions; however, we can also accept landowner offers of less than the appraised value via a donation.

Funding

Under Alternative B, we would work in collaboration with landowners, outdoor enthusiasts, public and private conservation partners, and local communities to establish and support the new refuge. Funding is expected to be made available from LWCF and MBCF to acquire land and interests in land. Funds from LWCF are derived primarily from the sale of offshore oil and gas leases while the MBCF is funded by sales of Migratory Bird Hunting and Conservation Stamps (also known as "duck stamps") and import duties on the sales of firearms and ammunition. In fiscal year 2023, \$58,329,000 was allocated to FWS projects from LWCF with \$9,500,000 allocated to four refuge projects in the Northeast Region. At their meeting in September 2022, the Migratory Bird Conservation Commission approved over \$14.7 million in funding for seven refuge projects, one of which was in the Northeast Region.

Land Acquisition Criteria

As noted in Chapter 1, the Refuge System's Strategic Growth Policy ([602 FW 5, Strategic Growth Policy, Fish and Wildlife Service Manual \(fws.gov\)](#)), priority conservation targets are Recovery of Federally Threatened and Endangered Species, Conserving Migratory Birds of Conservation Concern, and Implementing the NAWMP. Under Alternative B, the Service would prioritize conservation of lands that support these strategic growth targets of the Refuge System. A summary of wildlife and other natural resources that would be affected by this proposal can be found in Chapter 3.

With over 169,151 acres of unprotected undeveloped land located within the proposed acquisition boundaries, and authority to protect only 40,000 acres, we needed to develop criteria which we could use

to evaluate and guide acquisition decisions on a parcel-by-parcel basis as willing seller opportunities present themselves. Our criteria are listed below, in order of importance:

1. Lands supporting the USFWS's Strategic Growth Priorities - The FWS's Strategic Growth Policy lists three priorities for conservation: threatened and endangered species, migratory birds in decline, and waterfowl. We would acquire lands that contain or are in close proximity to the greatest overlap of these three priorities.
2. Parcel size and proximity to other protected lands - It is an obvious and well-known ecological principle that larger protected amalgamations of protected land provide greater benefits than smaller isolated parcels. This could also facilitate management partnerships with adjoining landowners.
3. Landscape connectivity - We would give priority to parcels that can potentially provide critical connectivity between two extensive patches of habitat containing target wildlife species.
4. Site Feasibility - We would generally avoid acquisition of commercially zoned properties and approved residential subdivisions due to the higher cost per acre of those properties. We will also typically avoid acquisition within designated Priority Funding Areas (PFAs). PFA's are existing communities and places designated by local governments indicating where they want State investment to support future growth.

Recreational and Educational Opportunities

National wildlife refuges are managed specifically for wildlife and wildlife habitat (See Appendix II – Conceptual Management Plan). While wildlife comes first with regard to management of these lands, public uses are often allowed when they are found to be both appropriate and compatible.

An appropriate use finding is the initial decision-making process a Refuge Manager follows when considering whether to allow a proposed use on a refuge. If a new use is not appropriate, the Refuge Manager will deny the use without determining compatibility.

The Refuge System Improvement Act of 1997 Public Law 105-57; 111 Stat. 1235), lists six wildlife-dependent public uses that are automatically considered to be appropriate uses of the Refuge System. Those uses are hunting, fishing, wildlife observation, wildlife photography, environmental interpretation, and environmental education. While these uses do not require an appropriateness determination, the Refuge Manager must still determine if these uses are compatible (i.e., can be safely performed with existing refuge resources without compromising the refuge's conservation purposes).

As lands are added to the refuge, the Refuge Manager will make a pre-acquisition compatibility determination. The purpose of a pre-acquisition compatibility determination is to inform the public, prior to acquisition, which pre-existing wildlife-dependent recreational public uses would be allowed to continue on newly acquired lands. Pre-acquisition compatibility determinations only apply to wildlife-dependent recreational public uses currently occurring on a subject property and are intended to be short-term in nature, bridging the gap between acquisition of refuge lands and completion of a refuge Comprehensive Conservation Plan (CCP) or step-down plans. Regarding lands the FWS acquires that do not have pre-existing wildlife-dependent recreational public uses, these lands would be closed to the public until a CCP, or a step-down management plan is completed. At such time we would review each parcel that is acquired, and we would manage public uses in accordance with our policies.

In fiscal year 2022, there were over 7.4 million visits to national wildlife refuges in the 13-state Northeast Region, with Patuxent Research Refuge hosting over 190,000 visits. Visitors engaged in a myriad of recreational and educational opportunities, with wildlife observation visits dominating all other uses, both regionally and at Patuxent. Patuxent Research Refuge offers opportunities for all six priority uses of the

Refuge System. At this juncture, it is difficult to state with certainty what uses may or may not be permitted on lands that may be eventually acquired as part of this proposal. Some partners have asked whether we would open newly acquired lands to hunting. We generally open new lands for hunting when we have acquired manageable units and when those units can safely accommodate hunting while not compromising the refuge's purposes. Prior to opening a refuge to hunting, a NEPA analysis must be completed, along with a hunt plan and other compliance documents, including coordination with the State. The following facts demonstrate the FWS's commitment to providing access for hunting and other wildlife-dependent activities on refuge lands:

- Hunting is one of six priority public uses of the Refuge System, as directed by the Improvement Act.
- All six priority uses, including hunting, have been pre-determined to be appropriate uses of refuge lands, thus negating a requirement for an "appropriateness review" to which non-priority uses are subjected.
- Executive Order 13443, Facilitation of Hunting Heritage and Wildlife Conservation, directs DOI and its component agencies, bureaus, and offices "to facilitate the expansion and enhancement of hunting opportunities and the management of game species and their habitat."
- As a local example, Patuxent Research Refuge is currently open to big game, upland game, waterfowl, and other migratory bird hunting.

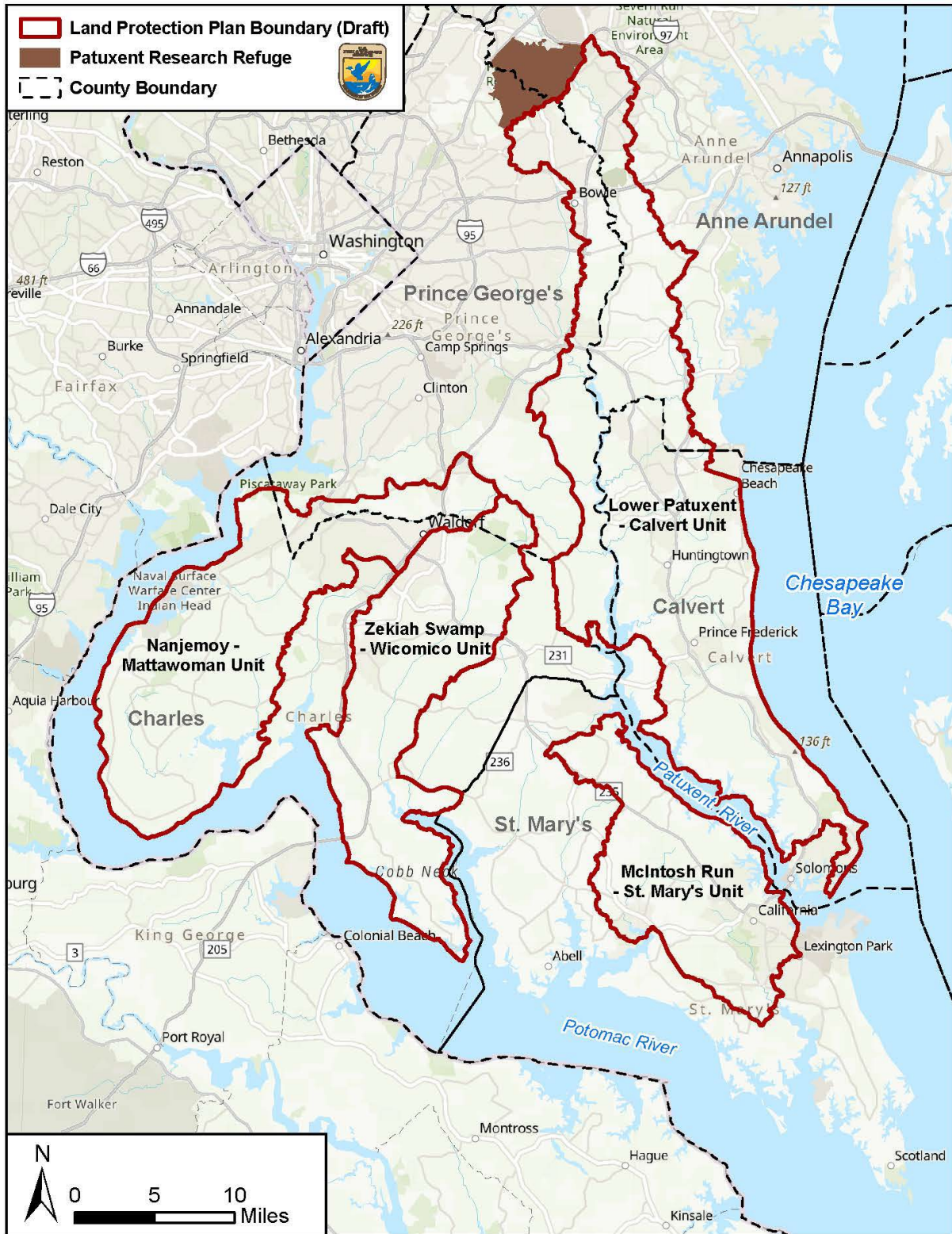
Staffing

In the Northeast, it is typical when new refuges are established, or major expansions occur, for the newly acquired lands to be managed from the nearest existing refuge until sufficient lands are acquired to warrant establishing a new refuge headquarters with assigned staff. The timing of when this could occur is a management decision based on several factors, the most important of which is the level of appropriated operational funds from Congress. Other factors include the need for active habitat management (such as invasive species control, prescribed burning, mowing, thinning, etc.), public need and demand for additional educational or recreational programming, and availability of suitable infrastructure such as a headquarters and maintenance facility. The nearest staffed refuge (by land) to the proposed boundary area is Patuxent Research Refuge. The Potomac River NWR Complex is also nearby but is in Virginia across the Potomac River and, therefore, logistically unfeasible as a permanent or temporary headquarters.

Refuge Revenue Sharing

The Federal Government does not pay State or local taxes for its fee lands. However, the FWS annually reimburses localities to compensate for the lost revenue of real estate tax, based on a formula that is the greater of: 75 cents per acre; three-fourths of one percent of the fair market value; or 25 percent of the net receipts collected from operation and management of the refuge. Payments to localities are subject to annual appropriations by Congress. In Fiscal Year 2022, Congress appropriated \$13,228,000 for Refuge Revenue Sharing, which allowed the Service to pay localities 21.7 percent of what would constitute full payment under the formulas described above. Congress may appropriate additional funds to compensate local governments. Other economic benefits typically associated with refuge lands include increased tourism, improved property values adjacent to the refuge, preservation of ecosystem services, and enhanced consideration for Federal, State, and other grant programs to name a few. For more information on Refuge Revenue Sharing see: <https://www.fws.gov/program/land-acquisition-and-realty/revenue-sharing>.

Map 1. Proposed Southern Maryland Refuge Acquisition Boundary



Affected Environment and Environmental Consequences

This section is organized by affected resource categories and for each affected resource discusses both (1) the existing environmental and socioeconomic baseline in the action area for each resource and (2) the effects and impacts of the proposed action and any alternatives on each resource. The effects and impacts of the proposed action considered here are changes to the human environment, whether adverse or beneficial, that are direct, indirect, or cumulative. This EA includes the written analyses of the environmental consequences on a resource only when the impacts on that resource could be more than negligible and therefore considered an “affected resource.” Any resources that will not be more than negligibly impacted by the action have been dismissed from further analysis.

The following resources either (1) do not exist within the LPP Area of Interest (AOI), (2) are addressed under other headings, or (3) would either not be affected or only negligibly affected by the proposed action:

- Floodplains – Floodplains are addressed below in the Water Quality, Geology and Soils, and Climate Change Sections.
- Wilderness or other special designations – There are no wilderness areas in the AOI and special designations, such as Audubon Important Bird Areas (IBAs) are considered below in the Natural Resources Section.
- Visitor use and experience; Refuge Management and Operations; and Administration – As the refuge has yet to be established, there are currently no effects to visitor use, refuge operations, or refuge staffing and other administrative topics to describe and analyze.

Natural Resources

Terrestrial Wildlife, Aquatic Species, Habitat, and Vegetation

Affected Environment

Description of Affected Environment for the Affected Resource

The landscape of Maryland’s Coastal Plain region is characterized by a broad plain with gently sloping watersheds, except where stream erosion has created steep slopes. Upland forests are dominated by beech, several species of oak, tulip poplar, hickory, and red maple (TNC 2002). Floodplains support sweet gum, red maple, and tulip poplar, with sycamore, birch, and ironwood found along stream edges. Freshwater emergent marshes are comprised of pickerelweed, arrow arum, spatterdock, smartweed, wild rice, rose mallow, and cattails. Depending on salinity and elevation, brackish and saltwater marshes are dominated by *Spartina sp.*, saltgrass, black needle rush, three-square, cattails, marsh elder, and groundsel bush.

In 2002, a Nature Conservancy (TNC) land cover analysis (TNC 2002) for the Maryland portion of the Coastal Plain west of the Chesapeake Bay determined that the coarse land use breakdown was 56 percent natural land and 40 percent developed (includes agriculture). A finer scale analysis of the same data reveals that the land cover is as follows: 49 percent upland forest; 6.7 percent forested and emergent wetland; 4 percent barren land, quarry, and grassland; 19 percent residential, industrial, and commercial development; and 21 percent agriculture. More recent data from the Maryland Department of Planning (2010) showed that 1.6 million acres or 27 percent of the total land area of Maryland is developed. Between 1973 and 2010, 1 million acres of farmland and forest in Maryland were lost to development

(MDP 2010). Percent forest cover in the five counties that comprise the AOI as determined from 2018 data was 47 percent, where percent forest cover accounted for 42 percent of the State’s land surface (Minnemeyer et al. 2022). Maryland forests are declining in health due to fragmentation, invasive species, and the predominance of mature even-aged stands subject to disease and decline (Minnemeyer et al. 2022). From 2001 to 2019, development was the major cause of forest loss (Minnemeyer et al. 2022).

Maryland’s rich diversity in plant and animal life, landforms, vegetation communities, and aquatic resources is owed to the spanning of four geophysical provinces, the State’s position in the Mid-Atlantic Coastal Plain, and climate. The landscape within the proposed acquisition boundaries contains 29 of Maryland’s 59 Key Wildlife Habitats as identified in the State Wildlife Action Plan (SWAP) (MD DNR 2016a; Table 1). Decades before the SWAP, however, over a dozen of Maryland’s natural areas were already targeted for preservation by naturalists and conservationists as prime examples of eastern oak-pine forest and associated wetlands. This vast vegetation community type, as classified and described by Braun (1950), is dominant among Maryland’s forest types. It extends from southern New Jersey (including the Pine Barrens) south through the coastal plain to north of the James River before angling southwest toward Mississippi and east Texas.

Table 1: KEY WILDIFE HABITATS WITHIN THE PROPOSED ACQUISITION BOUNDARIES (MD DNR 2016)

Terrestrial	County Distribution within Project Area
Basic and Mixed Mesic Forest	All counties
Coastal Plain Oak Pine	All counties
Coastal Plain Pitch Pine	Ann Arundel, Prince George’s
Coastal Bluff	Calvert, Charles
Coastal Beach	Ann Arundel, St. Mary’s, Calvert
Early Successional Forest	All counties
Managed Grassland	All counties
Wetland and Aquatic	County Distribution within Project Area
Coastal Plain Floodplain	All Counties
Coastal Plain Flatwood & Depression Swamp	All Counties
Coastal Plain Seepage Swamp, Bog/Fen, Magnolia Bogs	All Counties
Vernal Pool	All Counties
Tidal Forest	All Counties
Tidal Freshwater Marsh/Shrubland	Ann Arundel, Calvert, Charles, Prince George’s
Tidal Brackish Marsh/Shrubland	Ann Arundel, Calvert, Charles, St. Mary’s
Tidal Saltmarsh/Shrubland	St. Mary’s
Coldwater Streams	Ann Arundel
Coastal Plain and Blackwater Streams	All Counties
Coastal Plain Rivers	All Counties

The **Patuxent River** is 115 miles in length and is the longest river contained within the State of Maryland. The Patuxent River drains 612,425 acres of Central and Southern Maryland, eventually discharging into the Chesapeake Bay north of the mouth of the Potomac River. **Mattawoman Creek** flows for 27 miles through Prince George's and Charles Counties before emptying into the Potomac River south of Washington, DC. The Mattawoman Creek watershed is 62,192 acres in size. The 49,323-acre **Nanjemoy Creek** watershed is directly adjacent to and south of Mattawoman Creek and also flows into the Potomac River. **Zekiah Swamp Run** flows 20 miles through Charles County before discharging into the Wicomico River, a tributary to the Lower Potomac. The watershed is 69,904 acres in size. **McIntosh Run**, located in central St. Mary's County, drains a 21,196-acre watershed that flows into Breton Bay on the Potomac River.

Lower Patuxent-Calvert Unit (195,500 Acres)

The headwaters of the Patuxent River begin in the Piedmont Province of Maryland in northern Howard and Montgomery Counties. The upper Patuxent River watershed supports trout streams and two large drinking water reservoirs. Beginning several miles below the Patuxent Research Refuge, the river is transformed into a large tidal freshwater ecosystem in the vicinity of the Jug Bay Wetlands Sanctuary (Map 2). The river and its habitat become increasingly more brackish between Jug Bay and the river mouth on the Chesapeake Bay between Calvert and St. Mary's Counties. Recently, a group of public and private partners including the MD DNR and the Trust for Public Land joined forces to establish a Patuxent River Greenway to link existing natural areas. The Lower Patuxent-Calvert Unit extends from the southern border of Patuxent Research Refuge, following the Patuxent River Valley in Anne Arundel and Prince Georges Counties, expanding to the east in Calvert County to include the Chesapeake Bay shoreline.

The Patuxent Research Refuge supports a wide diversity of wildlife in forest, meadow, and wetland habitats. Approximately 75 percent of the refuge is forested with pine and mixed hardwoods on the uplands and maple, sweetgum, and tulip poplar in the bottomlands. During fall and spring migration, many waterfowl species stop to rest and feed on the refuge. Over 270 species of birds occur on the refuge. Bald eagles are occasionally seen feeding on the refuge. The refuge is one of the largest forested areas in the mid-Atlantic region and provides critical breeding habitat and wintering habitat for these species. Designated as an Important Bird Area (IBA) by Audubon, the refuge supports one of the most diverse communities of forest interior dwelling species (FIDS) in the Maryland Coastal Plain, with 20 known breeding species, including wood thrush, Kentucky warbler, and prairie warbler (National Audubon Society 2010). Additionally, the refuge supports the largest population of whip-poor-wills, a USFWS Bird of Conservation Concern, in central Maryland.

Further downstream in the tidal freshwater portion at the mid-point of the river is an 8,500-acre complex of protected State and local government lands at Jug Bay. The product of a partnership between Anne Arundel County, Prince Georges County, the MD DNR, and the National Oceanic and Atmospheric Administration (NOAA), the Jug Bay Wetlands Sanctuary is part of the National Estuarine Research Reserve System. The Final Management Plan for Jug Bay (MD DNR 2008) calls for a boundary expansion of 1,836 additional acres. Designated as an IBA by Audubon, the Jug Bay area supports 120 breeding bird species, the greatest number in Maryland. The emergent wetlands of Jug Bay attract the greatest number of migrating rails in North America, including the State-listed sora rail (National Audubon Society 2010). An average of 12,000 migratory waterfowl, including Canada geese, mallard, American black duck, Northern pintail, and green-winged teal, winter in the area. The Smithsonian Institution considers Jug Bay to be one of Maryland's ten most unique ecological communities. There are

15 State-listed plants and animals in the Sanctuary and its tidal hardwood swamp community is globally vulnerable, with only 100 known occurrences worldwide (Friends of Jug Bay 2010).

Extending south from Jug Bay to the Chesapeake Bay is the Atlantic Coast Joint Venture's (ACJV) Patuxent River Waterfowl Focus Area. With its extensive freshwater marshes, the Patuxent River received special recognition from the ACJV primarily due to its importance to migrating sora rails and wintering ruddy ducks. Maryland supports one-fourth of the North American ruddy duck population, a large percentage of which winter on the Patuxent River (ACJV 2005). Other species supported in the Patuxent River Focus Area include wintering American black duck, bufflehead, Canada goose, scaup, and tundra swan, as well as breeding least bittern, American bittern, Virginia rail, and king rail (ACJV 2005). The extensive and relatively intact riparian corridor along the river supports large numbers of breeding and migrating songbirds.

Cliffs and beaches along the Chesapeake Bay shoreline of Calvert County provide breeding and foraging habitat for the federally threatened Puritan and Northeastern beach tiger beetles. Much of the Calvert County shoreline is extremely significant for terrestrial and aquatic biodiversity conservation because of the eroding cliff features and adjacent beaches that support these federally listed insects (MD DNR 2016). Another area of high biodiversity significance is Parkers Creek, which supports over 5,000 acres of contiguous forest and is the last mostly undeveloped watershed on the western shore of the Chesapeake Bay in Maryland (Audubon Maryland-DC 2016a). Parkers Creek is also an IBA which supports 18 of Maryland's 24 forest interior nesting bird species, including the wood thrush and Kentucky warbler (Audubon Maryland-DC 2016a).

Nanjemoy-Mattawoman Unit (141,800 acres)

TNC has identified a 48,000-acre block of contiguous forestland in the Nanjemoy Creek watershed as a priority for land protection and restoration (Map 2). Approximately 80 percent of the watershed is forested, with over 5,400 total acres protected as part of TNC's Nanjemoy Creek Preserve and the Nanjemoy Creek Natural Resources Management Area.

Most of the forests in the watershed consist of mature trees with small pockets of young pine and oak-pine woodlands. Much of the mature forest is comprised of deciduous trees including oak and hickory. Within this assemblage are scattered mixed deciduous - coniferous forests and pure stands of loblolly and Virginia pine (Audubon Maryland-DC 2016b). Tidal emergent and forested wetlands are scattered along the Nanjemoy Creek mainstem and tributaries. These habitats support numerous rare plant species. The habitat complexity and diversity within the watershed results in high faunal diversity, including a rich diversity of migratory bird species. Additionally, the high-quality waters of Nanjemoy Creek support one of the two most viable populations of the federally endangered dwarf wedgemussel.

Audubon identified six at-risk bird species in the watershed, including the bald eagle, whip-poor-will, wood thrush, prairie warbler, prothonotary warbler, and worm-eating warbler, one of the State's most area sensitive species (Audubon Maryland-DC 2016b). An Audubon IBA, the Nanjemoy Creek watershed, supports 20 of 24 FIDS species known to nest in Maryland.

The Mattawoman Creek watershed is a hotspot for terrestrial and aquatic biodiversity and productivity, supported by significant tidal and non-tidal wetlands, extensive forest cover, and high-quality streams. Mattawoman Creek is the Chesapeake's most productive anadromous fish nursery with high overall

productivity for American shad, hickory shad, white perch, blueback herring, and alewife (Carmichael et al. 1992).

A gap analysis report (USFWS 2006) assigned high value to the riparian forested areas in the Mattawoman Creek area. The headwaters of Mattawoman Creek are important for reptile and amphibian species richness. Riparian corridors of Mattawoman Creek are important for rare amphibian species and for rare bird species due to the large blocks of unbroken forest. The Mattawoman Creek watershed also has two magnolia bogs, which are considered globally imperiled (G1) habitat endemic to the mid-Atlantic (Nature Serve 2023).

Audubon Maryland-DC (2016c) identified Mattawoman Creek as an IBA and through surveys conducted during the summer of 2009 found that the area supports a high diversity of FIDS with 20 recorded out of 24 possible on Maryland's Coastal Plain. Red-headed woodpecker, wood thrush, prairie warbler, and Kentucky warbler were observed in the Mattawoman Creek watershed. These birds are on the Birds of Conservation Concern list (USFWS 2021) developed by the FWS. Additionally, prairie warbler, American black duck, prothonotary warbler, Acadian flycatcher, and Kentucky warbler were identified as priority bird populations needing conservation efforts in the Partners in Flight Mid-Atlantic Coastal Plain plan (Rich et al. 2004). The watershed also supports a large breeding population of wood ducks.

Zekiah Swamp–Wicomico Unit (106,300 acres)

Zekiah Swamp is the largest hardwood swamp in Maryland and is one of the most ecologically significant watersheds in the Chesapeake Bay (Map 2). Accordingly, this extensive complex of swamp forest, shrub swamps, grass and sedge savannahs, snag-filled pockets of emergent wetlands, and beaver ponds has received the designation of Wetlands of Special State Concern (Maryland Natural Heritage Program 1996). The Smithsonian Institution also has identified the 20-mile-long braided swamp as one of the most ecologically important wetlands on the East Coast.

In its analysis of freshwater stream and river biodiversity, based on species rarity, biological integrity, and migratory fish density, the MD DNR identified Zekiah Swamp as the highest-ranking watershed in the State. Because it is necessary for species survival in the State, Zekiah Swamp has been designated a stronghold watershed for five fish species of greatest conservation need, including ironcolor shiner (State endangered), flier (State threatened), bluespotted sunfish, swamp darter, and warmouth. The watershed also supports five reptile and amphibian species of greatest conservation need. One small tributary to Zekiah Swamp, Piney Branch Bog, supports nine State listed plant species, including the State endangered and globally rare New Jersey rush.

Audubon Maryland-DC (2016d) recorded breeding populations of seven at-risk bird species in Zekiah Swamp, including the prothonotary warbler, Kentucky warbler, Louisiana waterthrush, prairie warbler, wood thrush, red-headed woodpecker, and bald eagle. The watershed also was found to have a high breeding FIDS biodiversity, with 17 out of 24 potential Maryland coastal plain nesters recorded.

McIntosh Run–St. Mary's Unit (84,420 acres)

The McIntosh Run watershed is currently one of the most ecologically intact watersheds remaining in Maryland, containing large blocks of contiguous forest, which provide habitat for FIDS and other wildlife in addition to ensuring that water quality in the stream is adequate to support the federally endangered

dwarf wedgemussel and other aquatic life (Map 2). One of the key recovery actions identified in the dwarf wedgemussel recovery plan is the preservation of mussel populations and occupied habitats in McIntosh Run (USFWS 1993). In addition to the mussel, wetland herbaceous communities associated with forested bottomlands along McIntosh Run and tributaries contain 12 State-listed species, including flier, the eastern narrow-mouthed toad, and 10 rare plant species (Motivans 1999). McIntosh Run and its tributaries have healthy riparian zones and forested buffers along most of their length. Approximately 8 percent of the watershed consists of mature hardwood forest (Motivans 1999). The bulk of this mature forest is in the bottomlands associated with the mussel population.

According to Audubon MD-DC (2016e), the upper St. Mary's River watershed located within the McIntosh Run-St. Mary's Unit are an IBA and contain a large 13,936-acre block of oak-hickory, mixed conifer, and oak-pine forestland that supports 19 out of 24 FIDS that breed in the Maryland Coastal Plain (Audubon Maryland-DC 2016e). These include the at-risk wood thrush, worm-eating warbler, and prairie warbler. Primarily because of this dense undeveloped forest block, the upper watershed of the St. Mary's River is considered by the MD DNR Natural Heritage Program to be highly significant for terrestrial and freshwater biodiversity conservation (MD DNR 2016).

Description of Cumulative Impacts, Environmental Trends, and Planned Actions

In general, native habitat protection and varying levels of management (including both active and "passive" management) would have cumulative beneficial impacts on the biological environment, even and especially when considered within the context of past, present, and future actions of other agencies and organizations. Native habitat protection and management cumulatively benefits the biological environment by increasing and enhancing healthy soil biota, restoring, and enhancing native plant resources, potentially increasing resident wildlife populations of mammals, fish, reptiles, and amphibians, and enhancing invertebrate populations such as dragonflies and pollinators. Cumulative beneficial impacts on adjacent protected lands would also accrue from reducing habitat fragmentation across the watershed landscape through refuge land protection activities.

There would be no cumulative adverse effects to biological resources under either of the alternatives because the changes in habitat components that we would manage for would, on balance, be beneficial. Habitat enhancement and restoration activities under Alternative B would limit any potential adverse cumulative effects on the biological environment by careful employment of best management practices.

Impacts on Affected Resource

Alternative A

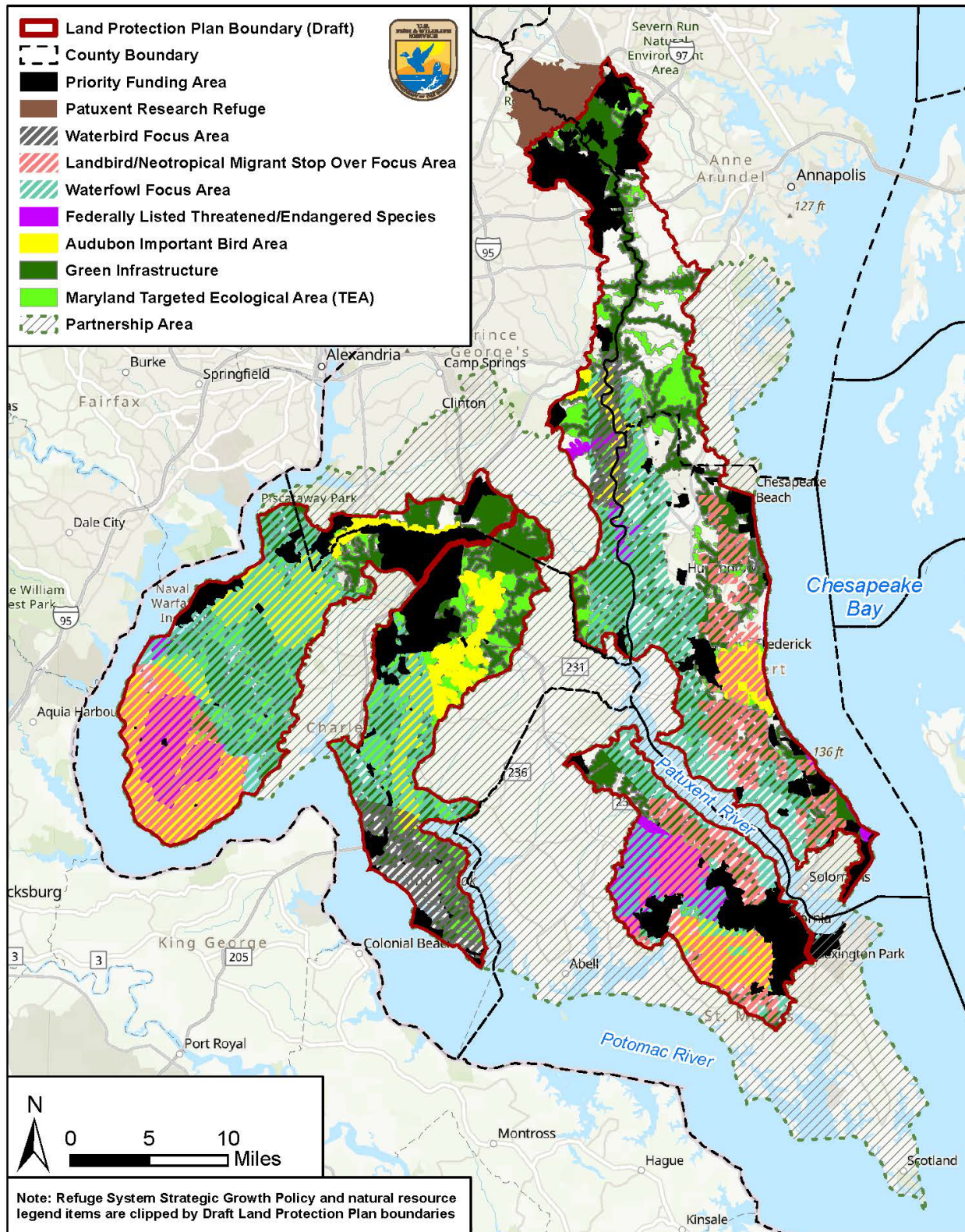
Under the No Action Alternative, benefits to habitat within the four proposed units in Area of Interest are not expected. Given past actions and land use trends, it is anticipated that human population growth, development, and other land use changes would continue. Within the AOI, native habitats and natural systems would continue to be converted to developed lands and other uses, resulting in continued loss of natural vegetation, and further fragmenting existing habitat. It is likely that the acreage of forests, wetlands, and other native habitats would continue to decline. Overall, alternative A is expected to result in moderate adverse impacts to habitat.

Alternative B

Under the proposed action, up to 40,000 acres of land would be conserved and managed for fish and wildlife habitat. It will likely take many years before that amount of land is conserved as part of the refuge. Overall impacts to native habitat would be positive as land that is protected would not be developed for residential or commercial uses. The amount of each specific type of habitat would change over time due to natural succession and through habitat improvements. We conclude that the overall effect on habitats would be minor and positive. Invasive species would be managed in areas owned in fee or easement, where appropriate. The native vegetation within these areas would likely benefit from the control of invasive plants that tend to dominate areas and inhibit native plant growth. Some management activities, including invasive species control, would have short-term adverse impacts on vegetation, such as removal of plants, herbicide use, trampling, and other potential damage to plant structure. These short-term negative impacts would be minor and would be offset by providing long-term benefits to the diversity and health of the refuge's native plant community.

Forest management would reduce certain tree species through intentional thinning with mechanical treatments or prescribed burning. Any species targeted for removal within a vegetation type would likely decline in order to favor other plant species. Additional impacts to vegetation would occur within the areas designated as fire breaks where vegetation is removed and maintained for the prevention of wildfires and for the use during prescribed burning efforts. These adverse impacts are expected to be short-term and minor.

Map 2. Proposed Southern Maryland Refuge Acquisition Boundary with Refuge System Strategic Growth Policy and other Natural Resource Priorities



Threatened and Endangered Species, and Other Special Status Species

Affected Environment

Description of Affected Environment for the Affected Resource

The Refuge System's Strategic Growth Policy priority conservation targets (602 FW 5) are Recovery of Federally Threatened and Endangered Species, Conserving Migratory Birds of Conservation Concern, and Implementing the NAWMP. The priorities for the growth of the Refuge System are the principal priorities for this refuge establishment project (Map 2). **Federally listed species** that occur within the AOI include the federally endangered dwarf wedgemussel, which benefits from the high-water quality in Nanjemoy Creek and McIntosh Run. Federally endangered Atlantic and shortnose sturgeon forage in the Potomac River and at the mouths of several Potomac River tributaries, including Mattawoman Creek, Nanjemoy Creek, and Zekiah Swamp. Cliffs and beaches along the Chesapeake Bay shoreline provide breeding and foraging habitat for the federally threatened Puritan and Northeastern beach tiger beetles. Extensive forests throughout the region provide roosting habitat for the federally threatened long-eared bat. For an LPP/EA to fully address the Refuge System Strategic Growth Policy in regard to listed-species, recovery plans for listed species found within the proposed acquisition boundaries should identify land acquisition as a recovery task necessary to achieve recovery goals and objectives. Recovery plans for the dwarf wedgemussel, Puritan tiger beetle, and Northeastern beach tiger beetle include land acquisition as a recovery task (USFWS 1993a, USFWS 1993b, and USFWS 1994).

Forests, fields, and wetlands within the proposed acquisition boundaries support numerous **Birds of Conservation Concern**. Extensive freshwater and brackish emergent wetlands and associated mudflats provide breeding and foraging habitat for willet, king rail, saltmarsh sparrow, and least tern, and foraging habitat for whimbrel, Hudsonian godwit, dunlin, short-billed dowitcher, lesser yellowlegs, and semipalmated sandpiper. Vast tracts of interior forest provide breeding habitat for 20 of 24 Maryland-nesting FIDS (National Audubon Society 2010), some of which are also Birds of Conservation Concern, including wood thrush, Kentucky warbler, scarlet tanager, and whip-poor-will and other habitat specialists such as prairie warbler and red-headed woodpecker. Grasslands and shrublands provide breeding and foraging habitat for the grasshopper sparrow and yellow-breasted chat, and foraging habitat for migrating bobolink.

Large expanses of tidal and non-tidal wetlands provide migrating and wintering habitat for **waterfowl** including Canada geese, mallard, American black duck, Northern pintail, gadwall, American widgeon, ring-necked duck, green-winged teal, lesser and greater scaup, canvasback, redhead, tundra swan, and ruddy duck. Maryland supports one-fourth of the North American ruddy duck population, a large percentage of which winter on the Patuxent River (ACJV 2005). Additionally, forested wetlands and riparian forests in the region provide breeding and wintering habitat for large numbers of wood duck.

Description of Cumulative Impacts, Environmental Trends, and Planned Actions

In general, native habitat protection and varying levels of management (including both active and "passive" management) would have cumulative beneficial impacts on federally listed species, Birds of Conservation Concern, waterfowl, and their habitat, even and especially when considered within the context of past, present, and future actions of other agencies and organizations. Native habitat protection and management cumulatively benefits the biological environment by increasing and enhancing healthy soil biota, restoring, and enhancing native plant resources, potentially increasing resident wildlife

populations of mammals, fish, reptiles, and amphibians, and enhancing invertebrate populations such as dragonflies and pollinators. Cumulative beneficial impacts on adjacent protected lands would also accrue from reducing habitat fragmentation across the watershed landscape through refuge land protection activities.

There would be no cumulative adverse effects to federally listed species, Birds of Conservation Concern, waterfowl, and their habitat under either of the alternatives because the changes in habitat components that we would manage for would on balance be beneficial. Habitat enhancement and restoration activities under alternative B would limit any potential adverse cumulative impacts effects on the biological environment by careful employment of best management practices. When managing habitats that are used by Federally listed species, we would follow recovery plan guidelines.

Impacts on Affected Resource

Federally Listed Species

Alternative A

Under the no action alternative, habitat for federally listed threatened and endangered species would continue to decline in quality and quantity. Water quality in Nanjemoy Creek and McIntosh Run, inhabited by the federally endangered dwarf wedgemussel, would most likely decline as forests and other natural habitats are cleared for development. As a result, we could see declines or more rapid reductions in both populations. Similarly, the federally endangered Atlantic and shortnose sturgeon could see reduced water quality in their riverine foraging and breeding grounds. Reduction in forest cover associated with development will eliminate roosting habitat for the federally threatened long-eared bat. Without the creation of the Lower Patuxent-Calvert Unit, cliffs along the Calvert County shoreline of the Chesapeake Bay will continue to be developed, resulting in shoreline protection measures that destroy beach and cliff habitat needed by the Puritan and Northeastern beach tiger beetles for reproduction and foraging. Impacts to the sturgeon species and the long-eared bat would be minor since those species can easily move to less disturbed habitat. Since the tiger beetles are less mobile, they could suffer moderate impacts that include construction induced mortality of larvae. The dwarf wedgemussel populations could see major impacts, leading to localized extinction should forested and wetland habitat destruction result in reduced water quality in Nanjemoy Creek and McIntosh Run.

Alternative B

With the establishment of the proposed refuge, 40,000 acres of fish and wildlife habitat will ultimately be protected and managed in such a way as to benefit federally listed species, which are one of the Refuge System's Strategic Growth Priorities. Protection and management of forests, wetlands, grasslands, and other native habitats will benefit both terrestrial and aquatic listed species. Additionally, refuge management can also entail instream and riparian stream restoration and protection. FWS ownership/management of land will enable refuge biologists to have direct access to federally listed species and their habitat where they can more easily work to improve habitat conditions and monitor population health. Forests and wetlands upstream and surrounding dwarf wedgemussel populations in Nanjemoy Creek and McIntosh Run will be targeted for protection to improve and maintain water quality in those stream reaches. Similarly, riverine foraging habitat for the Atlantic and shortnose sturgeon, will

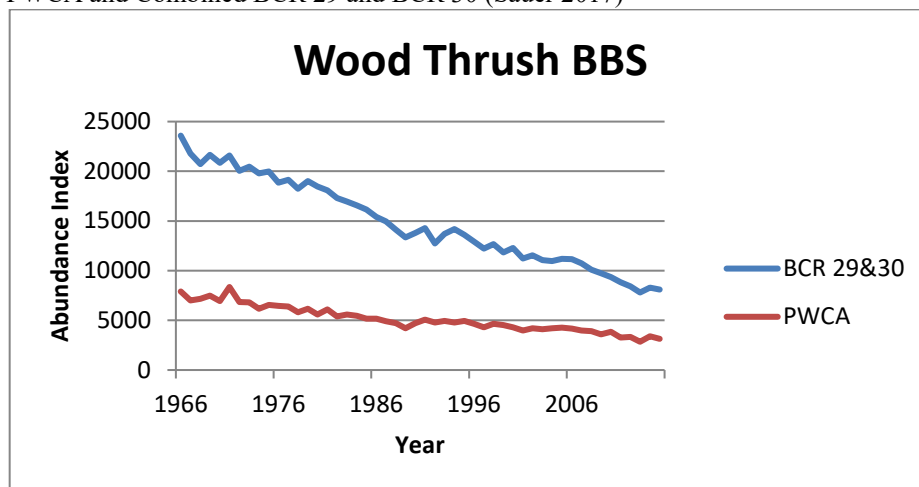
benefit from the protection of terrestrial and wetland habitat upstream. Protection of large blocks of forests will also benefit long-eared bats by providing roosting habitat in perpetuity. Protecting land on the Calvert County cliffs from residential development will allow the natural processes of freeze and thaw erosion necessary for the lifecycle of the Puritan tiger beetle to continue. The elimination of the need for shoreline protection measures will also protect breeding habitat for the Northeastern beach tiger beetle and beach foraging habitat for both federally threatened tiger beetle species. Protection of 40,000 acres in such a large geographic area will only have minor positive impacts for federally threatened and endangered species, except for the dwarf wedgemussel, where moderate positive impacts can be expected, since those populations are small and relatively immobile.

Birds of Conservation Concern

Alternative A

Under the no action alternative, habitat, particularly forested habitat, would continue to decline in quality and quantity. This will be manifested in corresponding declines in forest interior dwelling Birds of Conservation Concern like the wood thrush. As part of the 2018 Landscape Conservation Design (USFWS 2018) for the Patuxent Waters Conservation Area (PWCA), John Sauer of the USGS Patuxent Wildlife Research Center (2017) used Breeding Bird Survey (BBS) data to construct annual indices of abundance for 14 bird species that occur within and outside the PWCA boundary. These indices can be used to understand the contribution that the conservation goals of the PWCA would make and to develop a monitoring plan to understand bird population changes over time within the PWCA. In the case of the wood thrush, as evidenced in the following graph of relative abundance over time, the area covered under the LCD supports 39 percent of the wood thrush in the combined BCRs 29 and 30, while only encompassing 27 percent of the total area of the combined BCRs. This may be even more pronounced in the AOI, since the LCD included urban and agricultural lands to the north of Patuxent Research Refuge that are not included in this LPP/EA. Since wood thrush is considered a species representative of forested habitat and the species that breed in that habitat, this is an indication of the importance of Southern Maryland forests to FIDS.

Figure 1. Comparison of Wood Thrush Relative Abundance over time between PWCA and Combined BCR 29 and BCR 30 (Sauer 2017)



Birds of grasslands and early successional habitat such as the meadowlark, bobwhite, and woodcock, are declining precipitately across their range (NABCI 2022). The Refuge System is dedicated to restoring and managing habitat for these birds. Without a refuge presence on 40,000 acres, we expect that there will be less management for grassland/early successional habitat should the land remain in private ownership. Since the Refuge System proposes to protect only 40,000 acres within the larger AOI, we expect only moderate negative impacts to Birds of Conservation Concern should a refuge not be established in Southern Maryland, since the State, NGOs, and other FWS programs will most likely continue some baseline level of land protection in the Region.

Alternative B

With the establishment of the proposed refuge, 40,000 acres of fish and wildlife habitat will ultimately be protected and managed in such a way as to benefit Birds of Conservation Concern, which are one of the Refuge System's Strategic Growth Priorities. Protection of large tracts of interior forest will provide breeding habitat for 20 of 24 Maryland-nesting FIDS (Audubon 2016 a,b,c,d,e), some of which are also Birds of Conservation Concern, including wood thrush, Kentucky warbler, scarlet tanager, and whip-poor-will and other habitat specialists such as prairie warbler and red-headed woodpecker. Protection and restoration of extensive freshwater and brackish emergent wetlands will provide breeding and foraging habitat for king rail, willet, saltmarsh sparrow, and least tern, and foraging habitat for lesser yellowlegs and semipalmated sandpiper. Farm fields and other open lands can be restored and managed for grassland and early successional habitat-nesting birds like the grasshopper sparrow and yellow breasted chat. Since the Refuge System proposes to protect 40,000 acres within the larger AOI, we expect moderate positive impacts to populations of Birds of Conservation Concern should a refuge be established in Southern Maryland, since the State, NGOs, and other FWS programs will most likely continue to protect land in the region that would be additive to a refuge presence.

Waterfowl

Alternative A

The Refuge System has a long history of managing habitat for waterfowl. This a major reason why geese, swans, dabbling ducks, and diving ducks have seen population increases since 1970 while other bird guilds have seen drastic declines (NABCI 2022). Without the establishment of a refuge on 40,000 acres, waterfowl populations will see minor impacts due to habitat alteration and reduced water quality. Wetlands otherwise protected by the FWS could be adversely affected by neighboring land conversion and further buildout of 40,000 acres in the AOI could result in reduced water quality in rivers and streams where waterfowl forage. This may have minor impacts on the availability of sources of food. Maryland supports one-fourth of the North American ruddy duck population, a large percentage of which winter on the Patuxent River (ACJV 2005). Degraded water quality resulting from development could have minor implications for the continental ruddy population.

Alternative B

With the establishment of the proposed refuge, a sizable portion of the 40,000 acres of fish and wildlife habitat will ultimately be protected and managed in such a way as to benefit waterfowl, which are one of the Refuge System's Strategic Growth Priorities. With a refuge presence it is expected that tidal and non-tidal wetlands will be managed to provide migrating and wintering habitat for waterfowl including Canada geese, mallard, American black duck, Northern pintail, gadwall, American widgeon, ring-necked duck, green-winged teal, lesser and greater scaup, canvasback, redhead, tundra swan, and ruddy duck. Additionally, protection of forested wetlands and riparian forests in the region will provide breeding and wintering habitat for large numbers of wood duck. Since the Refuge System proposes to protect 40,000 acres within the larger AOI, we expect moderate positive impacts to waterfowl populations should a refuge be established in Southern Maryland, since the State, NGOs, and other FWS programs will most likely continue to protect and manage land in the region that would be additive to a refuge presence.

Geology and Soils

Affected Environment

Description of Affected Environment for the Affected Resource

The Atlantic Coastal Plain is the physiographic province that includes the majority of central and southern Maryland. The Coastal Plain is supported by a bed of crystalline rock covered with layers of sand, clay, and gravel. The soils have high sand content and are typically 6 to 12 feet thick. Coastal Plain soils are loosely compacted, which allows water to easily pass through. Soil tends to be loamy and fertile, providing ideal conditions for agriculture and crops.

Defined by beds of sedimentary formations such as clay, sandstone, shale, and limestone, the Coastal Plain is flat and angles downward until merging with the Atlantic Ocean. The Coastal Plain in Maryland is the result of glaciers melting approximately 18,000 years ago, leading to the creation of streams and rivers. As sea levels rose, the lower Susquehanna River valley was submerged, becoming what we know now as the Chesapeake Bay – an integral part of Maryland's landscape. Due to its low elevation and composition of silt, gravel, clay, and sand, the Coastal Plain provides ideal conditions for wetlands, rivers, and marshes.

In more recent time, the geomorphology of Southern Maryland has been impacted by climate change. Effects are particularly strong in terms of elevation of wetland habitats, where the rising sea levels in conjunction with the natural process of land subsidence has led to deterioration and loss of marshes and wetlands. Modern urbanization has also influenced the geomorphology in terms of soil composition and waterway characteristics.

Description of Cumulative Impacts, Environmental Trends, and Planned Actions

In both alternatives, permanent protection of watershed soils in areas supported by the FWS (Alternative A) or actively protected and managed by the FWS (Alternative B) would result in beneficial impacts to overall soil conservation in the AOI. As with many areas nationwide, the greatest cumulative impact on soils is from land development. With the cessation of development, watershed soils on lands managed by the refuge should improve in natural fertility and productivity. Logically, more soil benefits are to be gained with alternative B since it proposes expanded land/habitat protection. Both alternatives would employ best management practices to minimize impacts to soils.

Positive consequences and beneficial cumulative impacts of managing soils in native vegetation for the long term include increasing capacity for carbon sequestration from the environment. Biological carbon sequestration can be enhanced in managing natural habitats that increase the natural absorption of atmospheric carbon in soils. The long-term cumulative potential is influenced by how the land is used and managed, and the refuge would maintain and, where possible, enhance the ability of FWS-owned lands to sequester carbon.

We would minimize any potential for adverse cumulative impacts by continuing to use best management practices when restoring and managing native habitats. Habitat management tools used can include mowing, brush-hogging, or prescribed burning. Under both alternatives, we expect to reclaim problem areas dominated by invasive species and restore them to native plant communities, which should improve nutrient recycling, restore native soil biota, and soil fertility, and return soils to natural productivity regimes.

Impacts on Affected Resource

Alternative A

In unprotected areas, soils would continue to be lost and degraded, leading to adverse impacts such as erosion and sedimentation as a result of various land use practices including road building and the construction of buildings, parking lots, and other infrastructure needed to support expanding human settlements. Natural soil formation processes would no longer occur in areas covered by impervious surfaces (e.g., roads, parking lots, buildings). Soil compaction is also expected at sites where construction occurs. In alternative A, soils would continue to be degraded by various contaminants resulting from the application of agricultural chemicals and run-off from roads and urban areas. Additionally, there would be no opportunity for the FWS to protect or restore roads, trails, or other existing sites, thus soil impacts from development or unmanaged use of those lands would continue and likely would increase over the long term. However, adverse impacts to soils in the absence of a refuge would be minor, because the total area that could theoretically be protected under this proposal is relatively small compared to the entire AOI.

Alternative B

Under this alternative, there would be a minor benefit to soils on the proposed refuge. Within the refuge, this resource would largely be protected from disturbance and degradation associated with development, agriculture, mining, etc., as discussed above in alternative A. There is a potential for adverse impacts to soils from the habitat management tools we may use to help maintain, enhance, or restore grasslands, shrubland, forests, wetlands, or other habitats. These tools could include replanting with native species, prescribed burning, haying/mowing, mechanical cutting, and applying herbicides and biological control agents. In general, we will use best management practices in all activities that might affect soils to ensure that we maintain soil productivity. Site conditions, including soil composition, condition, and hydrology, will be the ultimate determinant of the management technique for any site. We will make every attempt to manage specific sites consistent with their recognized potential. Prescribed fire can elevate surface temperatures; mineralize detritus, litter, and standing dead material; volatilize some nutrients and organic matter; alter the water-holding capacity of soil; and alter its populations of micro- and macro-fauna (Barbour et al. 1999). To minimize impacts, we would conduct all prescribed burns under a strict

prescription and in optimal weather conditions to minimize concerns about smoke and the risk of wildfire. We would maintain all fires within their prescriptions to minimize the degradation of resources, although impacts could occur in small areas.

Haying, mowing, and other mechanical methods affect soils by rutting and compaction and, depending on the soil conditions and vegetation ground cover, by removing soil-protective vegetation. To minimize these impacts, we would not conduct these operations when the soil is saturated. We would follow an approved Pesticide Use Plan when utilizing herbicides and other biological control agents to minimize adverse impacts to the soil and other microbial and biotic organisms.

Within the proposed refuge, some soils would be disturbed due to the construction of one or more potential buildings, parking lots, and other infrastructure needed to support refuge visitors and operations. Natural soil-formation processes would no longer occur in areas covered by impervious surfaces. Soil compaction is also expected at sites where construction occurs. Best management practices would be used to minimize these impacts. Additional environmental analyses would be conducted in association with any substantial construction projects, per FWS policy. Although the exact acreage needed for any new refuge infrastructure is unknown at this point, it would be a small percentage of the total refuge area. The impacts to soils resulting from alternative B are expected to be minimal.

Air Quality

Affected Environment

Description of Affected Environment for the Affected Resource

Good air quality is essential to humans, wildlife, and environmental health. Polluted air also acidifies water and degrades habitats. Several pieces of legislation such as the Clean Air Act, the Wilderness Act, and the Refuge System Improvement Act emphasize the importance of maintaining air quality. In 2022, for the first time in 30 years, air quality in all of Maryland met National Ambient Air Quality Standards (Maryland Department of the Environment 2023). This is due to reductions in emissions from major industrial and transportation sources. The major sources of air pollution to Maryland are adjacent states with less protective air quality regulations.

Description of Cumulative Impacts, Environmental Trends, and Planned Actions

Projected land/habitat acquisitions and restoration of native habitat should generate beneficial impacts to air quality locally. While both alternatives would facilitate continued and/or increased land protection ability (under alternative A, the FWS would continue to protect and restore fish and wildlife habitat in the region under other programs, such as the Coastal Program), alternative B would have the most beneficial impact with an additional 40,000 acres of protected lands. These beneficial habitat impacts would derive from the refuge's capacity to continue to filter out many air pollutants harmful to humans, wildlife, and the environment. In some cases, the FWS would manage habitat on refuge lands by, for example, brush hogging, or thinning vegetation, or burning. These management activities could have adverse impacts on air quality, and in the case of thinning trees, would no longer have the capacity to absorb as much carbon. However, these types of land management activities would be staggered over a period of 30 or more years, resulting in only short-term, minor impacts.

Regardless of the alternative selected, we would continue to contribute to improving air quality through cooperative land conservation and management of habitat. Protecting valuable fish and wildlife habitat

from development and maintaining it in natural vegetation assures these areas would continue to filter out many air pollutants that, incrementally, may be harmful to humans and the environment.

Impacts on Affected Resource

Alternative A

Under alternative A, potential impacts to air quality would depend on the fate of lands that otherwise may have been protected by the FWS. If these lands remain vegetated and undeveloped, they may continue to contribute positive air quality benefits by absorbing carbon dioxide and emitting oxygen. If lands are developed, the degree of adverse impact on air quality would depend on the type and density of development. Industrial or dense residential development using traditional energy sources may increase carbon and other contaminants in the atmosphere above current levels, which would be detrimental to air quality. Use of solar or other non-emitting energy would reduce these potential adverse impacts. Overall, impacts to air quality under this alternative are likely to be minimal.

Alternative B

With the establishment of the proposed refuge, potential sources of air pollution resulting from urbanization, agricultural operations, industry, etc., would be eliminated on 40,000 acres. This benefit is expected to be minimal, given that the proposed refuge would cover a relatively small percentage of the total AOI. Under alternative B, refuge operations and facilities, public visitation, and habitat management would contribute some pollutants to the atmosphere, thus adversely affecting air quality. Some air pollutants would be released through refuge operations (e.g., combustion engines, electrical equipment use). However, the proposed refuge would aim to minimize its emissions from vehicles as well as the indirect emissions associated with electrical energy use. As mentioned above, the Refuge System is working to implement strategies for achieving FWS-wide carbon neutrality. These strategies, combined with those of other FWS offices and the Federal Government in general, would likely result in a beneficial reduction of air pollutants.

Refuge visitation would be associated with a number of vehicles on the refuge. The low rate of speed necessitated would minimize emissions of air pollutants. In addition, the number of vehicles on the refuge at any given time would not be expected to create a significant impact to air quality.

Prescribed burning would be a valuable habitat management tool within several habitats of the proposed refuge. As mentioned above, prescribed burning releases several air pollutants, including carbon monoxide and particulate matter. The proposed refuge would work with its partners to reduce smoke-related issues in adjacent areas resulting from prescription fires. The risk of wildfires would be minimized through a fire management program. Overall, the adverse impacts to air quality associated with this alternative are expected to be minimal.

Water Quality

Affected Environment

Description of Affected Environment for the Affected Resource

Recent information provides evidence that water quality of the Chesapeake Bay is improving (Chesapeake Bay Program 2023). However, urbanization and agricultural practices continue to result in water pollution. In 2015, the 23 percent of the Chesapeake watershed under agricultural uses contributed 60 percent of sediment pollution that reached the Bay, as well as 55 percent of the phosphorus and 42 percent of the nitrogen (Chesapeake Bay Program 2023). By 2020, due to the implementation of agricultural Best Management Practices by farmers, agricultural contributions of sediment and phosphorus were reduced to 9 percent and 28 percent, respectively. However, the total nitrogen contribution increased to 46 percent. Stormwater runoff from increasing development is the fastest growing source of pollution to the Chesapeake Bay. As of 2021, sediment, phosphorus, and nitrogen contributed to the Bay by stormwater runoff was 9 percent, 15 percent, and 17 percent, respectively (Chesapeake Bay Program 2023).

These pollutants become an issue when they are present in high concentrations, which can result in algal blooms and significant decreases in dissolved oxygen necessary for the survival of fish and other aquatic organisms. The loosely compacted soils in the coastal plain allow for water to easily pass through, dissolving minerals in the soils which leads to the presence of iron, calcium, and magnesium in the waters. To mitigate water quality effects due to urbanization, several Southern Maryland counties have implemented green stormwater infrastructure which aims to create soil-water-plant systems that redirect stormwater to decrease flooding events or pollution of large water sources.

Description of Cumulative Impacts, Environmental Trends, and Planned Actions

Under both alternatives, habitat protection and restoration would result in cumulative benefits to hydrology and water quality. The FWS and its partners would protect and maintain lands in their natural vegetated state, thus preventing these lands from being converted to impervious surfaces. Furthermore, the FWS would restore lands containing unnecessary buildings and structures (e.g., removing impermeable surfaces), other disturbed sites, and unused roads and trails on acquired and protected lands. Protecting, managing, and restoring native habitats that currently exist and that may be acquired in the future would improve the health of local watercourses and aquatic resources, resulting in greater diversity and functionality of refuge habitats and watersheds in general.

Both alternatives also include some level of management to restore and maintain native habitat. Both limited habitat restoration and passive natural succession would result in improvements in water quality in terms of chemistry, reduced sediment, and mitigation of any contaminated run-off from off-refuge sources. Collectively and over time, those actions would improve the ability of FWS lands to process nutrients and store carbon and contribute to other State watershed regulation standards and initiatives that are designed to maintain and improve local water quality within the AOI.

There would be a slight potential for herbicide dispersal into wetlands and streams, but not to any measurable or chronic proportion that could add to local or regional cumulative adverse impacts. Based on the relatively short half-life and the limited acreage likely to require treatment, it is not expected that any discernible effects would occur to these water resources as a result of herbicide treatments.

Best Management Practices (BMPs) and erosion and sediment control measures would be used on building, road, trail, and other recreation infrastructure construction sites to ensure any impacts on hydrology and water quality are minimized.

In addition, when the conservation actions by the FWS are combined with actions by State wildlife managers, non-profit organizations, private landowners, and local communities, there would be considerable cumulative progress in stemming and mitigating the urbanization and development changes that can directly and indirectly impair good water quality and productive habitats within the AOI.

Impacts on Affected Resource

Alternative A

Under alternative A, it is reasonable to assume that some of the 40,000 acres proposed for Federal acquisition in alternative B would be developed in the absence of additional land protection by the FWS. Studies have shown that adverse impacts to streams can occur with as little as 10 percent impervious land cover (Schueler 1994). Impervious land cover is defined as the sum of roads, parking lots, sidewalks, rooftops, and other impermeable surfaces. Adverse impacts of impervious surfaces can include shaping stream beds, decreased water quality, increased stream warming, and a decrease in stream biodiversity. Aquatic diversity and health is a strong environmental indicator of overall watershed quality (Schueler 1994). Decreases in the diversity of fish, aquatic insects, wetland plants, and amphibians are all manifestations of increases in impervious surfaces of 10 percent or greater. Clearing of additional forestland in Southern Maryland for residential, agricultural, and industrial purposes is expected to continue, resulting in reduction of water quality in Southern Maryland streams and rivers and ultimately the Chesapeake Bay. Overall, the adverse impacts on hydrology and water quality in the AOI are expected to constitute a moderate impact under the no action alternative.

Alternative B

This alternative is expected to result in beneficial impacts to the hydrology (water quality and water quantity) of Southern Maryland aquatic systems and the Chesapeake Bay. Approximately 40,000 acres of proposed refuge lands would eventually be protected from the construction of extensive drainage ditches, roads, and large areas of impervious surfaces associated with development that would otherwise alter the hydrology. Furthermore, the FWS would restore surface and groundwater hydrology by restoring streams and removing impervious surface where needed, which would be beneficial to refuge lands and areas outside of the refuge. Under alternative B, there could be some adverse impacts to hydrology and water quantity resulting from some potential construction projects on the proposed refuge. Infrastructure such as visitor and office facilities, paved areas, and landscaped areas would alter, to some degree, the local hydrology and amount of water available to downstream areas. Specific site plans for public use building(s) and refuge offices have not yet been developed (where possible, existing structures would be evaluated to determine if they could serve refuge needs), so the amounts of impervious surfaces are unknown at this time. However, impervious surfaces, such as roads, sidewalks, and buildings, reduce the area available for rainwater to percolate into the soil. This generally has two direct consequences when it rains: there is less water available for recharging the local surficial aquifer, while at the same time the amount of runoff that flows into low-lying areas increases. Low impact development methods and best management practices would be used to minimize these effects. Stormwater wetlands and retention ponds,

rain gardens, and rooftop rainwater harvesting, for example, would help mitigate many of the water quantity impacts associated with impervious surfaces. BMP's would be employed to minimize impacts from refuge-associated development. Although additional environmental studies would likely be conducted in association with any future construction, it is not believed that there would be significant impacts to the hydrology or water quantity resulting from the proposed refuge. Overall, the negative effects on hydrology and water quantity are believed to be minimal under this alternative, while beneficial impacts to water quality are expected to be moderate.

Climate and Climate Change

Affected Environment

Description of Affected Environment for the Affected Resource

Although one of the smaller states, Maryland includes a wide range of physiographic areas, thus leading to an array of climatic conditions. Factors influencing Maryland's climate include land and water distribution, topographic features such as mountains and rivers, prevailing winds, and ocean currents. Maryland experiences the four seasons distinctly, with hot summers, cold winters, and moderate springs and falls. Due to atmospheric humidity from the Atlantic Ocean, summer heat and winter cold tend to be more extreme than in states with a drier climate. Precipitation varies across the State due to the varied topographic features, but generally results in plentiful annual precipitation ideal for agriculture. The humid climate is also conducive to tree growth, so many areas are forested.

Sea-level in the Chesapeake Bay rose by 1-foot over the last century (Chesapeake Bay Program 2023). Maryland is particularly impacted by rising sea levels due to climate change because the land is sinking. Sea level along Maryland's coast is predicted to rise 16 inches to 4 feet in the next century (USEPA 2017). Sea level rise is a serious threat to the ecosystems present in the AOIs. Higher water levels lead to more extreme erosion, flooding, and the submersion of lowland marshes. Rising sea levels also allow for saltwater intrusion of marshland, which leads to high salt content in marsh soils, ultimately leading to loss of marsh vegetation, eliminating critical habitat for a variety of plant and animal species, and contributing to the global decrease of biodiversity.

Maryland's average annual precipitation has increased approximately 5 percent in the past 100 years. In the eastern United States, precipitation from extreme storms has increased by more than 25 percent since 1958. These precipitation changes due to climate change impact natural ecological processes such as habitat succession and growing seasons, which impacts wildlife and humans alike.

As the climate warms, terrestrial and aquatic species will need to migrate upgradient in latitude and elevation to escape the habitat effects associated with rising temperatures. This requires that we maintain a landscape with movement corridors and enough large habitat blocks to maintain natural ecosystems, act as climate refugia, and preserve a diversity of species. The timing of leaf growth and flower blooms have changed, resulting in changes to numbers and occurrence of insects that pollinate plants and serve as food for other species like migratory songbirds and waterfowl, resulting in disjunct timing between migrating birds and their food sources. Data from the NOAA shows that 60 percent of U.S. commercial fish stocks have shifted northward since the middle of the last century (Chesapeake Bay Program 2023).

Description of Cumulative Impacts, Environmental Trends, and Planned Actions

DOI Secretarial Order 3226 States that “there is a consensus in the international community that global climate change is occurring and that it should be addressed in governmental decision making. This order ensures that climate change impacts are considered in connection with Departmental planning and decision making.” Additionally, it calls for the incorporation of climate change considerations into long-term planning documents, such as LPPs. There would be no significant cumulative effects to climate under either of the alternatives due to the limited scope of this action.

Our evaluation of the proposed action concludes an overall greater benefit to climate considerations associated with increased opportunities for carbon sequestration, although certain management activities may contribute negligibly, but incrementally, to stressors regionally affecting climate change. For example, our prescribed burning program, our use of vehicles and equipment to manage habitat and administer the refuge, and visitor use of motorized vehicles could increase emissions. We discuss the direct and indirect impacts of those activities elsewhere in this document. We also discuss measures to minimize the impacts of both. For example, regarding prescribed burning, we would follow detailed burn plans operating only under conditions that minimize air quality concerns. Federal mandates require all Federal agencies to reduce petroleum fuel use by 2 percent annually based upon 2005 fuel use, having a goal of reducing petroleum fuel use by 30 percent. The refuge would attempt to replace older, inefficient vehicles with more fuel-efficient models. Refuges are actively reducing carbon footprint wherever possible by using alternative energy sources and energy-saving appliances, and using recycled or recyclable materials, along with reduced travel and other conservation measures. In our professional judgment, neither alternative would exacerbate climate change in the AOI, and might incrementally prevent or slow local impacts.

Impacts on Affected Resource

Alternative A

Under this alternative, fewer areas in the AOI are expected to remain or become carbon sinks (i.e., areas that absorb carbon instead of releasing it), so positive impacts regarding climate change are not anticipated. There may, however, be some minimal adverse impacts associated with climate change under this alternative. Vegetation, alive or dead, is an important carbon stock, and ecosystems in the United States contain approximately 66,600 million tons of carbon (Heath and Smith 2004). The carbon density (the amount of carbon stored per unit of land area) of any given tract of land is highly variable, as it is directly correlated to the amount of biomass in an ecosystem or plant community. Besides vegetation, the total carbon in an ecosystem also includes the organic component of soil, which can be substantial, depending on the vegetation cover type and other factors (Bruce et al. 1999).

When land is permanently cleared of vegetation, carbon dioxide that was stored in plant material and soil is released relatively quickly into the atmosphere through such processes as decomposition, burning, and soil oxidation. Additionally, without vegetation, the ability of the land to sequester or store carbon is reduced to minimal levels. The exact extent of unprotected natural lands that would eventually be converted to agricultural or urban use in alternative A is unknown. However, even in the unlikely event

that an area equaling the proposed refuge (40,000 acres) were cleared of all vegetation, it would represent only a fraction of the over 9 billion tons of global carbon entering the atmosphere annually.

Alternative B

Under Alternative B, there would be some assurances that the approximately 40,000 acres of proposed refuge lands would remain vegetated and therefore would continue to act as carbon sinks, thereby helping mitigate the impacts of climate change. Therefore, it is believed that these proposed refuge lands would provide a net reduction in greenhouse gases, even in consideration of potential anthropogenic sources (see discussion below) of these gases. Still, due to the comparatively small size of the proposed refuge, beneficial impacts to climate change would likely be minimal compared to the volume of Earth's atmosphere.

Under alternative B, refuge operations and facilities, public visitation, and habitat management would contribute greenhouse gases to the atmosphere, thus resulting in some adverse impacts. The amount of carbon that would potentially be released through refuge operations (e.g., combustion engines, electrical equipment use) is unknown, however, the proposed refuge would aim to minimize its carbon emissions. As the Refuge System works to implement many of the strategies for achieving FWS-wide carbon neutrality (USFWS 2010), refuge energy use is expected to decline. These actions would include use of hybrid vehicles, building energy efficient facilities, videoconferencing (to reduce travel-related energy use), and green purchasing. These strategies, combined with those of other FWS offices and the Federal Government more broadly, would likely result in a beneficial reduction in the rate of greenhouse gas emissions nationally.

It is expected that at unknown number of visitors would drive to refuge units. However, this rate of vehicle usage would be insignificant relative to the tens of thousands of vehicle trips occurring within Southern Maryland daily. Vehicle use is expected to have no measurable effect to greenhouse gas emissions.

Prescribed burning would be a valuable habitat management tool within several habitats of the proposed refuge. Many of the gases released by prescribed fire are greenhouse gases. However, it has been shown that prescribed fires can decrease the risk of wildfires, which typically release greater amounts of greenhouse gases (National Science Foundation 2010). Overall, the effects of this alternative on greenhouse gas emissions as a result of refuge-related administrative, public use, and land management activities is expected to be immeasurable.

Cultural Resources and Subsistence

Affected Environment

Description of Affected Environment for the Affected Resource

Within the five counties of the AOI, there are numerous historically and culturally significant points of interest. These include 19 State Parks, 36 National Historical Landmarks, and 151 museums and historical houses (Maryland State Archives) spanning topics of art, war, Native American history, and culture.

Native Americans occupied what is now Maryland for thousands of years and have shaped its culture and geography. Archaeological and cultural studies have provided an understanding of their impactful interaction with the landscape. Southern Maryland has been the home of various Native American tribes

throughout history, with the rich farmlands and waterways supporting crops and communities. Upon English settlement, conflict ensued with the Native Americans, specifically the Piscataway Tribe. Despite many years of conflict, population decline, and dispossession, Native American culture and knowledge continue to impact Southern Maryland. The Piscataway people still reside in the AOI.

English settlers came to Southern Maryland in the early 1600s, with the first contact between Native Americans and Europeans being recorded by John Smith from his voyages in 1608. The State of Maryland was originally established as a colony in St. Mary's County, where English ships arrived at St. Clements Island in 1634. Various wars have shaped the history of Southern Maryland, including the War of 1812, the Civil War, and World Wars I and II. The iconic Chesapeake Bay proved to have strategic importance in the War of 1812. Historians consider Southern Maryland to be the birthplace of religious freedom in North America, due to Religious Freedom being codified into law with the 1649 "Act Considering Religion." In 1937, working with Thurgood Marshall in a case against the Calvert County Board of Education, Harriet Elizabeth Brown, an African American woman, secured equal pay for all schoolteachers and administrators, regardless of race. In 1994, Southern Maryland was designated as a UNESCO slave route site of remembrance. Congress enacted the Southern Maryland National Heritage Act in 2022 "in recognition of Southern Maryland's unique significance to the Nation's history."

Mattawoman Creek, Nanjemoy Creek, and Zekiah Swamp have been identified by the National Park Service as Indigenous Cultural Landscapes (Strickland et al. 2015; Prost 2016). Indigenous Cultural Landscapes are places where indigenous perspectives are understood and applied in land management decisions, which are a consideration for future Refuge conservation and management activities.

Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended, and Section 14 of the Archaeological Resources Protection Act require the FWS to evaluate the effects of any of its actions on cultural resources (e.g., historic, architectural, and archaeological) that are listed or eligible for listing in the National Register of Historic Places (NRHP). The body of Federal historic preservation laws has grown dramatically since the enactment of the Antiquities Act of 1906. Several themes recur in these laws, their promulgating regulations, and more recent executive orders. They include: (1) Each agency is to systematically inventory the historic properties on its holdings and to scientifically assess each property's eligibility for the NRHP; (2) Federal agencies are to consider the impacts to cultural resources during the agencies' management activities and seek to avoid or mitigate adverse impacts; (3) the protection of cultural resources from looting and vandalism are to be accomplished through a mix of informed management, law enforcement efforts, and public education; and (4) the increasing role of consultation with groups, such as Native American Tribes, in addressing how a project or management activity may impact specific archaeological sites and landscapes deemed important to those groups. The FWS, like other Federal agencies, is legally mandated to inventory, assess, and protect cultural resources located on those lands that the agency owns, manages, or controls. The FWS's cultural resource policy is delineated in 614 FW 1-5 and 126 FW 1-3.

Description of Environmental Trends and Planned Actions

Alternative A would most likely have cumulative adverse impacts on the protection of historical and archaeological resources in the AOI. Without additional protection, cultural resources, whether listed or not, tend to be vulnerable to development, disturbance, take, and vandalism. Absent the establishment of the refuge, fewer lands would be managed by the FWS and its partners, which have a clear responsibility for protection of cultural resources. Moderate cumulative beneficial impacts to cultural resources would

be accrued from the implementation of alternative B. Federal acquisition would help increase the preservation of any archaeological and historic sites on otherwise unprotected lands.

Impacts on Affected Resource

Alternative A

Alternative A would have an adverse impact on the protection of historical and archaeological resources in the AOI. Without additional protection, cultural resources, whether listed or not, tend to be vulnerable to development, disturbance, take, and vandalism. Absent the establishment of the Southern Maryland Woodlands NWR, fewer lands would be managed by the FWS and its partners, which have a clear responsibility for protection of cultural resources. Landowners and developers have no similar legal responsibilities, unless one of their activities requires a Federal permit (e.g., U.S. Army Corps of Engineers 404 Permit, or a Service Incidental Take Permit) or State permit. If permits are required, landowners or developers would have to comply with either Section 106 of the NHPA or State regulations regarding cultural resources prior to the issuance of any permit. In these cases, archaeological and historical investigations, if deemed necessary by the Federal agency, the State agencies, and the tribes, would be limited to the project area in question. The activity could proceed provided that the landowner or developer has taken steps to avoid, minimize, or mitigate adverse impacts to historic properties identified within the specific project area. Because of population growth, increased urbanization, and changing land use patterns projected for the region, a number of historical properties, such as those of colonial and Native American significance, would likely be adversely impacted under the No Action Alternative. These impacts are expected to be moderate.

Alternative B

Moderate beneficial impacts to cultural resources would be anticipated from the implementation of alternative B. Federal acquisition would help increase the preservation of any archaeological and historic sites on otherwise unprotected lands. The FWS, like other Federal agencies, has several legally mandated responsibilities that include development of a cultural resource management plan, compliance with Section 106 of the NHPA prior to any undertaking that possesses the potential to impact historic properties, archaeological inventory of its lands and subsequent National Register eligibility testing, research-directed testing or excavation, site protection, and interpretation. Critical to these efforts are the State Historic Preservation Officers (SHPO), federally recognized Native American Tribes, and a number of interested parties, such as nearby universities, adjacent landowners, and State resource agencies. Protection of historic properties would be enhanced by incorporating concepts of site stewardship and ownership, where appropriate, into public use materials and interpretive panels. This effort would be further enhanced by ensuring refuge staff complete archaeological resource protection training. Minimal adverse impacts to cultural resources could be anticipated under alternative B. There could be some risk that where refuge lands are open to the public, visitors may inadvertently or intentionally damage or disturb cultural resource sites; however, we would employ all means available to protect archaeological sites, historic structures, cemeteries, and historic landscapes through scientific investigations, public education, partnerships with tribal, State, and local governments, and law enforcement efforts.

Operational activities occurring under alternative B have some potential to adversely impact cultural resources, either by direct disturbance during a variety of habitat management projects (e.g., mowing), minor construction (e.g., interpretative sign installation), public use activities (e.g., hiking), and administration and operations activities (e.g., parking lot and road construction). These actions may directly or indirectly expose cultural and historic artifacts. The presence of cultural resources including

historic properties would not prevent a Federal undertaking or project, but any undertaking would be subject to the above-mentioned laws and regulations.

Refuge staff would provide the FWS’s Regional archaeologist a formal description and location of all projects, activities, routine maintenance, and operations that could disturb the ground or potentially historic structures. Staff would also consult the Regional Archaeologist regarding ground-disturbing activities proposed by others. The archaeologist would analyze these undertakings for their potential to affect historic properties and consult with the SHPO and other parties as appropriate. As necessary, FWS staff would notify the public and local government officials. The FWS would protect all known gravesites. Any collection of materials for tribal ceremonial purposes would be conducted under a special use permit.

Socioeconomics

Local and Regional Economies

Affected Environment

Description of Affected Environment for the Affected Resource

The information in this section pertains to the Maryland counties that fall within the refuge AOI. Those counties are Anne Arundel, Calvert, Charles, Prince George’s, and St. Mary’s.

Population

The total population of the five counties of the AOI is 1,852,696 as of the 2020 census (Table 2). The total population of the State of Maryland is 6,038,000. Thus, 30.7 percent of Maryland residents reside in counties which include acquisition boundaries identified in this refuge plan.

County	Population
Anne Arundel	575,421
Calvert	92,094
Charles	161,448
Prince George’s	910,551
St. Mary's	113,182
TOTAL	1,852,696

Table 2. Population breakdown by county. Data sourced from the 2020 census.

Employment

This section includes employment data for the five counties in the AOI, including an overview of employment by industry for each county (Tables 3 and 4). Most of the jobs in each county are in the government, trade, transportation, and utilities sectors. Prince George’s County has the highest number of individuals employed and Calvert County has the fewest, which aligns with the total population figures.

County	Total Employment	Median Household Income (\$)
Anne Arundel	308,065	\$103,225.00
Calvert	47,305	\$112,696.00
Charles	82,606	\$103,678.00
Prince George's	473,123	\$86,994.00
St. Mary's	55,360	\$95,864.00

Table 3. Total number of individuals employed and median household income for each of the counties in the AOI. Data retrieved from the MD Department of Labor.

Industry	Anne Arundel County Total	Anne Arundel County Relative	Calvert County Total	Calvert County Relative	Charles County Total	Charles County Relative	Prince Georges County Total	Prince Georges County Relative	St. Mary's County Total	St. Mary's County Relative
Government	46,196	17.9%	4,296	20.0%	9,901	25.3%	88,413	29.4%	15,278	32.9%
Ag., Forestry, Mining, Fishing, Hunting	269	0.1%	16	0.1%	28	0.1%	101	0.0%	74	0.2%
Construction	19,697	7.6%	2,061	9.6%	3,000	7.7%	27,604	9.2%	2,022	4.4%
Manufacturing	12,975	5.0%	435	2.0%	566	1.4%	6,804	2.3%	588	1.3%
Trade, Transportation, Utilities	52,059	20.1%	4,686	21.9%	9,543	24.4%	56,804	18.9%	6,983	15.0%
Information	1,879	0.7%	36	0.2%	232	0.6%	2,284	0.8%	106	0.2%
Financial Activities	10,249	4.0%	711	3.3%	1,027	2.6%	10,178	3.4%	679	1.5%
Professional & Business Services	44,818	17.3%	1,848	8.6%	3,051	7.8%	38,722	12.9%	11,355	24.5%
Education & Health Services	32,676	12.6%	3,442	16.1%	5,100	13.0%	32,116	10.7%	4,585	9.9%
Leisure & Hospitality	29,072	11.2%	3,032	14.1%	5,306	13.6%	29,516	9.8%	3,875	8.4%
Other	8,762	3.4%	865	4.0%	1,331	3.4%	8,066	2.7%	845	1.8%

Table 4. Employment breakdown for each of the counties in the AOI. Data retrieved from the MD Department of Labor for 2021.

Construction

Over the last decade, applications for building permits for new privately owned housing units have increased in the State of Maryland. According to the U.S. Census Bureau, the number of new permits authorized in the State of Maryland increased by 37.2 percent from 2011 to 2021. The total annual number of permits in 2011 was recorded to be 13,481 permits, increasing to 18,496 permits recorded in 2021.

Description of Cumulative Impacts, Environmental Trends, and Planned Actions

Alternative A would most likely have cumulative adverse impacts on socioeconomic activity in terms of the absence of jobs associated with wildlife-dependent recreation such as hunting, fishing, and wildlife

observation and wildlife photography. Society also would not accrue the localized benefits of protected open space to human wellbeing. Should sprawl development occur, the quality of life for many residents could decline, since sprawl development is often associated with environmental degradation. Moderate cumulative beneficial impacts to socioeconomic activity would be accrued from the implementation of alternative B due to added job opportunities in the outdoor recreation and restoration industries and the preservation of open space and its positive effect on human well-being. Alternative B could result in minimal localized reductions in jobs associated with farming, forestry, and the construction industry and potentially reductions in the local tax base, since natural resource extraction and development potential would be removed from properties protected by the refuge.

Impacts on Affected Resource

Alternative A

From an economic perspective, it is difficult to predict the overall effects to municipal tax receipts and spending. While the area is experiencing population growth, these trends could change over time. Similarly, with no new refuge, there would be no impacts to property values. Since there would be no new refuge lands, there would also be no positive economic impacts associated with wildlife-dependent recreation such as hunting, fishing, and wildlife observation and wildlife photography, nor would society accrue the localized benefits of protected open space to human wellbeing. This would take the form of contemplative space for individuals as well as the collective value of green infrastructure to the larger community.

Alternative B

Much of the information presented in this section was taken from an economic analysis completed by the U.S. Geological Survey for the Silvio O. Conte National Fish and Wildlife Refuge CCP. In general, the consequences of refuge land acquisition in this proposal are similar to those predicted in New England.

Local tax revenues and land values

In alternative B, the FWS is considering expanding the Refuge System's total acreage under ownership through additional fee and easement acquisitions. These transactions are typically in the form of a one-time payment. A transaction of this type and shift in private to public land ownership can have an assortment of economic impacts. Some examples include effects to the local tax base and adjoining revenues, the amount of municipal services required, spillover property value impacts, and various dynamics with development in the region. The effect of fee acquisitions on local government revenue is complex and speculative. Many variables are at play, often requiring time to unfold. While there may be some upfront reductions in local tax revenues, reduced dependence on municipal services could more than counter these losses. Other unknowns, such as relocation and spending decisions, and property enhancement effects, will ultimately determine the extent of the economic and fiscal impacts within the region. While these relationships are identified and discussed, estimating these impacts quantitatively requires a large degree of speculation and is beyond the scope of this analysis.

The sale of interest in land (fee and easement) will provide the original landowner with additional revenue following the sale. The landowner might go on to spend some percentage of the funds from their equity in the property in the regional economy, including new real estate investment in the local area. This spending

activity can directly impact local industries such as construction and various service sectors, with additional indirect impacts to follow suit. Contrarily, these types of economic impacts could be relinquished if former landowners emigrate outside the region. There is also the possibility of removing a production practice on the land parcel, such as farming or forestry, which could have negative economic consequences. These, too, could be negated by the expenditures required for habitat restoration and stewardship paid by the FWS once acquired.

As indicated, there are many dynamic relationships at play that ultimately determine net economic impacts to the local and regional economies. There are also many dynamic variables at play when considering effects to local tax revenues. Property taxes constitute the largest source of local governments' locally derived revenue (i.e., not obtained from state and federal government; Urban Institute and Brookings Institution 2023). Lands acquired by the FWS would be exempt from local property taxation. However, under provisions of the Refuge Revenue Sharing Act, local townships and/or counties receive an annual payment for lands that have been purchased by full fee simple acquisition by the FWS. Payments are based on the greater of 25 percent of net receipts, 75 cents per acre, or 0.75 percent of the market value of lands acquired by the FWS. However, the exact amount of the annual payment depends on congressional appropriations, which has tended to be less than the amount to fully fund the authorized level of payments and has been progressively declining. In fiscal year 2022, actual Refuge Revenue Sharing payments were 21.7 percent of authorized levels.

Lands acquired by the FWS through fee acquisition would lose their development potential in perpetuity. While this could affect local property tax and income tax revenues, conserved and protected land requires fewer municipal services. New and existing residential developments require local governments to provide services such as fire protection, police services, and schools, and to construct new infrastructure such as roads, waste treatment facilities, and water and electrical delivery systems. Providing such services can be very expensive for municipalities in rural settings with a relatively low tax base. Studies analyzing community services have concluded that land in residential use requires more service expenditures (paid by the municipality) than it generates in tax revenues (Holland et al. 2018). Additionally, these studies have typically found that land classified as open space provides a net gain in local revenues.

King and Anderson (2004) examined the marginal property tax effects of conservation easements—representing a similar loss of development rights, but without any county payments—in 29 Vermont towns. Their analysis found conservation easements slightly raise marginal property tax rates in the short run (2 to 3 years after conservation), as the overall tax base is lessened and bares more of the tax burden. However, in the long run (6 to 8 years after conservation) they found conservation easements to be tax-neutral or even tax-suppressing as nearby property values increased.

As noted earlier, there is also the chance for land acquisition to spur development in other areas within the region as private landowners relocate and new residents are attracted by the publicly conserved natural landscape and the almost guaranteed opportunities for compatible outdoor recreation. It is well documented that open space carries positive values to residents and communities, as well as passers-by (McConnell and Walls 2005). This is evidenced by the success of open space preservation ballot initiatives at the local, county, and State levels. Banzhaf et al. (2006) point out that between 1997 and 2004, over 75 percent of the more than 1,100 referenda on open space conservation that appeared on ballots across the U.S. passed, most by a wide margin. Accessibility to outdoor trails and park usage can be prime attractions to new homebuyers (NPS 1995). It is also well documented that open space and protected natural areas can increase surrounding property values; that is properties in the vicinity of parks

and preserved open space can have higher property values than those more distant. A study that was conducted in the early 1990s in Maryland showed that preserving a significant amount of forestland accounted for anywhere from 4 to 10 percent of the value of houses within one mile of the site, in three different counties (Curtis 1993; Crompton 2001).

The reciprocating value of open space on property values will vary depending on landscape characteristics and location attributes (e.g., distance to the conserved area) (Kroeger 2008). Permanence of the open space is also an influencing factor. Typically, open space that is permanently protected (such as refuge lands) will generate a higher enhancement value of local properties than land that has the potential for future development. A study done by Goeghegan et. al (2003) in Maryland shows that permanently protected open space generates a property enhancement value of over three times that of developable open space. Irwin (2002) conducted a similar analysis (in context and location) and found that protected open space increases residential property values between 0.6 percent and 1.9 percent in absolute terms than developable open space. As noted, location and demographic factors in the region can influence the relative level of property enhancement value. For instance, open space may generate larger amenity premiums for property in a more urbanized area and where median incomes are higher (Netusil et al. 2000); that is not to say property values may not increase substantially in rural areas as well (Vrooman 1978; Phillips 2000; Crompton 2001; Thorsnes 2002). Furthermore, protected open space is a public good that generates many benefits for residents, communities, and governments.

Protected open space can protect values associated with biodiversity and wildlife abundance, maintain aesthetic beauty, and protect traditional, social, and culturally significant features of landscapes and livelihoods (Holdren and Ehrlich 1974; Ehrlich and Ehrlich 1992; Daily 1997; Millennium Ecosystem Assessment, MEA 2005). Ecosystem services, such as water purification, oxygen production, pollination, and waste breakdown, are also maintained for residents through protected open space (MEA 2005). Some of these services provided by the landscape can reduce the need for certain municipal services (e.g., expanding or building new waste treatment facilities). A primary public benefit of FWS acquisitions is enhanced and preserved wildlife habitat. As development stressors increase over time, many key off-refuge habitat areas may become less available due to conversion to non-wildlife habitat uses. Unlike goods derived from natural resources that are traded in a traditional market setting, many of the benefits from land conservation, such as ecosystem services and intrinsic worth, can be difficult to quantify and value monetarily. We do not attempt to provide estimates of non-market values for this assessment.

Refuge Management Activities

Establishment of a refuge may affect the economies of the five counties due to refuge management activities. Direct impacts to the economy include increased job opportunities in the environmental and tourism industry, refuge personnel salary spending in the local community, land purchases for the refuge, support and purchase of local goods and services by the refuge, increased spending in the local communities by refuge visitors, changes in local tax revenue, and revenues generated from refuge management activities.

In addition to the economic benefits, refuges provide natural services that have nonmarket value. For example, the natural process of vegetated land filtering water via percolation will lessen the economic expense to treat rainwater runoff. Furthermore, the refuge will increase the stability of the ecosystem, thereby sustaining endangered species and preserving wetlands. This will ultimately support greater

biodiversity and allow for the education of future generations. The refuge will also serve as an opportunity for outdoor recreation in the local communities and potentially increase tourism.

Refuge Personnel Salary Spending

Refuge employees reside and spend their salaries on daily living expenses within nearby communities, thereby generating impacts within the local economy. Household consumption expenditures consist of payments by individuals and households to industries for goods and services used for personal consumption. Under this alternative it is difficult to determine the number of new refuge employees that will be hired and under what timeframe. This will be determined by the rate of land acquisition by the refuge, which is currently unknowable. Therefore, we are unable to predict the impact of alternative B on refuge employee spending.

Refuge Visitor Spending

Spending associated with recreational visits to national wildlife refuges generates significant economic activity. According to a recent report (USFWS 2021), in 2020, more than 61.4 million visits were made to national wildlife refuges in one year, generating \$3.2 billion of sales in regional economies. Accounting for both the direct and secondary effects, spending by national wildlife refuge visitors generated nearly 41,000 jobs. Under this alternative it is difficult to determine which lands would be open for public visitation because we do not yet know which specific lands we will acquire. Therefore, we are unable to predict the impact of alternative B on refuge visitor spending.

Environmental Justice

Affected Environment

Description of Affected Environment for the Affected Resource

Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, requires all federal agencies to incorporate environmental justice into their missions by identifying and addressing disproportionately high or adverse human health or environmental effects of their programs and policies on minorities and low-income populations and communities.

The Council on Environmental Quality (CEQ) considers a population within a given geography to qualify as an Environmental Justice population when the total minority population is greater than 50 percent or when the minority population is decidedly greater than the surrounding geographic area, typically the State. The minority population within the six-county area that contains the AOI is 62.6 percent, while Statewide minorities make up 50.6 percent of the total population.

The Gini Coefficient is a measure of income inequality. A Coefficient of 0 means total income equality and a coefficient of 1 means total income inequality. The Gini Coefficient for the counties that contain the AOI range from 0.38 to 0.42, while the Gini coefficient for the State of Maryland is 0.45. By comparison, the Gini Coefficient for the entire U.S. is 0.48.

In 2021, the percent of families in the counties that contain the AOI living below the poverty line range from 2.8 percent in Calvert County to 6.7 percent in St. Mary's County. For all six counties combined the poverty rate was 5.0 percent, whereas the Statewide poverty rate was 6.2 percent compared to 8.9 percent Nationwide. From 2010 to 2021, the poverty rate increased in the AOI counties by 0.8 percentage points,

ranging from 0.1 in Calvert County to 2.1 in St. Mary's County. Nationwide during the same period, the poverty rate decreased by 1.2 points and increased by 0.5 points Statewide.

The MD DNR's Park Equity analysis, shown in Map 20 in the Addendum (USFWS 2018), is built upon the combination of four data layers, and prioritizes areas in need of park space by the high concentration of children under the age of 17, high concentration of populations below the poverty line, high population density, and low access to public park space. This analysis was developed to provide a quantitative tool to help expand public access to nature for underserved communities. As evidenced by the Map, many communities within the AOI have either medium or high need of additional open recreational space in the form of parkland.

Unless otherwise noted, the information in this section was developed using the headwaters economic tool: <https://headwaterseconomics.org/tools/usfws-indicators/>

Description of Cumulative Impacts, Environmental Trends, and Planned Actions

Establishment of a refuge may affect the economies of the five counties due to refuge management activities. There may be increased job opportunities in the environmental and tourism industries for residents in Environmental Justice communities, who may also benefit from increased spending in the local communities by refuge visitors.

Should a new refuge not be established in Southern Maryland, outdoor recreational and environmental educational opportunities provided by the Refuge System in Southern Maryland would be limited to those provided by the Patuxent Research Refuge and the National Wildlife Visitor Center. Equitable exposure of Environmental Justice communities to open would not be increased by the Refuge System, though presumably other public entities would continue to expand their open space footprint.

With no new refuge, there would be no positive economic impacts associated with wildlife-dependent recreation such as hunting, fishing, and wildlife observation and wildlife photography, nor would Environmental Justice communities accrue the localized benefits of protected open space to human wellbeing.

Impacts on Affected Resource

Alternative A

With no new refuge established in Southern Maryland, the Refuge System would not contribute to increasing Park Equity and exposure to open space for citizens of Environmental Justice communities, who would not see the benefits in terms of human wellbeing, outdoor education, and outdoor recreation opportunities. Environmental Justice communities would also not see the environmental health benefits of refuge-protected open space through higher water and air quality resulting from limited development, fewer impervious surfaces, and elimination of transportation and industry-derived sources of air pollution.

Alternative B

A new refuge presence in Southern Maryland should result in increased access to open space for underserved communities if efforts are made to establish refuge units in proximity to Environmental Justice communities and areas with easy access to public transportation. Local reductions in sources of transportation and industrial derived pollutants should benefit the physical health of residents and increased public access to the outdoors would accrue the psychological benefits that supplied by easier access to natural landscapes.

Monitoring

The newly established Southern Maryland Woodlands NWR will adhere to the Refuge System's Inventory and Monitoring (I&M) policy. The I&M policy is intended to promote informed, transparent, and defensible resource management decisions by ensuring that all refuges collect and manage survey data for consistency, applicability, and scientific rigor. As required by policy, this plan will document the priority and selection of surveys, along with documenting management needs and capacity challenges.

Summary of Analysis

Alternative A – No Action Alternative

As described above, the No Action Alternative would result in no measurable positive impacts to the affected environment, including wildlife and aquatic species; habitat, vegetation and wetlands; threatened, endangered, and other special status species and their habitats; geology and soils; air quality; cultural resources; socioeconomics; and environmental justice. Based on current development trends in the AOI, an unknown, but most likely large part of the 40,000 acres proposed to be protected through the establishment of the Southern Maryland Woodlands NWR would see residential, commercial, and industrial development. Negative impacts of future development could include fragmented habitat to the detriment of native fish and wildlife species: compaction, erosion, and hardening of soils; lower water and air quality; and loss of historical and cultural resources. There would be no positive economic impacts associated with wildlife-dependent recreation, nor would Environmental Justice communities accrue the localized benefits of protected open space to human wellbeing.

The No Action Alternative would not meet the purpose and need of the FWS to protect Southern Maryland forests, fields, rivers, and wetlands to provide resilience to climate change, conserve waterfowl and other migratory bird habitat, aid in the recovery of listed threatened and endangered species and provide needed outdoor recreational opportunities for the 10 million people who live and work in the Washington-Baltimore metropolitan region.

Alternative B – Establishing Southern Maryland Woodlands National Wildlife Refuge – Proposed Action Alternative

As described above, the establishment of the Southern Maryland Woodlands NWR would result in positive impacts to wildlife and aquatic species; habitat, vegetation and wetlands; threatened, endangered, and other special status species and their habitats; geology and soils; air quality; cultural resources; socioeconomics; and environmental justice. Habitat would be protected to benefit native fish and wildlife species; preserve healthy soils; maintain or improve water quality and air quality; and prevent the loss of historical and cultural resources. Southern Maryland communities would most likely see positive economic impacts associated with wildlife-dependent recreation and Environmental Justice communities would accrue the localized benefits of protected open space to human wellbeing.

The proposed action would meet the purpose and need of the FWS to protect Southern Maryland forests, fields, rivers, and wetlands to provide resilience to climate change, conserve waterfowl and other migratory bird habitat, aid in the recovery of listed threatened and endangered species and provide needed outdoor recreational opportunities for the 10 million people who live and work in the Washington-Baltimore metropolitan region.

List of Sources, Agencies, and Persons Consulted

The USFWS is a member of the Southern Maryland Conservation Alliance (SMCA) which is a partnership of 46 conservation and community organizations. Formed in 2021, the SMCA works to conserve and restore Southern Maryland's landscapes, waterways, and shorelines that are special to its people, fundamental to its economy, reflected in its culture, and vital for its native fish, wildlife, and plants. The SMCA meets monthly to share information and discuss potential conservation opportunities in Southern Maryland. The Service has made the SMCA aware of this effort to create a new refuge in Southern Maryland and the SMCA membership is supportive. The core team for this Land Protection Plan includes SMCA member organizations, including the American Chestnut Land Trust, Maryland Environmental Trust, Chesapeake Conservancy, and Charles County.

A virtual meeting was held on September 29, 2022, for SMCA members and others to introduce the draft proposal. There were approximately 200 invitees from Federal, State, and local government, as well as the two State-recognized Piscataway tribes and not-for-profit conservation and community organizations. There were approximately 90 attendees. At the meeting we presented the proposed refuge concept map, described the LPP/NEPA process and the Refuge System's Strategic Growth Priorities, and held a question-and-answer session.

Tribal Consultation

In January 2023, Section 106 coordination letters were sent to the three federally recognized tribes with interests in Southern Maryland. They are:

- The Delaware Nation of Oklahoma
- The Delaware Tribe of Indians
- The Eastern Shawnee Tribe of Oklahoma

The Delaware Nation of Oklahoma and the Delaware Tribe of Indians requested to be Consulting Parties on the project. The FWS also has a standing offer to meet with the Tribes virtually to discuss the LPP/EA upon request.

Public Outreach

In March 2023, we issued a press release advertising three public listening sessions in March and April 2023:

- Patuxent Research Refuge (National Wildlife Visitors Center), Laurel, MD - Thursday March 23, 2023 - 18 attendees.
- Charles County Administration Bldg., La Plata, MD - Thursday March 30, 2023 - 20 attendees in room, 10 attendees on Teams, unknown number of viewers via County simulcast.
- Calvert Marine Museum, Solomons, MD - Tuesday April 18, 2023 - 85 attendees.

At the listening sessions, we again presented the proposed refuge concept map, described the LPP/NEPA process and the Refuge System's Strategic Growth Priorities, and held a question-and-answer session.

Additionally, a public-facing web page describing the action was launched in April 2023:
<https://www.fws.gov/project/evaluating-new-refuge-lands-southern-maryland>

In addition to the listening sessions, presentations were made upon request to the St. Mary's County Commissioners, Calvert County Department of Planning and Zoning, Accokeek Foundation, Quail Forever, Forever Maryland Conference, Mattawoman Watershed Society, FWS Retirees Association, and Senator Van Hollen's (MD-D) staff.

45-Day Public Comment Period/Summary of Public Comments

In March 2024, the U.S. Fish and Wildlife Service released for public review the Draft LPP/EA for the proposed Southern Maryland Woodlands NWR. The Draft LPP/EA outlined two alternatives for managing the refuge. Alternative B was identified as the "Service-preferred alternative."

We released the Draft LPP/EA for 45 days of public review and comment from March 8 to April 22, 2024. One day prior to the release for public review, the Secretary of the Maryland Department of Natural Resources, the Maryland Congressional Delegation (Senator Cardin, Senator Van Hollen, and Congressman Hoyer), and the three federally recognized Tribes were notified through email of the pending release. On the day of release of the document, a press release was launched, and the Draft LPP/EA was posted at <https://www.fws.gov/project/evaluating-new-refuge-lands-southern-maryland>. Additionally, on the day of release, county governments (Anne Arundel, Prince Georges, Calvert, Charles, and St. Mary's), stakeholders, listening session attendees, and other members of the public who expressed interest were notified by email. During the comment period, we held information sessions upon request for the Patuxent River Commission, Friends of Patuxent Research Refuge Board, Southern Maryland Audubon, Congressman Hoyer and staff, and the Mallow's Bay-Potomac River National Marine Sanctuary Advisory Council.

Appendix III contains summaries of comments and quotes from the letters and e-mails sent to us during the comment period and our responses to them. There was one modification to the FWS-preferred alternative:

The Herring Bay watershed in Anne Arundel County was excluded from both the acquisition boundary and the Partnership Area in the Draft LPP/EA. Several commentors proposed that the Herring Bay watershed be included in the Partnership Area. After closer review, it was decided to include Herring Bay in the Partnership Area because of its rural character, several largely forested unprotected watersheds, importance to water quality in the Chesapeake Bay, and the presence of eroding cliffs and beaches that have the potential to support federally listed tiger beetles. We determined that this modification does not result in a significant change to the proposal to warrant a revised or amended draft before publishing the final LPP/EA.

Summary of Comments Received

After the comment period ended, we compiled all of the comments we received, including all letters, e-mails, telephone calls, and comments submitted at information sessions. In total, we received 328 separate

emailed written comments and one telephone call prior to and during the comment period and six comments in the days immediately following the comment period. Written comment letters were attached to 33 of the emails and 1 comment letter was mailed as a hard copy. Comment letters from the America the Beautiful for All Foundation, the Choose Clean Water Coalition, and the Chesapeake Conservation Partnership had multiple signatories from a total of 50 organizations.

Of the emails and comment letters submitted prior to and during the public comment period, 260 were fully supportive of the Plan and stated refuge goals without reservations or additional topics/recommendations identified. Thirty-nine commenters expressed general support for the plan with additional comments including: limit hunting and public access so as not to disturb wildlife; include hunting, fishing, and trapping as approved public uses; include horseback riding as an approved public use; protect cultural heritage; identified themselves as willing landowners; include a watershed of interest within the acquisition boundary or the Partnership Area; enhance public access; protect farming and rural landscapes; protect more than 40,000 acres; and the design is flawed due to lack of connectivity between parcels.

Two commentors were fully opposed to the Plan and stated refuge goals. One commentor opposed the Plan because of anti-government views. Four comments from or concerning the Piscataway Tribes were: 1) against the proposal, 2) neutral, and 3) two comments were unclear as to what the commentor's position was. The U.S. Navy Patuxent Naval Air Station submitted a comment letter stating that "the EA does not take into consideration the impacts the proposed action, specifically the designation of land as a refuge, will have to military operations."

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Acronyms

ACJV – Atlantic Coast Joint Venture
AOI – Area of Interest
AtB – America the Beautiful
BBS – Breeding Bird Survey
BCR – Bird Conservation Region
BMP – Best Management Practice
CCP – Comprehensive Conservation Plan
CEQ – Council on Environmental Quality
DOI – Department of the Interior
EO – Executive Order
FIDS – Forest Interior Dwelling Species
GI – Green Infrastructure
GIS – Geographic Information Systems
I&M – Inventory and Monitoring
IBA – Important Bird Area
LCD – Landscape Conservation Design
LPP/EA – Land Protection Plan/Environmental Assessment
LWCF – Land and Water Conservation Fund
MBCF – Migratory Bird Conservation Fund
MD DNR – Maryland Department of Natural Resources
MDP – Maryland Department of Planning
MEA – Millennium Ecosystem Assessment
MET – Maryland Environmental Trust
NABCI – North American Bird Conservation Initiative
NAWMP – North American Waterfowl Management Plan
NEPA – National Environmental Policy Act
NGO – Non-Governmental Organization
NHPA – National Historic Preservation Act
NRHP – National Register of Historic Places
NWRS – National Wildlife Refuge System
NWRSA – National Wildlife Refuge System Administration Act of 1966
PFA – Priority Funding Area
PWCA – Patuxent Waters Conservation Area
RRS – Refuge Revenue Sharing
SHC – Strategic Habitat Conservation
SMCA – Southern Maryland Conservation Alliance
SWAP – State Wildlife Action Plan
T&E – Threatened and Endangered Species
TEA – Target Ecological Area
TNC – The Nature Conservancy
UNESCO – United Nations Educational, Scientific, and Cultural Organization
USEPA – United States Environmental Protection Agency

USFWS – United States Fish and Wildlife Service
USGS – United States Geological Survey

Glossary

America the Beautiful (AtB) - The Biden-Harris Administration has set a national goal of conserving or restoring at least 30% of America's lands and waters by 2030. The U.S. Fish and Wildlife Service joins other federal agencies in supporting a 10-year, locally led campaign called *America the Beautiful* to help our nation achieve this goal. To coordinate this effort, the Service Directorate authorized the creation of a FWS-wide *America the Beautiful* team.

Anadromous Fish – Fish that migrate from oceans and bays up rivers and streams to breed.

Anthropogenic – Resulting from human activity.

Area of Interest (AOI) – For the purposes of this document, the AOI is synonymous with the proposed Refuge Acquisition Boundary.

Atlantic Coast Joint Venture (ACJV) - The Atlantic Coast Joint Venture is a partnership focused on the conservation of habitat for native birds in the Atlantic Flyway of the United States from Maine south to Puerto Rico. The joint venture is a partnership of the 17 states and commonwealths and key federal and regional habitat conservation agencies and organizations in the joint venture area.

Birds of Conservation Concern - This is a list developed from the most current conservation assessments from three bird conservation plans: *Partners in Flight*, *The United States Shorebird Conservation Plan*, and the *North American Waterbird Conservation Plan*. The FWS developed rules to narrow these lists by focusing on species, subspecies, or populations that have declining trends, small population sizes, and are facing severe threats at some point in their annual cycle.

Breeding Bird Survey (BBS) - The BBS is a long-term, large-scale, international avian monitoring program initiated in 1966 to track the status and trends of North American bird populations.

Chesapeake Bay Program – Established in 1983 to restore the Chesapeake Bay and led by the USEPA and the six Chesapeake Bay Watershed States.

Comprehensive Conservation Plan - A document that describes the desired future conditions of a refuge or planning unit and provides long-range guidance and management direction to achieve the purposes of the refuge; helps fulfill the mission of the Refuge System; maintains and, where appropriate, restores the ecological integrity of each refuge and the Refuge System; helps achieve the goals of the National Wilderness Preservation System; and meets other mandates.

Conceptual Management Plan - The purpose of the conceptual management plan is to provide at a minimum, a general outline on how the refuge would be operated and managed until the comprehensive management plan has been developed and is in place. The plan should be designed to answer those questions commonly posed by landowners and the general public during the entire planning and public involvement process.

Conservation Easement - The underlying fee title to the property is retained by the landowner, leaving the parcel in private ownership. Easements can be donated or purchased from willing sellers. For purchased conservation easements, the landowner is compensated for relinquishing certain development rights on the property in perpetuity.

Early Successional Forest – Forested habitat that develops shortly after a disturbance. Young forest.

Fee Title Acquisition - Fee title acquisition is the most common tool to conserve lands for the Refuge System in the Northeast Region, under which the FWS would purchase all rights of ownership from will sellers.

Forest Interior Dwelling Species (FIDS) – Species that require large unbroken forest hubs for nesting.

Geomorphology - The production of soils by weathering and erosion and the transport and deposition of soils.

Green Infrastructure (GI) – A strategically planned network of natural areas that provide ecosystem services like clean water, while also enhancing biodiversity through the provision of habitat and movement corridors.

Impervious Surface – Hard surfaces like roads and buildings that restrict rainwater from percolating through the soil.

Important Bird Area (IBA) – Sites identified by Audubon that contain essential habitat for one or more vulnerable bird species for breeding, wintering, or migrating.

Invasive Species – Invasive species are non-native species that threaten the diversity or abundance of native species, the ecological stability of infested habitat, or commercial, agricultural or recreational activities dependent on such habitat.

Land and Water Conservation Fund – One of two primary sources of funding for the Refuge System along with the MBCF, funds from the LWCF are derived primarily from the sale of offshore oil and gas leases.

Land Protection Plan/Environmental Assessment (LPP/EA) – Through the LPP/EA, the FWS is following its internal policy and guidance from the National Environmental Policy Act (NEPA). FWS policy requires preparation of a LPP to inform landowners and interested stakeholders about the details of the proposal. This document is combined with an EA as required by NEPA. The combined document is first developed in draft and made available for a public comment period of 45 days. The LPP/EA document describes the purpose and need for action, a description of the affected environment, alternatives including the FWS’s proposed action and a “status quo” alternative, the predicted environmental consequences of each alternative, and a description of consultation and coordination efforts. Public input is incorporated into the final document. The Director of the FWS has the authority to approve or disapprove the proposal.

Landscape Conservation Design (LCD) - LCD is a partnership-driven process that assesses current and anticipated future biological and socioeconomic conditions, depicts spatially explicit desired future conditions, and produces a suite of management strategies for achieving those conditions on a landscape scale. A component of the Strategic Habitat Conservation framework, conservation design is the application of scientific information, expert opinion, and spatial data that helps us to establish estimates of where and how to achieve our mission through landscape sustainability. It is the integration of multiple objectives and the determination of how to efficiently apportion objectives across the landscape and among Refuge System units.

Macrofauna – Animals that are one centimeter or more long, but smaller than earthworms. Includes centipedes, millipedes, slugs, snails, beetles, and spiders.

Mesic Forest – Forest that has a well-balanced moisture regime throughout the growing season.

Microfauna – Small, often microscopic animals. Includes nematodes, arthropods, and protozoans.

Migratory Bird Conservation Commission – The MBCC was established by the Migratory Bird Conservation Act of 1929 to consider and approve areas of land and/or water recommended by the Secretary of the Interior for purchase or rental to conserve wetlands and related habitat for migratory birds. In addition, the commission approves funding for NAWCA grants that fund public-private collaborative projects to protect large wetlands and associated uplands for migratory birds.

Migratory Bird Conservation Fund - One of two primary sources of funding for the Refuge System along with the LWCF, the MBCF is funded by sales of Migratory Bird Hunting and Conservation Stamps (also known as “duck stamps”) and import duties on the sales of firearms and ammunition.

National Environmental Policy Act (NEPA) – The NEPA of 1970 requires Federal agencies to assess the environmental effects of proposed major Federal actions prior to making decisions.

North American Waterfowl Management Plan - The North American Waterfowl Management Plan is an international plan to conserve waterfowl and migratory birds in North America. It was established in 1986 by Canada and the United States and expanded to include Mexico in 1994.

Northeast Region – The Northeast Region of the USFWS is one of eight geographic regions and extends from Maine to Virginia.

Partnership Area – The Partnership Area consists of Southern Maryland lands outside of but adjacent to and between the four Refuge Units. Within the Partnership Area, refuge funding sources will not be expended, but the FWS will make a concerted effort to apply Coastal Program and Partners for Fish and Wildlife funding and staffing resources, coordinating, and pooling funds and other resources with the Southern Maryland Conservation Alliance and other partners to implement on-the-ground restoration and conservation projects.

Patuxent Waters Conservation Area – The term used to describe the geographic area on the Western Shore of the Chesapeake Bay subject to the 2018 Landscape Conservation Design. The PWCA covered over 900,000 acres in Howard, Montgomery, Anne Arundel, Prince Georges, Calvert, Charles, and St. Mary’s Counties, Maryland.

Preliminary Project Proposal (PPP) – The first of the three-step process to establish a new refuge, a PPP must be prepared for all acquisition proposals for new refuges or additions of over 40 acres to existing refuges, including those proposed for acquisition by purchase, exchange, transfer, donation, mitigation, or a proposed congressional action. After the PPP is approved by the FWS’s Director, the project moves into the Landscape Conservation Design Phase, followed by the LPP/EA phase.

Refuge Acquisition Boundary – Once established upon approval by the Director of the USFWS, provides the FWS with the authority to purchase interest in land from willing sellers to incorporate into the Refuge System.

Refuge System’s Strategic Growth Policy - The National Wildlife Refuge System Administration Act of 1966 as amended by the National Wildlife Refuge System Improvement Act of 1997, directs the Secretary of the Interior to “plan and direct the continued growth of the Refuge System in a manner that is best designed to accomplish the mission of the System, to contribute to the conservation of the ecosystems of the United States, to complement efforts of States and other Federal agencies to conserve

fish and wildlife and their habitats, and to increase support for the Refuge System and participation from conservation partners and the public. *Conserving the Future: Wildlife Refuges and the Next Generation* (2011), the Refuge System’s guiding vision document, calls for the FWS to “ensure future land protection efforts are based on explicit priorities, rigorous biological planning, and conservation design that support achieving measurable conservation and population objectives that are developed in cooperation with State fish and wildlife agencies.”

Riparian Forest – Forest that occurs along streams, rivers, lakes, and wetlands.

Southern Maryland – For the purposes of this LPP/EA, “Southern Maryland” refers to Anne Arundel, Prince Georges, Calvert, Charles, and St. Mary’s Counties, Maryland, on the western shore of the Chesapeake Bay.

State Wildlife Action Plan - State Wildlife Action Plans serve as the blueprints for conserving our nation's fish and wildlife and preventing endangered species. In 2005, each state, territory and District Columbia submitted their plan for approval to the USFWS as a condition for receiving funding through the [State and Tribal Wildlife Grants program](#). The plans were reviewed and revised in 2015 with the latest science and information to guide the conservation of over [12,000 species in greatest conservation need](#). Copied from: <https://www.fishwildlife.org/afwa-informs/state-wildlife-action-plans>.

Strategic Habitat Conservation (SHC) - SHC is the FWS’s adaptive management framework for making management decisions about where and how to deliver conservation efficiently to achieve specific biological outcomes. SHC requires the FWS to set goals, make strategic decisions about our actions, and constantly reassess and improve our approaches—all critical steps in dealing with a range of landscape-scale resource issues.

Surrogate Species - Representing other species or aspects of the environment, surrogate species are used to define measurable targets and guide conservation design. Surrogates represent multiple species and habitats within a defined landscape, geographic area, or specific national wildlife refuge.

Targeted Ecological Areas (TEA) – Ecologically valuable lands identified as conservation priorities for the MD DNR’s land protection programs.

Vernal Pool – Shallow depressions that hold water se

Appendix I – Acquisition Plan

We prioritized parcels for protection within the four proposed refuge units via GIS analysis of the following eight considerations, allowing for a parcel to receive a maximum of eight points. Refuge System Strategic Growth priorities:

1. ACJV Waterfowl Focus Areas
2. ACJV Landbird Focus Areas
3. ACJV Waterbird Focus Areas
4. Audubon Important Bird Areas
5. Presence of Federally Listed Threatened and Endangered Species.

In addition to the Strategic Growth Priorities, we also included these additional criteria:

1. MD DNR Green Infrastructure
2. MD DNR Targeted Ecological Areas
3. Parcels greater than or equal to 100 acres

No parcel received all eight points, with six being the greatest number attained. This resulted in six priority Tiers for acquisition consideration, with parcels in Tier 1 having none of the important natural resource characteristics and parcels in Tier 6 having six important natural resource characteristics. Parcels in Tier 6 will therefore be the highest priority for incorporation into the Refuge System either through fee-simple purchase or purchase of conservation easements from willing sellers. Unprotected parcels within the four proposed refuge units are listed in priority order according to this methodology in the tables attached to this Appendix.

Maps A-1A through A-4 in this Appendix show the undeveloped non-protected parcels that are 20 acres or greater within the four proposed refuge units. The Map Number associated with each parcel is not a rank, but simply an identifier, so that parcels on the map can be cross-referenced with the information on the parcel prioritization tables attached to this Appendix.

Technical Description of the Parcel Selection and Prioritization Process for the Southern Maryland Woodland Refuge Land Protection Plan

Software Used:

Geographic Information System (GIS) ESRI ArcGIS Pro Version 2.9.5

Microsoft Excel from Microsoft 365 Apps for Enterprise

GIS data layers for Parcel Selection:

Parcels polygons downloaded on 9/7/2022 for Anne Arundel, Calvert, Prince Georges, Charles, and St. Mary's counties from Maryland Department of Planning

<https://planning.maryland.gov/Pages/OurProducts/downloadFiles.aspx>

Protected lands polygons downloaded on 10/8/2022 from MD iMAP Portal

<https://data.imap.maryland.gov/>

Priority funding area polygons downloaded on 10/8/2022 from MD iMAP Portal
<https://data.imap.maryland.gov/>

Parcel Selection Steps using ArcGIS Pro:

1. The Select by Location tool selected all parcels within the four draft focus area boundaries. The selection was exported into a GIS data layer (file: Parcels_LPPBound.shp).
2. Using file from #1, the Select by Attributes tool selected parcels greater than or equal to 20 acres. The selection was exported into a GIS data layer (file: Parcels_LPPBound20plusAc.shp).
3. Using file from #2, all parcels with some form of land protection (ex. existing conservation easement, owned by government entity) were removed from the selection (file: Parcels_LPPBound20plusAc_NoPL.shp).
4. Using file from #3, all parcels located within a state defined Priority Funding Area were removed from the selection, with one exception of parcels owned by Girl Scouts of America near Marlton, to create the final parcel GIS data layer (file: Parcels_20ac_LPPBoundary.shp).

GIS data layers for Parcel Prioritization:

Atlantic Coast Joint Venture 1) waterfowl focus area, 2) waterbird focus area, and 3) landbird focus area polygons downloaded on 8/23/2022 from <https://acjv.org/new-tools-and-data/> plus migratory bird stopover data downloaded on 8/31/2022 from USGS Science Base Catalog <https://www.sciencebase.gov/catalog/item/5ab12364e4b081f61ab25f0e>

4) Threatened and endangered species (T&E) occurrence data housed locally on Chesapeake Bay Field Office file server

5) Audubon Important Bird Areas (IBA) downloaded on 8/9/2022 from <https://library-audubon.hub.arcgis.com/search?collection=Dataset>

6) Green Infrastructure (GI) Hubs and Corridors downloaded on 9/1/2022 from MD iMAP Portal <https://data.imap.maryland.gov/>

7) Targeted Ecological Areas (TEA) downloaded on 8/9/2022 from MD iMAP Portal <https://data.imap.maryland.gov/>

8) Parcel Size from attribute table of parcel polygons downloaded on 9/7/2022

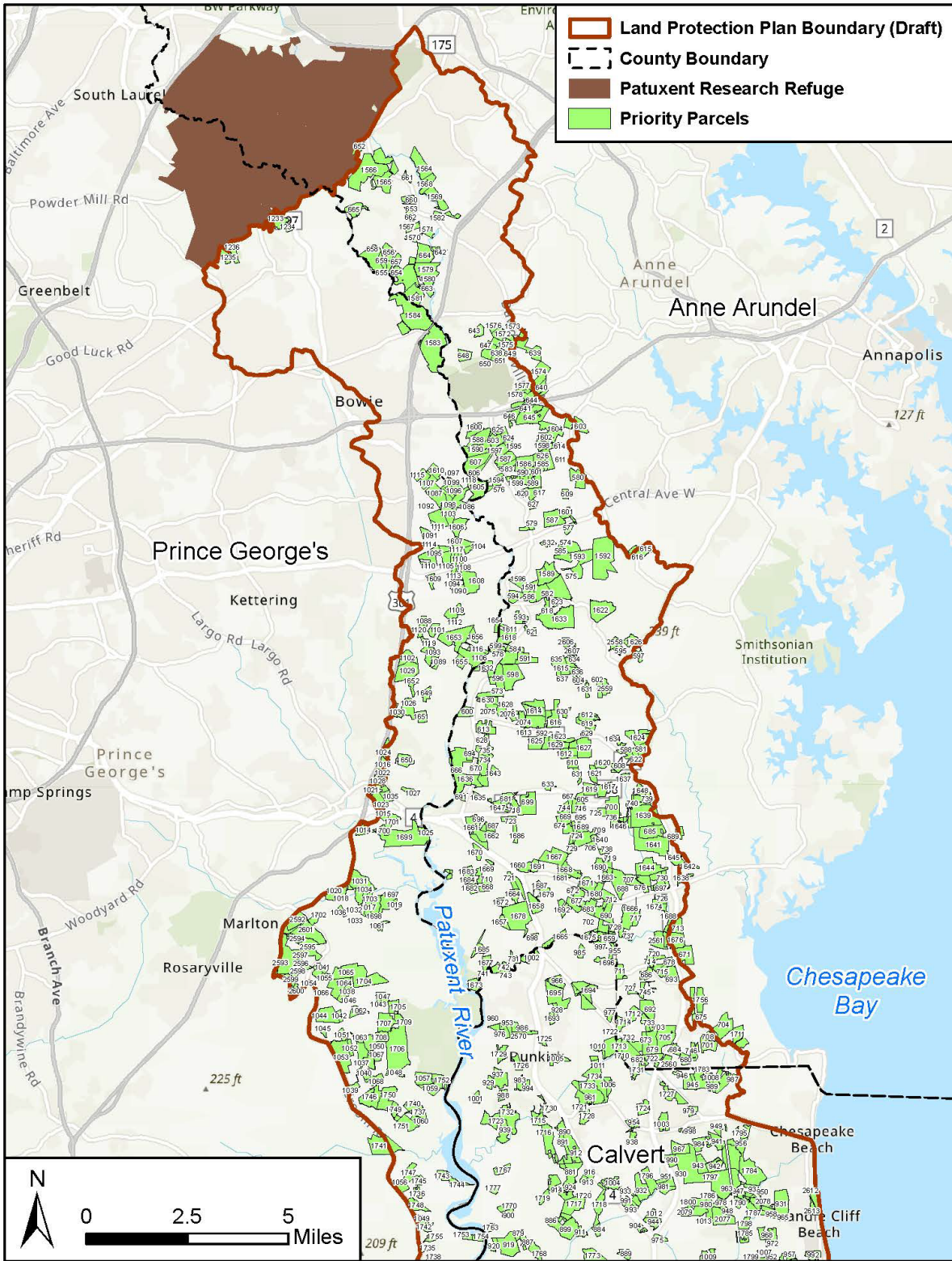
Parcel Prioritization Steps using ArcGIS Pro and Microsoft Excel:

1. Using ArcGIS Pro, assigned a unique number field to the parcel polygons final layer created from Step 4 above.
2. Used 'Select by Location' Tool to select parcels that intersected each of the seven resource data layers. For Parcel Size parameter, used 'Select by Attributes' Tool to select parcels greater than or equal to 100 acres.
3. Used 'Table to Excel' tool to export the selected records to excel tables (files: Parcels_GIHubandCorridor_TableToExcel.xlsx, Parcels_IBA_TableToExcel.xlsx, Parcels_T&E_TableToExcel.xlsx, Parcels_TEA_TableToExcel.xlsx,

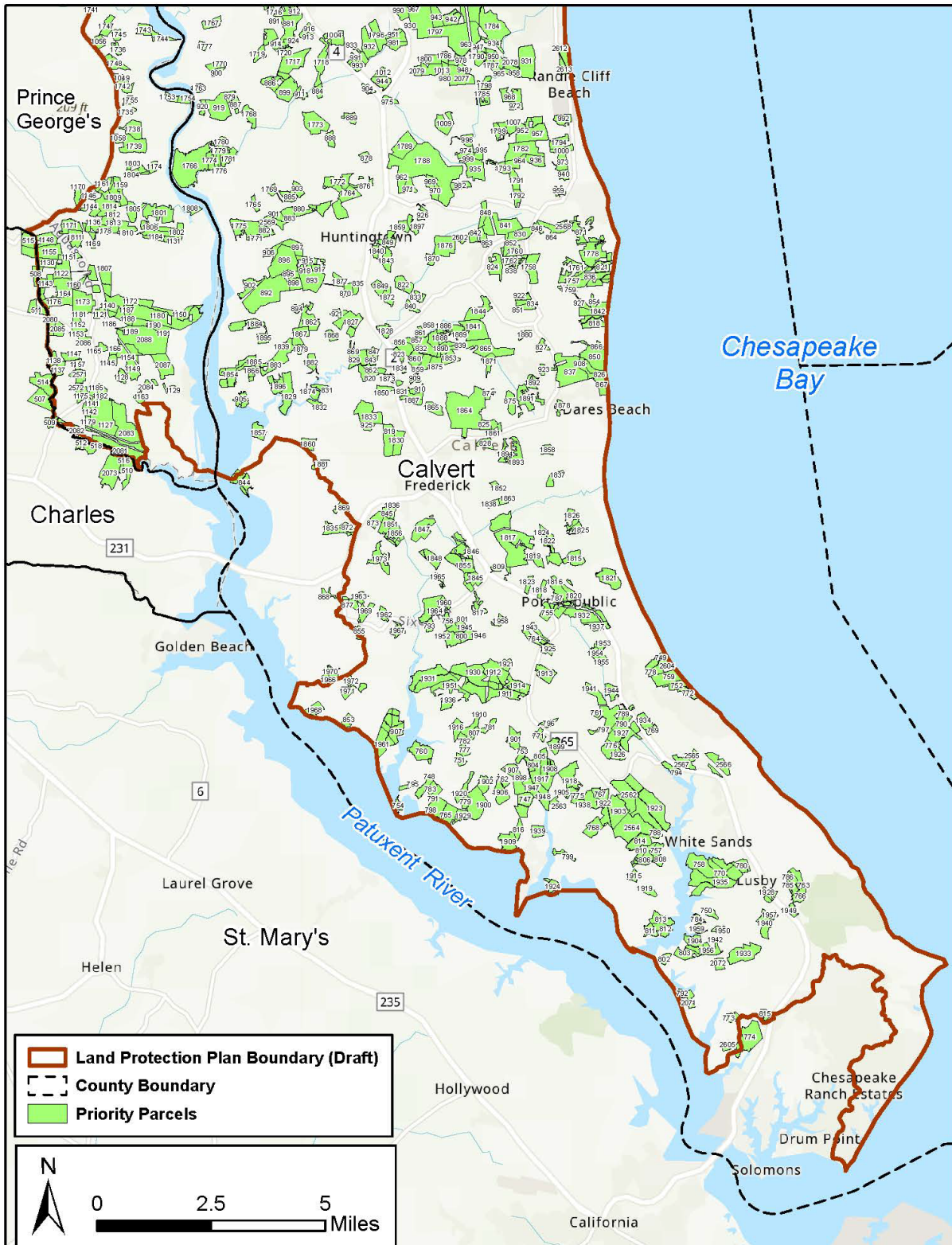
Parcels_Waterbird_TableToExcel.xlsx, Parcels_Waterfowl_TableToExcel.xlsx,
Parcels_Landbird_TabletoExcel.xlsx, Parcels_Size_TabletoExcel.xlsx)

4. Using Excel, combined all tables in a master excel table with multiple sheets (file: parcels_all_table.xlsx).
5. Added an Attribute column to the combined sheet (All_Tables tab) for the eight prioritization parameters: Waterfowl, Waterbird, Landbird, T&E, IBA, GI, TEA, and Size.
6. Added a ResourceCount column to the combined sheet and used COUNTIF formula to total number of prioritization parameters for each parcel.
7. Copied the records from All_Tables tab into a new sheet named Summary_Data.
8. Added a ResourceCountValue column to Summary_Data sheet and pasted only the values from the ResourceCount column from All_Tables tab to remove the formula.
9. Used Remove Duplicates tool from Data Menu to create a table with only one record per parcel.
10. In ArcGIS Pro, joined the ResourceCount values to the number field in the Parcels_20ac_LPPBoundary.shp GIS data layer.
11. Copied the values from the ResourceCount field to a new field named Parameter Count to save the join.

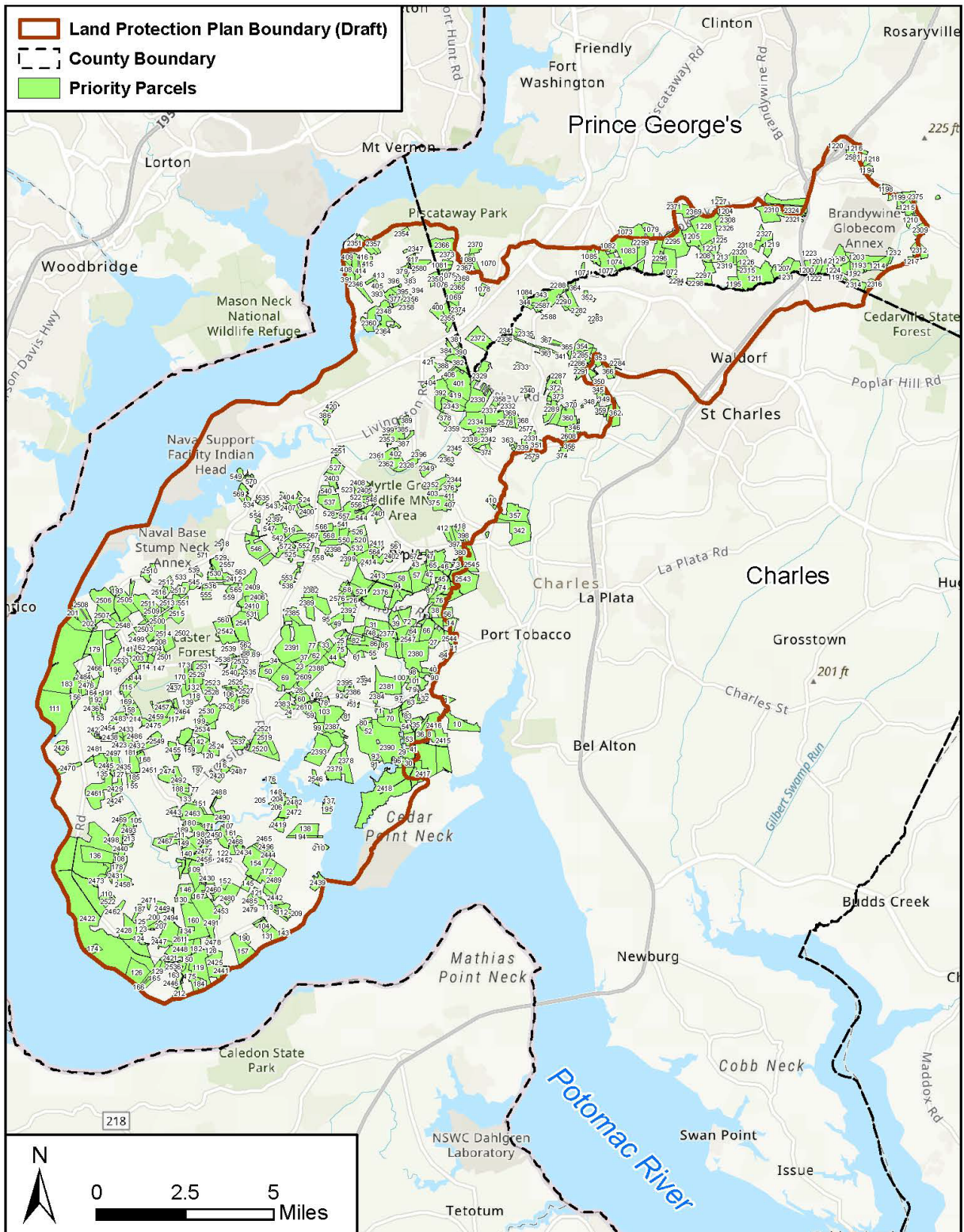
Map A1A. Lower Patuxent - Calvert Unit Parcels (North)



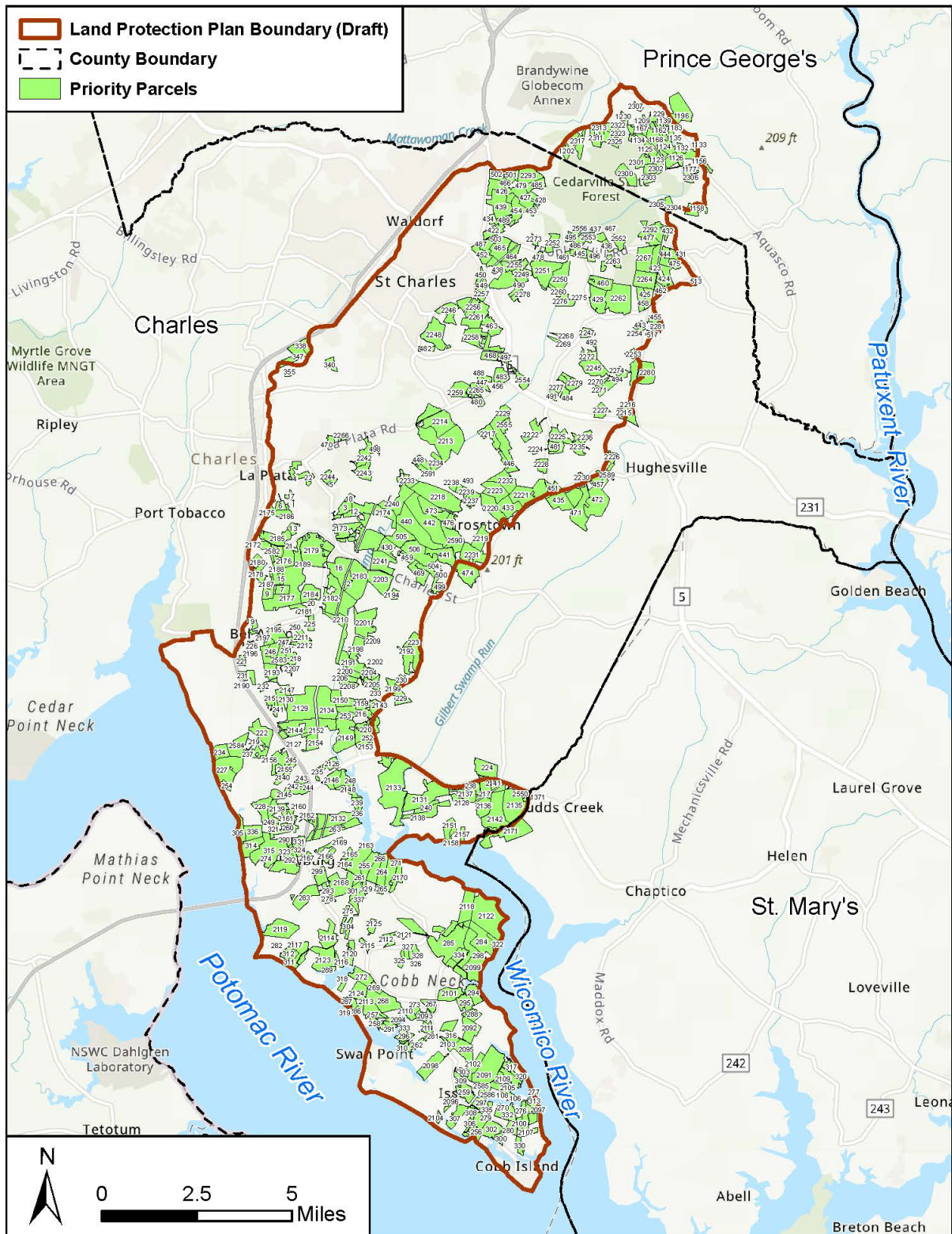
Map A1B. Lower Patuxent - Calvert Unit Parcels (South)



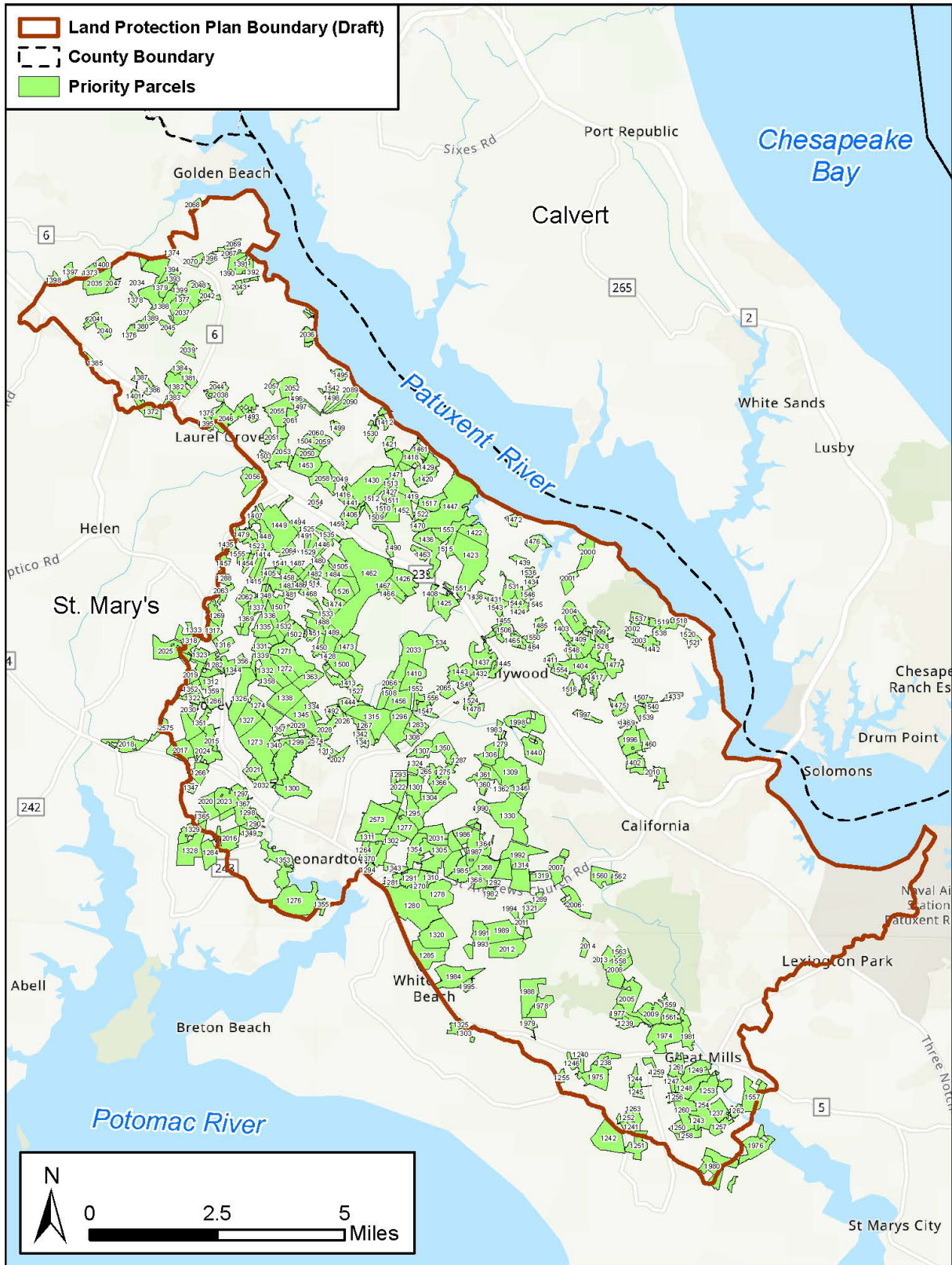
Map A2. Nanjemoy - Mattawoman Unit Parcels



Map A3. Zekiah Swamp - Wicomico Unit Parcels



Map A4. McIntosh Run - St. Mary's Unit Parcels



Lower Patuxent-Calvert Unit - Tiered Parcels (Tier 0 = Lowest Value/Priority; Tier 6 = Highest Value/Priority)

UNIT	COUNTY	ACCT ID	CITY	MAP	PARCEL	SDAT ACRES	MAP NUMBER	TIER
LOWER PATUXENT-CALVERT	PRIN	17040255935	UPPER MARLBORO	0138	0006	330.17	1706	6
LOWER PATUXENT-CALVERT	PRIN	17030227546	UPPER MARLBORO	0102	0030	255	1699	6
LOWER PATUXENT-CALVERT	PRIN	17040254664	UPPER MARLBORO	0148	0027	196.63	1741	6
LOWER PATUXENT-CALVERT	PRIN	17040256768	UPPER MARLBORO	0129	0015	106.92	1707	6
LOWER PATUXENT-CALVERT	PRIN	17040256131	BRANDYWINE	0159	0009	20.05	1744	6
LOWER PATUXENT-CALVERT	CALV	0501011251	PORT REPUBLIC	0028	0073	413.02	1817	5
LOWER PATUXENT-CALVERT	CALV	0501020129	SAINT LEONARD	0034	0139	280	1923	5
LOWER PATUXENT-CALVERT	CALV	0501025961	PORT REPUBLIC	0030	0013	268.03	1930	5
LOWER PATUXENT-CALVERT	CALV	0501025988	PORT REPUBLIC	0030	0014	192.01	1931	5
LOWER PATUXENT-CALVERT	CALV	0501027387	LUSBY	0039	0008	141.87	1935	5
LOWER PATUXENT-CALVERT	CALV	0501021389	SAINT LEONARD	0034	0055	132.76	1927	5
LOWER PATUXENT-CALVERT	CALV	0501008137	PORT REPUBLIC	0030	0131	130	1912	5
LOWER PATUXENT-CALVERT	CALV	0503253350	DUNKIRK	0006	0025	122.9	1732	5
LOWER PATUXENT-CALVERT	CALV	0501026771	LUSBY	0042	0014	122.83	1933	5
LOWER PATUXENT-CALVERT	CALV	0502013614	PRINCE FREDERICK	0027	0084	107.3	1964	5
LOWER PATUXENT-CALVERT	CALV	0501017632	SAINT LEONARD	0034	0075	103.36	1918	5
LOWER PATUXENT-CALVERT	CALV	0503003442	DUNKIRK	0006	0031	68.1	939	5
LOWER PATUXENT-CALVERT	PRIN	17040256115	BRANDYWINE	0158	0024	55.08	1743	5
LOWER PATUXENT-CALVERT	ANNE	020800001652500	LOTHIAN	0079	0001	53.17	1673	5
LOWER PATUXENT-CALVERT	PRIN	17040266619	UPPER MARLBORO	0138	0029	52.21	1752	5
LOWER PATUXENT-CALVERT	ANNE	020800090041154	LOTHIAN	0071	0008	45.96	1684	5
LOWER PATUXENT-CALVERT	ANNE	020800090002555	LOTHIAN	0076	0063	44.05	1677	5
LOWER PATUXENT-CALVERT	PRIN	17043036019	UPPER MARLBORO	0129	0017	27.01	1709	5
LOWER PATUXENT-CALVERT	PRIN	17030222331	UPPER MARLBORO	0102	0016	20.82	1025	5
LOWER PATUXENT-CALVERT	CALV	0503011666	HUNTINGTOWN	0015	0017	650	1788	4
LOWER PATUXENT-CALVERT	CALV	0503021173	SUNDERLAND	0011	0005	527.95	1797	4
LOWER PATUXENT-CALVERT	CALV	0502021595	PRINCE FREDERICK	0021	0042	409.3	1864	4
LOWER PATUXENT-CALVERT	CALV	0503003655	SUNDERLAND	0011	0149	339.44	1784	4
LOWER PATUXENT-CALVERT	PRIN	17080845917	AQUASCO	0180	0086	332.15	2088	4
LOWER PATUXENT-CALVERT	CALV	0502110210	OWINGS	0014	0027	308	1766	4
LOWER PATUXENT-CALVERT	CALV	0501196677	SAINT LEONARD	0034	0306	264.36	2564	4
LOWER PATUXENT-CALVERT	CALV	0502112272	HUNTINGTOWN	0017	0013	249.65	892	4
LOWER PATUXENT-CALVERT	CALV	0501002147	SAINT LEONARD	0034	0021	249.29	1903	4
LOWER PATUXENT-CALVERT	ANNE	020800090002810	LOTHIAN	0076	0041	225.23	1678	4
LOWER PATUXENT-CALVERT	PRIN	17080829150	AQUASCO	0182	0036	222.69	1127	4
LOWER PATUXENT-CALVERT	PRIN	17040251819	UPPER MARLBORO	0129	0001	205.22	1704	4
LOWER PATUXENT-CALVERT	PRIN	17083243151	AQUASCO	0181	0003	201.83	1180	4
LOWER PATUXENT-CALVERT	CALV	0502113406	HUNTINGTOWN	0017	0011	185.76	896	4
LOWER PATUXENT-CALVERT	CALV	0502072386	PRINCE FREDERICK	0021	0320	185.24	865	4
LOWER PATUXENT-CALVERT	PRIN	17080844688	AQUASCO	0180	0009	160.41	1172	4
LOWER PATUXENT-CALVERT	CALV	0503011763	CHESAPEAKE BEACH	0016	0059	156.7	957	4
LOWER PATUXENT-CALVERT	CALV	0502143631	CHESAPEAKE BEACH	0019	0245	154.83	1778	4
LOWER PATUXENT-CALVERT	CHAR	0909012575	HUGHESVILLE	0037	0091	152.53	2073	4
LOWER PATUXENT-CALVERT	CALV	0502143429	OWINGS	0010	0339	142.87	919	4
LOWER PATUXENT-CALVERT	CALV	0502018772	HUNTINGTOWN	0018	0157	142.33	841	4
LOWER PATUXENT-CALVERT	PRIN	17030244137	UPPER MARLBORO	0111	0011	133.25	1031	4
LOWER PATUXENT-CALVERT	PRIN	17080844720	AQUASCO	0180	0005	127.46	1173	4
LOWER PATUXENT-CALVERT	CALV	0502008416	PRINCE FREDERICK	0021	0145	127.27	1841	4
LOWER PATUXENT-CALVERT	ANNE	020200002392000	GAMBRILLS	0049	0009	124.368	639	4
LOWER PATUXENT-CALVERT	CALV	0502000709	HUNTINGTOWN	0020	0021	121.53	1829	4
LOWER PATUXENT-CALVERT	CALV	0502109824	OWINGS	0006	0033	121.18	1716	4
LOWER PATUXENT-CALVERT	CALV	0503001695	CHESAPEAKE BEACH	0016	0002	120.7	1782	4
LOWER PATUXENT-CALVERT	CALV	0501212826	SAINT LEONARD	0031	0340	118.61	797	4
LOWER PATUXENT-CALVERT	CALV	0502064871	HUNTINGTOWN	0018	0056	114.31	1876	4
LOWER PATUXENT-CALVERT	CALV	0503003795	SUNDERLAND	0011	0147	113.71	2077	4
LOWER PATUXENT-CALVERT	CALV	0501007955	PORT REPUBLIC	0031	0080	112.34	1911	4
LOWER PATUXENT-CALVERT	CALV	0502109220	OWINGS	0010	0109	110	881	4
LOWER PATUXENT-CALVERT	PRIN	17030191825	UPPER MARLBORO	0111	0003	108.68	1697	4
LOWER PATUXENT-CALVERT	PRIN	17080827584	AQUASCO	0179	0008	107.21	1801	4
LOWER PATUXENT-CALVERT	PRIN	17040252668	BRANDYWINE	0174	0038	107.14	1739	4
LOWER PATUXENT-CALVERT	CALV	0502000253	HUNTINGTOWN	0021	0122	106.98	1827	4

UNIT	COUNTY	ACCT ID	CITY	MAP	PARCEL	SDAT ACRES	MAP NUMBER	TIER
LOWER PATUXENT-CALVERT	CALV	0501023233	LUSBY	0039	0009	104.97	770	4
LOWER PATUXENT-CALVERT	CALV	0502001985	PRINCE FREDERICK	0021	0039	104.15	1833	4
LOWER PATUXENT-CALVERT	PRIN	17080844712	AQUASCO	0183	0016	100.63	2087	4
LOWER PATUXENT-CALVERT	CALV	0501010735	LUSBY	0039	0007	100	758	4
LOWER PATUXENT-CALVERT	CALV	0502017806	PRINCE FREDERICK	0027	0012	99.57	1855	4
LOWER PATUXENT-CALVERT	CALV	0503002926	HUNTINGTOWN	0015	0018	99.5	935	4
LOWER PATUXENT-CALVERT	CALV	0501026453	PORT REPUBLIC	0028	0022	99.5	1821	4
LOWER PATUXENT-CALVERT	CALV	0502122855	PRINCE FREDERICK	0033	0225	98.71	907	4
LOWER PATUXENT-CALVERT	ANNE	020200090076043	GAMBRILLS	0049	0051	97.43	1574	4
LOWER PATUXENT-CALVERT	PRIN	17080840421	AQUASCO	0184	0007	97	2081	4
LOWER PATUXENT-CALVERT	CALV	0501009869	PORT REPUBLIC	0028	0019	95.01	1816	4
LOWER PATUXENT-CALVERT	CALV	0501020102	SAINT LEONARD	0034	0138	94	2562	4
LOWER PATUXENT-CALVERT	CALV	0501012258	PORT REPUBLIC	0028	0007	89.86	1819	4
LOWER PATUXENT-CALVERT	CALV	0501229443	PORT REPUBLIC	0030	0244	89.28	1951	4
LOWER PATUXENT-CALVERT	PRIN	17040266379	UPPER MARLBORO	0148	0023	80.5	1751	4
LOWER PATUXENT-CALVERT	CALV	0501016385	SAINT LEONARD	0034	0017	75.64	1917	4
LOWER PATUXENT-CALVERT	PRIN	17040265371	UPPER MARLBORO	0138		74.879	1057	4
LOWER PATUXENT-CALVERT	CALV	0501233270	LUSBY	0035	0148	74.79	2566	4
LOWER PATUXENT-CALVERT	CALV	0501011618	PORT REPUBLIC	0031	0079	72.97	1914	4
LOWER PATUXENT-CALVERT	ANNE	020800000372400	LOTHIAN	0066	0012	66.23	1636	4
LOWER PATUXENT-CALVERT	CALV	0501222848	SAINT LEONARD	0034	0246	66.19	805	4
LOWER PATUXENT-CALVERT	CALV	0501002112	PORT REPUBLIC	0028	0008	66	1815	4
LOWER PATUXENT-CALVERT	CALV	0501026232	SAINT LEONARD	0034	0037	65.94	776	4
LOWER PATUXENT-CALVERT	CALV	0501026518	SAINT LEONARD	0028	0031	65.58	1932	4
LOWER PATUXENT-CALVERT	CALV	0501154567	LUSBY	0039	0198	62.81	1940	4
LOWER PATUXENT-CALVERT	CALV	0501222856	SAINT LEONARD	0034	0248	59.02	1947	4
LOWER PATUXENT-CALVERT	CALV	0501222864	SAINT LEONARD	0034	0247	59.01	1948	4
LOWER PATUXENT-CALVERT	PRIN	17040266007	UPPER MARLBORO	0138		55.926	1059	4
LOWER PATUXENT-CALVERT	CALV	0502061651	HUNTINGTOWN	0021	0299	54.89	859	4
LOWER PATUXENT-CALVERT	ANNE	020800090049262	LOTHIAN	0075	0011	51.5	1685	4
LOWER PATUXENT-CALVERT	CALV	0501234498	PRINCE FREDERICK	0030	0322	51.33	1952	4
LOWER PATUXENT-CALVERT	CALV	0501244817	SAINT LEONARD	0035	0169	50	2567	4
LOWER PATUXENT-CALVERT	CALV	0502061678	HUNTINGTOWN	0021	0299	48.87	860	4
LOWER PATUXENT-CALVERT	ANNE	020800090025359	LOTHIAN	0071	0085	48.34	1683	4
LOWER PATUXENT-CALVERT	CALV	0501001663	PORT REPUBLIC	0034	0043	48.33	1901	4
LOWER PATUXENT-CALVERT	PRIN	17040252965	UPPER MARLBORO	0129	0010	46.67	1705	4
LOWER PATUXENT-CALVERT	CALV	0501003577	SAINT LEONARD	0034	0167	46.64	1908	4
LOWER PATUXENT-CALVERT	PRIN	17030198226	UPPER MARLBORO	0120	0046	45.32	1698	4
LOWER PATUXENT-CALVERT	CALV	0501229753	PORT REPUBLIC	0025	0094	40.13	1826	4
LOWER PATUXENT-CALVERT	CALV	0501005693	SAINT LEONARD	0034	0005	40	753	4
LOWER PATUXENT-CALVERT	CALV	0502006111	PRINCE FREDERICK	0024	0031	39.5	828	4
LOWER PATUXENT-CALVERT	PRIN	17040266650	UPPER MARLBORO	0148	0020	38.7	1060	4
LOWER PATUXENT-CALVERT	CALV	0502001608	HUNTINGTOWN	0021	0028	35.32	1831	4
LOWER PATUXENT-CALVERT	CALV	0501021907	SAINT LEONARD	0034	0029	34.11	768	4
LOWER PATUXENT-CALVERT	CALV	0501028138	LUSBY	0039	0090	31.99	780	4
LOWER PATUXENT-CALVERT	CALV	0501219170	PRINCE FREDERICK	0030	0287	31.8	1946	4
LOWER PATUXENT-CALVERT	CALV	0502147904	PRINCE FREDERICK	0025	0133	30.2	1894	4
LOWER PATUXENT-CALVERT	CALV	0503155765	DUNKIRK	0005	0022	30	1001	4
LOWER PATUXENT-CALVERT	CALV	0501023969	PORT REPUBLIC	0028	0018	29.99	1820	4
LOWER PATUXENT-CALVERT	CALV	0502007649	PRINCE FREDERICK	0027	0083	29.99	1960	4
LOWER PATUXENT-CALVERT	PRIN	17040250480	UPPER MARLBORO	0148	0047	29.9	1737	4
LOWER PATUXENT-CALVERT	CALV	0501205986	SAINT LEONARD	0035	0126	29.19	794	4
LOWER PATUXENT-CALVERT	ANNE	020848290058356	LOTHIAN	0076	0115	27.65	741	4
LOWER PATUXENT-CALVERT	CALV	0501171569	PORT REPUBLIC	0028	0214	27.15	1824	4
LOWER PATUXENT-CALVERT	CALV	0501219162	PRINCE FREDERICK	0030	0287	27.04	1945	4
LOWER PATUXENT-CALVERT	CALV	0501219154	PRINCE FREDERICK	0030	0287	26.18	801	4
LOWER PATUXENT-CALVERT	CALV	0502091461	OWINGS	0010	0030	26.12	1763	4
LOWER PATUXENT-CALVERT	CALV	0501229559	PRINCE FREDERICK	0027	0351	25.96	809	4
LOWER PATUXENT-CALVERT	CALV	0501219146	PRINCE FREDERICK	0030	0287	25.31	800	4
LOWER PATUXENT-CALVERT	PRIN	17042796456	BRANDYWINE	0169	0033	25.1	1753	4
LOWER PATUXENT-CALVERT	PRIN	17042796464	BRANDYWINE	0169	0032	25.1	1754	4

UNIT	COUNTY	ACCT ID	CITY	MAP	PARCEL	SDAT ACRES	MAP NUMBER	TIER
LOWER PATUXENT-CALVERT	CALV	0501003658	LUSBY	0039	0127	25	750	4
LOWER PATUXENT-CALVERT	CALV	0502123053	HUNTINGTOWN	0021	0375	25	910	4
LOWER PATUXENT-CALVERT	CALV	0502123029	HUNTINGTOWN	0021	0378	24.03	909	4
LOWER PATUXENT-CALVERT	CALV	0501222546	PORT REPUBLIC	0028	0220	23.43	1825	4
LOWER PATUXENT-CALVERT	CALV	0503016773	DUNKIRK	0003	0201	23.28	976	4
LOWER PATUXENT-CALVERT	CALV	0501148117	SAINT LEONARD	0034	0177	23.26	1938	4
LOWER PATUXENT-CALVERT	CALV	0502019264	PRINCE FREDERICK	0025	0012	22	1858	4
LOWER PATUXENT-CALVERT	CALV	0501011448	PRINCE FREDERICK	0028	0067	21.78	1818	4
LOWER PATUXENT-CALVERT	PRIN	17030201038	UPPER MARLBORO	0111	0039	21.55	1019	4
LOWER PATUXENT-CALVERT	CALV	0502147599	PRINCE FREDERICK	0025	0128	21.39	1893	4
LOWER PATUXENT-CALVERT	CALV	0501152874	PRINCE FREDERICK	0028	0063	21.26	1823	4
LOWER PATUXENT-CALVERT	CALV	0501194747	PORT REPUBLIC	0028	0093	21	787	4
LOWER PATUXENT-CALVERT	CALV	0502006944	PRINCE FREDERICK	0024	0210	20.7	1838	4
LOWER PATUXENT-CALVERT	ANNE	020848290072011	LOTHIAN	0076	0115	20.49	743	4
LOWER PATUXENT-CALVERT	CALV	0501008013	PRINCE FREDERICK	0027	0193	20.21	756	4
LOWER PATUXENT-CALVERT	CALV	0502021552	PRINCE FREDERICK	0025	0036	20.08	1863	4
LOWER PATUXENT-CALVERT	ANNE	020848290058357	LOTHIAN	0076	0115	20	742	4
LOWER PATUXENT-CALVERT	CALV	0502005492	PRINCE FREDERICK	0025	0031	20	1837	4
LOWER PATUXENT-CALVERT	CALV	0502015994	PRINCE FREDERICK	0024	0209	20	1852	4
LOWER PATUXENT-CALVERT	PRIN	17080841007	AQUASCO	0184	0010	20	2083	4
LOWER PATUXENT-CALVERT	ANNE	020400090051052	ODENTON	0036	0241	325.64	1566	3
LOWER PATUXENT-CALVERT	PRIN	17151750629	UPPER MARLBORO	0119	0109	264.91	2593	3
LOWER PATUXENT-CALVERT	ANNE	020138490046232	HARWOOD	0063	0095	242	1633	3
LOWER PATUXENT-CALVERT	CALV	0502012901	HUNTINGTOWN	0022	0013	224.75	837	3
LOWER PATUXENT-CALVERT	ANNE	020800001696100	LOTHIAN	0073	0180	217.42	1639	3
LOWER PATUXENT-CALVERT	ANNE	020800090009705	LOTHIAN	0073	0004	213.92	1641	3
LOWER PATUXENT-CALVERT	PRIN	17141594753	BOWIE-NORTH	0038	0001	202.68	1584	3
LOWER PATUXENT-CALVERT	PRIN	17040264481	UPPER MARLBORO	0138	0001	177.94	1053	3
LOWER PATUXENT-CALVERT	PRIN	17070718882	UPPER MARLBORO	0078	0013	175.51	1653	3
LOWER PATUXENT-CALVERT	PRIN	17070712620	BOWIE	0038	0056	166.39	1583	3
LOWER PATUXENT-CALVERT	ANNE	020100008638950	HARWOOD	0063	0047	156.44	1622	3
LOWER PATUXENT-CALVERT	CALV	0501023772	LUSBY	0042	0089	154.51	774	3
LOWER PATUXENT-CALVERT	PRIN	17151727494	UPPER MARLBORO	0119	0052	148.5	2601	3
LOWER PATUXENT-CALVERT	PRIN	17070682880	BOWIE	0064	0023	147.9	1605	3
LOWER PATUXENT-CALVERT	CALV	0503000672	CHESAPEAKE BEACH	0012	0002	146.92	931	3
LOWER PATUXENT-CALVERT	ANNE	020100006595800	HARWOOD	0063	0029	144.87	596	3
LOWER PATUXENT-CALVERT	ANNE	020481690238304	ODENTON	0042	0105	141.419	663	3
LOWER PATUXENT-CALVERT	ANNE	020400090042996	ODENTON	0042	0205	137.45	658	3
LOWER PATUXENT-CALVERT	CALV	0502112302	HUNTINGTOWN	0017	0026	136.5	893	3
LOWER PATUXENT-CALVERT	ANNE	020800090089421	LOTHIAN	0073	0173	136.26	1644	3
LOWER PATUXENT-CALVERT	ANNE	020400000578501	ODENTON	0042	0010	134.08	1579	3
LOWER PATUXENT-CALVERT	CALV	0502010291	PRINCE FREDERICK	0033	0001	133.5	1961	3
LOWER PATUXENT-CALVERT	CALV	0503253358	OWINGS	0006	0480	133.39	1733	3
LOWER PATUXENT-CALVERT	CALV	0503253359	OWINGS	0006	0481	133.39	1734	3
LOWER PATUXENT-CALVERT	ANNE	020800000733900	LOTHIAN	0072	0064	133	1667	3
LOWER PATUXENT-CALVERT	CALV	0502112590	HUNTINGTOWN	0014	0109	130.98	1773	3
LOWER PATUXENT-CALVERT	ANNE	020400001174855	ODENTON	0036	0009	129.5	1564	3
LOWER PATUXENT-CALVERT	CALV	0502110261	OWINGS	0010	0031	128.26	1717	3
LOWER PATUXENT-CALVERT	PRIN	17070735993	UPPER MARLBORO	0078	0011	127.83	1106	3
LOWER PATUXENT-CALVERT	PRIN	17030231746	UPPER MARLBORO	0085	0006	125.68	1029	3
LOWER PATUXENT-CALVERT	ANNE	020800000047700	LOTHIAN	0066	0010	125.44	666	3
LOWER PATUXENT-CALVERT	CALV	0502012782	HUNTINGTOWN	0019	0022	125	836	3
LOWER PATUXENT-CALVERT	ANNE	020400003510455	ODENTON	0036	0037	117	1569	3
LOWER PATUXENT-CALVERT	CALV	0502009722	HUNTINGTOWN	0018	0054	116.78	1844	3
LOWER PATUXENT-CALVERT	PRIN	17040250191	UPPER MARLBORO	0138	0003	113.99	1037	3
LOWER PATUXENT-CALVERT	PRIN	17040263798	UPPER MARLBORO	0138	0004	113.12	1708	3
LOWER PATUXENT-CALVERT	PRIN	17080842617	AQUASCO	0178	0074	111.43	1164	3
LOWER PATUXENT-CALVERT	CHAR	0909009078	BRANDYWINE	0026	0053	110.804	514	3
LOWER PATUXENT-CALVERT	ANNE	020800000922960	LOTHIAN	0073	0080	110.6	685	3
LOWER PATUXENT-CALVERT	ANNE	020481690238312	ODENTON	0042	0105	108.753	664	3
LOWER PATUXENT-CALVERT	PRIN	17083939675	BRANDYWINE	0174	0008	107.67	1814	3

UNIT	COUNTY	ACCT ID	CITY	MAP	PARCEL	SDAT ACRES	MAP NUMBER	TIER
LOWER PATUXENT-CALVERT	ANNE	020800090002252	TRACYS LANDING	0077	0052	107.28	1676	3
LOWER PATUXENT-CALVERT	CALV	0502127687	OWINGS	0006	0035	105.79	912	3
LOWER PATUXENT-CALVERT	PRIN	17151750611	UPPER MARLBORO	0119	0108	104.17	2595	3
LOWER PATUXENT-CALVERT	CALV	0503011747	HUNTINGTOWN	0015	0016	104.03	1789	3
LOWER PATUXENT-CALVERT	ANNE	020800000149800	DUNKIRK	0076	0011	103.81	1659	3
LOWER PATUXENT-CALVERT	ANNE	020400004452000	ODENTON	0036	0020	101.9	1565	3
LOWER PATUXENT-CALVERT	CALV	0501012967	SAINT LEONARD	0033	0010	100.43	760	3
LOWER PATUXENT-CALVERT	ANNE	020100090007608	DAVIDSONVILLE	0053	0006	100	607	3
LOWER PATUXENT-CALVERT	ANNE	020100005257000	DAVIDSONVILLE	0053	0005	98.72	1590	3
LOWER PATUXENT-CALVERT	ANNE	020800001990760	FRIENDSHIP	0081	0115	96.06	704	3
LOWER PATUXENT-CALVERT	PRIN	17080838896	AQUASCO	0178	0031	95.1	1807	3
LOWER PATUXENT-CALVERT	CALV	0501011677	SAINT LEONARD	0032	0002	95	759	3
LOWER PATUXENT-CALVERT	CALV	0502020718	HUNTINGTOWN	0019	0010	91.5	1758	3
LOWER PATUXENT-CALVERT	CALV	0502021285	HUNTINGTOWN	0017	0257	91.09	1862	3
LOWER PATUXENT-CALVERT	CALV	0502011654	PRINCE FREDERICK	0024	0108	91.07	1847	3
LOWER PATUXENT-CALVERT	CALV	0501000527	SAINT LEONARD	0034	0019	90.54	747	3
LOWER PATUXENT-CALVERT	PRIN	17080833970	AQUASCO	0181	0007	88.55	1150	3
LOWER PATUXENT-CALVERT	CALV	0501020072	SAINT LEONARD	0034	0020	88	1922	3
LOWER PATUXENT-CALVERT	CALV	0503009114	DUNKIRK	0006	0024	86.99	1723	3
LOWER PATUXENT-CALVERT	CALV	0503018598	OWINGS	0007	0042	85.22	984	3
LOWER PATUXENT-CALVERT	CALV	0502079445	CHESAPEAKE BEACH	0019	0194	84.67	871	3
LOWER PATUXENT-CALVERT	CALV	0502007959	HUNTINGTOWN	0020	0124	84.54	1839	3
LOWER PATUXENT-CALVERT	CALV	0502081679	PRINCE FREDERICK	0027	0389	82.12	1973	3
LOWER PATUXENT-CALVERT	CALV	0501244477	SAINT LEONARD	0038	0170	79.23	814	3
LOWER PATUXENT-CALVERT	CALV	0503014746	CHESAPEAKE BEACH	0016	0047	78.75	964	3
LOWER PATUXENT-CALVERT	PRIN	17040252650	BRANDYWINE	0168	0095	78.06	1738	3
LOWER PATUXENT-CALVERT	CALV	0502113058	OWINGS	0010	0148	77.48	1719	3
LOWER PATUXENT-CALVERT	CALV	0502083396	HUNTINGTOWN	0019	0215	76.56	1761	3
LOWER PATUXENT-CALVERT	CALV	0501001159	SAINT LEONARD	0033	0030	76.29	1900	3
LOWER PATUXENT-CALVERT	CALV	0501002589	SAINT LEONARD	0033	0143	75.84	1906	3
LOWER PATUXENT-CALVERT	CHAR	0909009477	BRANDYWINE	0017	0089	75	515	3
LOWER PATUXENT-CALVERT	CALV	0503015289	OWINGS	0007	0041	75	967	3
LOWER PATUXENT-CALVERT	PRIN	17080833913	AQUASCO	0182	0019	73.62	1149	3
LOWER PATUXENT-CALVERT	PRIN	17141616770	BOWIE	0022	0033	73.23	1233	3
LOWER PATUXENT-CALVERT	CALV	0502109522	HUNTINGTOWN	0017	0003	72.71	882	3
LOWER PATUXENT-CALVERT	PRIN	17080840363	BRANDYWINE	0174	0096	71.81	1809	3
LOWER PATUXENT-CALVERT	ANNE	020800001257200	LOTHIAN	0071	0006	71.51	1670	3
LOWER PATUXENT-CALVERT	CALV	0501027131	SAINT LEONARD	0031	0043	70.79	1934	3
LOWER PATUXENT-CALVERT	CALV	0502006537	HUNTINGTOWN	0021	0109	70	829	3
LOWER PATUXENT-CALVERT	CALV	0502007037	HUNTINGTOWN	0021	0027	70	832	3
LOWER PATUXENT-CALVERT	CALV	0503253540	SUNDERLAND	0011	0543	69.82	1013	3
LOWER PATUXENT-CALVERT	CALV	0502253442	OWINGS	0014	0363	69.69	1781	3
LOWER PATUXENT-CALVERT	PRIN	17080836692	AQUASCO	0174	0036	67.72	1805	3
LOWER PATUXENT-CALVERT	ANNE	020800000164500	FRIENDSHIP	0081	0135	67.526	1756	3
LOWER PATUXENT-CALVERT	CALV	0503005216	OWINGS	0011	0069	65.24	942	3
LOWER PATUXENT-CALVERT	PRIN	17080837146	AQUASCO	0180	0062	64.47	1154	3
LOWER PATUXENT-CALVERT	CALV	0502113414	HUNTINGTOWN	0017	0047	63.75	897	3
LOWER PATUXENT-CALVERT	CALV	0502012774	HUNTINGTOWN	0019	0023	62.94	1757	3
LOWER PATUXENT-CALVERT	CALV	0502112000	OWINGS	0006	0034	62.78	891	3
LOWER PATUXENT-CALVERT	CALV	0501166697	SAINT LEONARD	0031	0032	62.66	1941	3
LOWER PATUXENT-CALVERT	CALV	0503005232	OWINGS	0011	0068	61.89	943	3
LOWER PATUXENT-CALVERT	PRIN	17080844589	AQUASCO	0178	0014	61.51	1171	3
LOWER PATUXENT-CALVERT	CALV	0502011891	PRINCE FREDERICK	0027	0182	61.03	1848	3
LOWER PATUXENT-CALVERT	PRIN	17080842229	AQUASCO	0178	0102	60.44	1810	3
LOWER PATUXENT-CALVERT	PRIN	17040265546	BRANDYWINE	0158	0033	60.42	1748	3
LOWER PATUXENT-CALVERT	CALV	0503006441	OWINGS	0006	0082	59.8	1721	3
LOWER PATUXENT-CALVERT	CALV	0502116650	HUNTINGTOWN	0017	0207	59.76	902	3
LOWER PATUXENT-CALVERT	PRIN	17080830620	AQUASCO	0178	0101	58.19	1802	3
LOWER PATUXENT-CALVERT	CALV	0503015009	CHESAPEAKE BEACH	0016	0073	57.74	1791	3
LOWER PATUXENT-CALVERT	CALV	0502149788	HUNTINGTOWN	0020	0231	56.79	1896	3
LOWER PATUXENT-CALVERT	CHAR	0909006281	HUGHESVILLE	0037	0037	56.56	510	3

UNIT	COUNTY	ACCT ID	CITY	MAP	PARCEL	SDAT ACRES	MAP NUMBER	TIER
LOWER PATUXENT-CALVERT	CALV	0502003252	HUNTINGTOWN	0018	0036	56.36	822	3
LOWER PATUXENT-CALVERT	PRIN	17040252916	UPPER MARLBORO	0148	0006	55.68	1740	3
LOWER PATUXENT-CALVERT	PRIN	17030235374	UPPER MARLBORO	0102	0028	55.51	1700	3
LOWER PATUXENT-CALVERT	CALV	0502061635	HUNTINGTOWN	0021	0301	55.02	858	3
LOWER PATUXENT-CALVERT	CALV	0503002942	CHESAPEAKE BEACH	0016	0101	55	936	3
LOWER PATUXENT-CALVERT	ANNE	020800000190100	LOTHIAN	0071	0160	54.4	1661	3
LOWER PATUXENT-CALVERT	CALV	0503187977	CHESAPEAKE BEACH	0016	0263	53.81	1007	3
LOWER PATUXENT-CALVERT	CALV	0502017326	PRINCE FREDERICK	0021	0017	53.57	1853	3
LOWER PATUXENT-CALVERT	CALV	0503015548	HUNTINGTOWN	0015	0173	53.35	970	3
LOWER PATUXENT-CALVERT	CALV	0502113856	OWINGS	0014	0223	52.98	1774	3
LOWER PATUXENT-CALVERT	CALV	0501000535	SAINT LEONARD	0034	0079	52.75	1898	3
LOWER PATUXENT-CALVERT	CALV	0501007289	PORT REPUBLIC	0028	0025	52.33	755	3
LOWER PATUXENT-CALVERT	PRIN	17030203505	UPPER MARLBORO	0110	0062	52.23	1020	3
LOWER PATUXENT-CALVERT	CALV	0502018152	PRINCE FREDERICK	0023	0035	52	1857	3
LOWER PATUXENT-CALVERT	PRIN	17080840355	BRANDYWINE	0174	0034	51.96	1159	3
LOWER PATUXENT-CALVERT	CALV	0502009196	HUNTINGTOWN	0018	0029	51.76	1843	3
LOWER PATUXENT-CALVERT	CALV	0502061619	HUNTINGTOWN	0021	0300	51.2	856	3
LOWER PATUXENT-CALVERT	ANNE	020200011628383	GAMBRILLS	0049	0058	50.41	1573	3
LOWER PATUXENT-CALVERT	CALV	0503076903	CHESAPEAKE BEACH	0105	0003	50.4	2612	3
LOWER PATUXENT-CALVERT	CALV	0503005127	OWINGS	0007	0043	50.06	941	3
LOWER PATUXENT-CALVERT	CALV	0502111578	HUNTINGTOWN	0017	0002	50.03	1771	3
LOWER PATUXENT-CALVERT	CALV	0501008498	SAINT LEONARD	0039	0001	49.6	757	3
LOWER PATUXENT-CALVERT	ANNE	020800001211300	LOTHIAN	0072	0009	48.97	1669	3
LOWER PATUXENT-CALVERT	CALV	0501227130	SAINT LEONARD	0038	0155	48.59	806	3
LOWER PATUXENT-CALVERT	PRIN	17080837526	AQUASCO	0179	0001	48.44	1806	3
LOWER PATUXENT-CALVERT	CALV	0502013339	HUNTINGTOWN	0018	0047	48	1849	3
LOWER PATUXENT-CALVERT	CALV	0502104539	OWINGS	0006	0350	47.73	1715	3
LOWER PATUXENT-CALVERT	CALV	0501002643	SAINT LEONARD	0034	0038	47	1907	3
LOWER PATUXENT-CALVERT	CALV	0502090465	HUNTINGTOWN	0020	0212	46.99	1883	3
LOWER PATUXENT-CALVERT	CALV	0502022117	PRINCE FREDERICK	0027	0109	46.73	1969	3
LOWER PATUXENT-CALVERT	CALV	0502072025	HUNTINGTOWN	0019	0181	46.57	864	3
LOWER PATUXENT-CALVERT	CHAR	0909033521	HUGHESVILLE	0037	0158	45.92	518	3
LOWER PATUXENT-CALVERT	CALV	0503253539	SUNDERLAND	0011	0542	45.69	1800	3
LOWER PATUXENT-CALVERT	CALV	0502110865	OWINGS	0014	0029	44.85	1768	3
LOWER PATUXENT-CALVERT	PRIN	17080827816	AQUASCO	0180	0023	44.52	1121	3
LOWER PATUXENT-CALVERT	CALV	0503019802	SUNDERLAND	0015	0184	44.35	1793	3
LOWER PATUXENT-CALVERT	PRIN	17030246702	UPPER MARLBORO	0111		44.16	1032	3
LOWER PATUXENT-CALVERT	CALV	0502114836	HUNTINGTOWN	0017	0039	43.66	1775	3
LOWER PATUXENT-CALVERT	CALV	0502081997	HUNTINGTOWN	0020	0194	43.42	1879	3
LOWER PATUXENT-CALVERT	CALV	0502023148	HUNTINGTOWN	0015	0122	43.38	848	3
LOWER PATUXENT-CALVERT	PRIN	17040256065	BRANDYWINE	0168	0009	43.1	1742	3
LOWER PATUXENT-CALVERT	CALV	0501218387	SAINT LEONARD	0031	0262	42.59	1944	3
LOWER PATUXENT-CALVERT	ANNE	020200090101462	GAMBRILLS	0049	0058	42.58	1575	3
LOWER PATUXENT-CALVERT	PRIN	17030192153	UPPER MARLBORO	0102	0014	42.14	1014	3
LOWER PATUXENT-CALVERT	CALV	0501144642	SAINT LEONARD	0028	0187	42.11	1937	3
LOWER PATUXENT-CALVERT	CALV	0502043815	HUNTINGTOWN	0018	0323	41.58	1872	3
LOWER PATUXENT-CALVERT	CALV	0502134896	PRINCE FREDERICK	0021	0366	41.54	1889	3
LOWER PATUXENT-CALVERT	CALV	0503018199	HUNTINGTOWN	0015	0161	40.86	982	3
LOWER PATUXENT-CALVERT	CALV	0502000318	HUNTINGTOWN	0021	0103	40.09	1828	3
LOWER PATUXENT-CALVERT	ANNE	020400000541700	ODENTON	0029	0182	40	652	3
LOWER PATUXENT-CALVERT	CALV	0502040468	PRINCE FREDERICK	0021	0253	40	1871	3
LOWER PATUXENT-CALVERT	CALV	0503021203	OWINGS	0011	0060	39.43	990	3
LOWER PATUXENT-CALVERT	CALV	0501023659	SAINT LEONARD	0032	0011	39.3	772	3
LOWER PATUXENT-CALVERT	CALV	0501002988	SAINT LEONARD	0032	0012	39	749	3
LOWER PATUXENT-CALVERT	CALV	0501013823	LUSBY	0039	0111	39	763	3
LOWER PATUXENT-CALVERT	CALV	0503004899	CHESAPEAKE BEACH	0011	0241	38.89	1785	3
LOWER PATUXENT-CALVERT	CALV	0502002019	HUNTINGTOWN	0021	0184	38.81	820	3
LOWER PATUXENT-CALVERT	CALV	0502011433	PRINCE FREDERICK	0027	0035	38.79	1846	3
LOWER PATUXENT-CALVERT	PRIN	17083533304	AQUASCO	0182	0030	38.66	1182	3
LOWER PATUXENT-CALVERT	CALV	0502067552	HUNTINGTOWN	0021	0303	38.29	862	3
LOWER PATUXENT-CALVERT	ANNE	020800000016500	LOTHIAN	0076	0081	37.98	1657	3

UNIT	COUNTY	ACCT ID	CITY	MAP	PARCEL	SDAT ACRES	MAP NUMBER	TIER
LOWER PATUXENT-CALVERT	CALV	0503158055	DUNKIRK	0006	0266	37.63	1730	3
LOWER PATUXENT-CALVERT	CALV	0502085550	PRINCE FREDERICK	0023	0118	37.39	1881	3
LOWER PATUXENT-CALVERT	CALV	0502061627	HUNTINGTOWN	0021	0300	37.08	857	3
LOWER PATUXENT-CALVERT	CALV	0502069547	HUNTINGTOWN	0018	0160	36.68	863	3
LOWER PATUXENT-CALVERT	CALV	0503014002	HUNTINGTOWN	0015	0146	36.64	962	3
LOWER PATUXENT-CALVERT	CALV	0502111780	OWINGS	0006	0057	36.42	890	3
LOWER PATUXENT-CALVERT	PRIN	17040263335	BRANDYWINE	0168	0007	36.4	1049	3
LOWER PATUXENT-CALVERT	CALV	0501019082	LUSBY	0039	0047	36.28	766	3
LOWER PATUXENT-CALVERT	CALV	0501253573	PRINCE FREDERICK	0027	0474	36.23	817	3
LOWER PATUXENT-CALVERT	CALV	0501005162	SAINT LEONARD	0032	0003	36	752	3
LOWER PATUXENT-CALVERT	CALV	0503098516	SUNDERLAND	0015	0371	35.92	996	3
LOWER PATUXENT-CALVERT	PRIN	17080846188	AQUASCO	0178	0015	35.75	1178	3
LOWER PATUXENT-CALVERT	PRIN	17080846055	AQUASCO	0178	0054	35.75	1812	3
LOWER PATUXENT-CALVERT	CALV	0502018896	PRINCE FREDERICK	0030	0020	35.51	1967	3
LOWER PATUXENT-CALVERT	CALV	0503010872	CHESAPEAKE BEACH	0016	0264	35.27	952	3
LOWER PATUXENT-CALVERT	CALV	0503063704	CHESAPEAKE BEACH	0011	0350	34.55	1798	3
LOWER PATUXENT-CALVERT	CALV	0502126907	HUNTINGTOWN	0021	0383	34.32	1887	3
LOWER PATUXENT-CALVERT	CALV	0503002861	SUNDERLAND	0011	0209	34.05	934	3
LOWER PATUXENT-CALVERT	CALV	0501241281	SAINT LEONARD	0038	0009	34	810	3
LOWER PATUXENT-CALVERT	CALV	0502014734	PRINCE FREDERICK	0021	0228	33.5	839	3
LOWER PATUXENT-CALVERT	CALV	0502130742	OWINGS	0010	0328	33.18	1720	3
LOWER PATUXENT-CALVERT	CALV	0502051532	PRINCE FREDERICK	0030	0273	33.04	1972	3
LOWER PATUXENT-CALVERT	ANNE	020200007972355	GAMBRILLS	0049	0003	33	1572	3
LOWER PATUXENT-CALVERT	CALV	0503173445	SUNDERLAND	0016	0251	32.93	1799	3
LOWER PATUXENT-CALVERT	CALV	0502060027	HUNTINGTOWN	0020	0160	32.88	1874	3
LOWER PATUXENT-CALVERT	PRIN	17080832717	BRANDYWINE	0174	0074	32.85	1803	3
LOWER PATUXENT-CALVERT	PRIN	17080832733	BRANDYWINE	0174	0075	32.85	1804	3
LOWER PATUXENT-CALVERT	CALV	0503017575	SUNDERLAND	0011	0058	32.67	980	3
LOWER PATUXENT-CALVERT	CALV	0501018825	PORT REPUBLIC	0031	0211	32.61	1921	3
LOWER PATUXENT-CALVERT	CALV	0502121506	HUNTINGTOWN	0017	0217	32.42	2569	3
LOWER PATUXENT-CALVERT	CALV	0502007142	HUNTINGTOWN	0018	0119	32.39	833	3
LOWER PATUXENT-CALVERT	PRIN	17040262055	UPPER MARLBORO	0128		31.93	1046	3
LOWER PATUXENT-CALVERT	CALV	0501244612	SAINT LEONARD	0031	0476	31.75	1954	3
LOWER PATUXENT-CALVERT	CALV	0503016439	SUNDERLAND	0015	0092	31.7	974	3
LOWER PATUXENT-CALVERT	CALV	0502019558	PRINCE FREDERICK	0023	0100	31.28	1860	3
LOWER PATUXENT-CALVERT	PRIN	17085627058	AQUASCO	0181		31.069	1189	3
LOWER PATUXENT-CALVERT	CALV	0502116723	HUNTINGTOWN	0014	0297	30.89	903	3
LOWER PATUXENT-CALVERT	CALV	0501021362	SAINT LEONARD	0034	0111	30.73	1926	3
LOWER PATUXENT-CALVERT	CALV	0503016102	HUNTINGTOWN	0016	0170	30.54	1792	3
LOWER PATUXENT-CALVERT	PRIN	17080829283	AQUASCO	0182	0047	30.07	1128	3
LOWER PATUXENT-CALVERT	CALV	0502077507	HUNTINGTOWN	0018	0415	30	870	3
LOWER PATUXENT-CALVERT	CALV	0503015696	HUNTINGTOWN	0015	0203	30	971	3
LOWER PATUXENT-CALVERT	CALV	0502146460	HUNTINGTOWN	0017	0248	29.95	921	3
LOWER PATUXENT-CALVERT	CALV	0503016048	CHESAPEAKE BEACH	0012	0077	29.76	972	3
LOWER PATUXENT-CALVERT	CALV	0503008614	SUNDERLAND	0011	0116	29.68	947	3
LOWER PATUXENT-CALVERT	PRIN	17080831818	AQUASCO	0182	0043	29.67	1142	3
LOWER PATUXENT-CALVERT	CALV	0501197002	SAINT LEONARD	0034	0211	29.66	788	3
LOWER PATUXENT-CALVERT	CALV	0501026399	SAINT LEONARD	0033	0073	29.5	777	3
LOWER PATUXENT-CALVERT	PRIN	17040262220	UPPER MARLBORO	0129	0035	29.5	1047	3
LOWER PATUXENT-CALVERT	PRIN	17080830224	AQUASCO	0179	0003	29.13	1131	3
LOWER PATUXENT-CALVERT	CALV	0502020521	PRINCE FREDERICK	0024	0306	29.13	1861	3
LOWER PATUXENT-CALVERT	PRIN	17083992724	AQUASCO	0179	0027	29.03	1184	3
LOWER PATUXENT-CALVERT	PRIN	17080839068	AQUASCO	0175	0010	29	1808	3
LOWER PATUXENT-CALVERT	PRIN	17080842252	AQUASCO	0183	0026	28.99	1163	3
LOWER PATUXENT-CALVERT	CALV	0502074478	HUNTINGTOWN	0021	0305	28.84	869	3
LOWER PATUXENT-CALVERT	PRIN	17084053237	AQUASCO	0182	0136	28.66	1185	3
LOWER PATUXENT-CALVERT	CALV	0502021838	HUNTINGTOWN	0021	0195	28.5	843	3
LOWER PATUXENT-CALVERT	PRIN	17085627025	AQUASCO	0181		28.297	1186	3
LOWER PATUXENT-CALVERT	CALV	0502111489	OWINGS	0010	0028	28.25	887	3
LOWER PATUXENT-CALVERT	CALV	0502064936	HUNTINGTOWN	0017	0174	28.19	1877	3
LOWER PATUXENT-CALVERT	PRIN	17080832121	BRANDYWINE	0174	0033	28.03	1144	3

UNIT	COUNTY	ACCT ID	CITY	MAP	PARCEL	SDAT ACRES	MAP NUMBER	TIER
LOWER PATUXENT-CALVERT	CALV	0502023601	HUNTINGTOWN	0020	0069	28	1867	3
LOWER PATUXENT-CALVERT	CALV	0501192124	LUSBY	0039	0201	27.79	786	3
LOWER PATUXENT-CALVERT	CALV	0502145502	OWINGS	0010	0339	27.7	920	3
LOWER PATUXENT-CALVERT	CALV	0502011786	PRINCE FREDERICK	0027	0051	27.6	1962	3
LOWER PATUXENT-CALVERT	CALV	0503009084	SUNDERLAND	0011	0041	27.5	948	3
LOWER PATUXENT-CALVERT	CALV	0502020564	HUNTINGTOWN	0018	0138	27.16	842	3
LOWER PATUXENT-CALVERT	CALV	0503016838	SUNDERLAND	0011	0046	27.01	978	3
LOWER PATUXENT-CALVERT	CALV	0501192116	LUSBY	0039	0201	26.82	785	3
LOWER PATUXENT-CALVERT	PRIN	17040256693	BRANDYWINE	0158	0010	26.67	1745	3
LOWER PATUXENT-CALVERT	PRIN	17085627071	AQUASCO	0181		26.442	1191	3
LOWER PATUXENT-CALVERT	CALV	0502111179	HUNTINGTOWN	0014	0018	26.09	1769	3
LOWER PATUXENT-CALVERT	PRIN	17085627060	AQUASCO	0181		26.006	1190	3
LOWER PATUXENT-CALVERT	CALV	0502011085	HUNTINGTOWN	0018	0042	25.36	835	3
LOWER PATUXENT-CALVERT	PRIN	17080844431	AQUASCO	0178	0026	25.35	1169	3
LOWER PATUXENT-CALVERT	PRIN	17040267005	UPPER MARLBORO	0120	0007	25.2	1061	3
LOWER PATUXENT-CALVERT	CALV	0502122065	OWINGS	0014	0312	25.17	1776	3
LOWER PATUXENT-CALVERT	CALV	0502089963	PRINCE FREDERICK	0027	0390	25.08	877	3
LOWER PATUXENT-CALVERT	CALV	0501002503	SAINT LEONARD	0034	0150	25.04	1905	3
LOWER PATUXENT-CALVERT	ANNE	020200090109626	GAMBRILLS	0049	0006	25.01	649	3
LOWER PATUXENT-CALVERT	CALV	0501205544	PRINCE FREDERICK	0027	0353	25	793	3
LOWER PATUXENT-CALVERT	CALV	0502015501	HUNTINGTOWN	0018	0263	25	840	3
LOWER PATUXENT-CALVERT	PRIN	17030200907	UPPER MARLBORO	0110	0055	25	1018	3
LOWER PATUXENT-CALVERT	CALV	0502021609	HUNTINGTOWN	0019	0116	24.99	1759	3
LOWER PATUXENT-CALVERT	PRIN	17080831701	AQUASCO	0180	0026	24.92	1140	3
LOWER PATUXENT-CALVERT	CALV	0501244620	SAINT LEONARD	0031	0477	24.8	1955	3
LOWER PATUXENT-CALVERT	CALV	0501026658	PORT REPUBLIC	0028	0214	24.52	1822	3
LOWER PATUXENT-CALVERT	PRIN	17085627036	AQUASCO	0181		24.506	1187	3
LOWER PATUXENT-CALVERT	CALV	0502005603	CHESAPEAKE BEACH	0019	0043	24.44	2568	3
LOWER PATUXENT-CALVERT	PRIN	17042836450	BRANDYWINE	0168	0103	24.19	1755	3
LOWER PATUXENT-CALVERT	PRIN	17030246751	UPPER MARLBORO	0111		24.11	1034	3
LOWER PATUXENT-CALVERT	CALV	0502253440	OWINGS	0014	0360	24.05	1780	3
LOWER PATUXENT-CALVERT	PRIN	17080829564	AQUASCO	0183	0005	24.02	1129	3
LOWER PATUXENT-CALVERT	CALV	0501024205	SAINT LEONARD	0034	0103	24	775	3
LOWER PATUXENT-CALVERT	PRIN	17080841478	BRANDYWINE	0174	0081	23.99	1161	3
LOWER PATUXENT-CALVERT	PRIN	17082832152	AQUASCO	0182	0118	23.79	1179	3
LOWER PATUXENT-CALVERT	ANNE	020800090018690	LOTHIAN	0075	0017	23.79	1682	3
LOWER PATUXENT-CALVERT	CALV	0502149931	OWINGS	0014	0356	23.66	1779	3
LOWER PATUXENT-CALVERT	CALV	0503014657	SUNDERLAND	0011	0115	23.61	963	3
LOWER PATUXENT-CALVERT	PRIN	17040262329	BRANDYWINE	0158	0008	23.61	1747	3
LOWER PATUXENT-CALVERT	CALV	0502119625	PRINCE FREDERICK	0021	0366	23.51	1886	3
LOWER PATUXENT-CALVERT	PRIN	17080831115	AQUASCO	0178	0071	23.48	1136	3
LOWER PATUXENT-CALVERT	CALV	0502111152	HUNTINGTOWN	0014	0101	23.21	885	3
LOWER PATUXENT-CALVERT	PRIN	17080845198	BRANDYWINE	0175	0011	23.16	1174	3
LOWER PATUXENT-CALVERT	CALV	0501013572	SAINT LEONARD	0034	0014	23	762	3
LOWER PATUXENT-CALVERT	PRIN	17040249664	BRANDYWINE	0168	0011	23	1735	3
LOWER PATUXENT-CALVERT	CALV	0502008726	HUNTINGTOWN	0018	0103	22.7	2602	3
LOWER PATUXENT-CALVERT	PRIN	17080832659	BRANDYWINE	0174	0015	22.55	1146	3
LOWER PATUXENT-CALVERT	PRIN	17040250183	BRANDYWINE	0158	0074	22.46	1736	3
LOWER PATUXENT-CALVERT	ANNE	020800090224665	LOTHIAN	0076	0014	22.41	731	3
LOWER PATUXENT-CALVERT	ANNE	020800001325500	LOTHIAN	0071	0159	22.3	691	3
LOWER PATUXENT-CALVERT	CALV	0502004097	HUNTINGTOWN	0021	0164	22.28	823	3
LOWER PATUXENT-CALVERT	CALV	0503015491	HUNTINGTOWN	0015	0201	22.01	969	3
LOWER PATUXENT-CALVERT	CALV	0503093328	SUNDERLAND	0015	0330	21.79	995	3
LOWER PATUXENT-CALVERT	PRIN	17043361821	UPPER MARLBORO	0128		21.78	1066	3
LOWER PATUXENT-CALVERT	PRIN	17083136850	AQUASCO	0178	0113	21.66	1813	3
LOWER PATUXENT-CALVERT	CALV	0502149923	OWINGS	0010	0325	21.65	924	3
LOWER PATUXENT-CALVERT	CALV	0503135888	SUNDERLAND	0015	0057	21.56	999	3
LOWER PATUXENT-CALVERT	CALV	0502023113	HUNTINGTOWN	0021	0136	21.5	847	3
LOWER PATUXENT-CALVERT	PRIN	17080831792	AQUASCO	0182	0114	21.49	1141	3
LOWER PATUXENT-CALVERT	CALV	0502011972	PRINCE FREDERICK	0027	0110	21.49	1963	3
LOWER PATUXENT-CALVERT	CALV	0502122308	HUNTINGTOWN	0017	0246	21.46	906	3

UNIT	COUNTY	ACCT ID	CITY	MAP	PARCEL	SDAT ACRES	MAP NUMBER	TIER
LOWER PATUXENT-CALVERT	PRIN	17043001807	UPPER MARLBORO	0128		21.12	1064	3
LOWER PATUXENT-CALVERT	CALV	0501253197	PRINCE FREDERICK	0027	0460	21.05	1958	3
LOWER PATUXENT-CALVERT	CALV	0502064235	HUNTINGTOWN	0021	0290	20.85	861	3
LOWER PATUXENT-CALVERT	CALV	0502130718	OWINGS	0010	0327	20.79	914	3
LOWER PATUXENT-CALVERT	CALV	0501146432	SAINT LEONARD	0033	0155	20.74	782	3
LOWER PATUXENT-CALVERT	PRIN	17030246686	UPPER MARLBORO	0111		20.71	1703	3
LOWER PATUXENT-CALVERT	CALV	0501148141	SAINT LEONARD	0034	0177	20.69	2563	3
LOWER PATUXENT-CALVERT	CALV	0502001772	PRINCE FREDERICK	0020	0085	20.63	1832	3
LOWER PATUXENT-CALVERT	CALV	0501223488	LUSBY	0039	0220	20.62	1949	3
LOWER PATUXENT-CALVERT	CALV	0503008258	SUNDERLAND	0011	0065	20.4	1786	3
LOWER PATUXENT-CALVERT	CALV	0501220799	SAINT LEONARD	0035	0137	20.27	2565	3
LOWER PATUXENT-CALVERT	CALV	0502018128	PRINCE FREDERICK	0027	0248	20.26	1965	3
LOWER PATUXENT-CALVERT	CALV	0501253592	LUSBY	0039	0271	20.2	1959	3
LOWER PATUXENT-CALVERT	PRIN	17030249417	UPPER MARLBORO	0110	0092	20.14	1036	3
LOWER PATUXENT-CALVERT	CALV	0502146533	HUNTINGTOWN	0019	0250	20.12	922	3
LOWER PATUXENT-CALVERT	CALV	0501244604	SAINT LEONARD	0031	0475	20.1	1953	3
LOWER PATUXENT-CALVERT	CALV	0502105659	OWINGS	0010	0260	20.02	879	3
LOWER PATUXENT-CALVERT	CHAR	0909016341	HUGHESVILLE	0037	0125	20	516	3
LOWER PATUXENT-CALVERT	CALV	0502110202	HUNTINGTOWN	0014	0161	20	1765	3
LOWER PATUXENT-CALVERT	CALV	0502134853	PRINCE FREDERICK	0021	0366	20	1888	3
LOWER PATUXENT-CALVERT	CALV	0502134918	PRINCE FREDERICK	0021	0366	20	1890	3
LOWER PATUXENT-CALVERT	CALV	0501002996	SAINT LEONARD	0032	0020	7	2604	3
LOWER PATUXENT-CALVERT	ANNE	020100008302600	DAVIDSONVILLE	0058	0026	317.85	1592	2
LOWER PATUXENT-CALVERT	CALV	0503015769	DUNKIRK	0003	0068	166.54	1695	2
LOWER PATUXENT-CALVERT	CALV	0503015734	DUNKIRK	0003	0051	151.59	1694	2
LOWER PATUXENT-CALVERT	ANNE	020100000485800	DAVIDSONVILLE	0058	0035	139.514	575	2
LOWER PATUXENT-CALVERT	ANNE	020800001793700	LOTHIAN	0072	0011	139.2	699	2
LOWER PATUXENT-CALVERT	ANNE	020800001059802	LOTHIAN	0072	0021	137.5	688	2
LOWER PATUXENT-CALVERT	PRIN	17040265983	UPPER MARLBORO	0148	0003	126.8	1750	2
LOWER PATUXENT-CALVERT	ANNE	020100004124750	HARWOOD	0067	0038	116.59	1614	2
LOWER PATUXENT-CALVERT	ANNE	020800001793705	LOTHIAN	0072	0060	111.53	700	2
LOWER PATUXENT-CALVERT	PRIN	17070699033	BOWIE	0063	0007	110.96	1087	2
LOWER PATUXENT-CALVERT	ANNE	020100004159200	LOTHIAN	0067	0040	110.74	1616	2
LOWER PATUXENT-CALVERT	CALV	0502014793	HUNTINGTOWN	0021	0023	109	1850	2
LOWER PATUXENT-CALVERT	ANNE	020800001329005	FRIENDSHIP	0081	0004	105.82	692	2
LOWER PATUXENT-CALVERT	ANNE	020100090022256	LOTHIAN	0067	0063	103.61	1625	2
LOWER PATUXENT-CALVERT	ANNE	020100090039705	LOTHIAN	0067	0080	103.38	1627	2
LOWER PATUXENT-CALVERT	ANNE	020100090000320	HARWOOD	0068	0055	102.55	1624	2
LOWER PATUXENT-CALVERT	CALV	0502017547	HUNTINGTOWN	0020	0015	101.87	1854	2
LOWER PATUXENT-CALVERT	ANNE	020800000475815	TRACYS LANDING	0077	0076	99.93	671	2
LOWER PATUXENT-CALVERT	CALV	0502113473	OWINGS	0010	0063	99.52	899	2
LOWER PATUXENT-CALVERT	ANNE	020800002046800	LOTHIAN	0073	0016	97.91	707	2
LOWER PATUXENT-CALVERT	ANNE	020800000123950	LOTHIAN	0076	0035	96.64	1658	2
LOWER PATUXENT-CALVERT	CHAR	0909001018	BRANDYWINE	0027	0001	95.96	507	2
LOWER PATUXENT-CALVERT	ANNE	020800000229004	LOTHIAN	0072	0050	93.72	669	2
LOWER PATUXENT-CALVERT	ANNE	020400090023881	ODENTON	0042	0013	92.7	1581	2
LOWER PATUXENT-CALVERT	PRIN	17080839548	AQUASCO	0178	0027	92.34	1155	2
LOWER PATUXENT-CALVERT	ANNE	020800000683900	LOTHIAN	0076	0071	92.118	677	2
LOWER PATUXENT-CALVERT	ANNE	020100005705002	HARWOOD	0063	0128	91.34	591	2
LOWER PATUXENT-CALVERT	ANNE	020800090004718	LOTHIAN	0072	0007	91.13	709	2
LOWER PATUXENT-CALVERT	PRIN	17080845743	AQUASCO	0180	0109	90.88	1176	2
LOWER PATUXENT-CALVERT	ANNE	020800000401400	OWINGS	0081	0043	90.21	1710	2
LOWER PATUXENT-CALVERT	CALV	0502144786	HUNTINGTOWN	0022	0272	89.39	1891	2
LOWER PATUXENT-CALVERT	PRIN	17070718890	BOWIE	0064	0005	89.3	1606	2
LOWER PATUXENT-CALVERT	CALV	0503003248	DUNKIRK	0006	0005	87.79	937	2
LOWER PATUXENT-CALVERT	ANNE	020800000632900	LOTHIAN	0077	0063	87.21	1666	2
LOWER PATUXENT-CALVERT	ANNE	020100004144000	HARWOOD	0063	0107	84.54	1615	2
LOWER PATUXENT-CALVERT	ANNE	020100004741800	DAVIDSONVILLE	0054	0001	83.4	1588	2
LOWER PATUXENT-CALVERT	ANNE	020800090027112	TRACYS LANDING	0077	0051	82.79	713	2
LOWER PATUXENT-CALVERT	ANNE	020400005517400	ODENTON	0042	0012	82.79	1580	2
LOWER PATUXENT-CALVERT	ANNE	020800001678978	LOTHIAN	0077	0033	80.94	697	2

UNIT	COUNTY	ACCT ID	CITY	MAP	PARCEL	SDAT ACRES	MAP NUMBER	TIER
LOWER PATUXENT-CALVERT	CALV	0502036061	HUNTINGTOWN	0022	0014	80.1	850	2
LOWER PATUXENT-CALVERT	CALV	0502022214	PRINCE FREDERICK	0023	0031	79.61	844	2
LOWER PATUXENT-CALVERT	PRIN	17151750488	UPPER MARLBORO	0119	0097	78.71	2592	2
LOWER PATUXENT-CALVERT	PRIN	17080837013	BRANDYWINE	0180	0069	76.16	1152	2
LOWER PATUXENT-CALVERT	CALV	0503015432	CHESAPEAKE BEACH	0012	0005	75.92	968	2
LOWER PATUXENT-CALVERT	PRIN	17080827873	AQUASCO	0178	0075	75.42	1122	2
LOWER PATUXENT-CALVERT	CALV	0503017966	OWINGS	0007	0018	74	1727	2
LOWER PATUXENT-CALVERT	CALV	0501018035	SAINT LEONARD	0033	0029	73.59	765	2
LOWER PATUXENT-CALVERT	ANNE	020800001156400	LOTHIAN	0072	0010	73.46	1668	2
LOWER PATUXENT-CALVERT	CALV	0503019985	CHESAPEAKE BEACH	0016	0066	72.67	1794	2
LOWER PATUXENT-CALVERT	CALV	0502005824	HUNTINGTOWN	0022	0056	71.75	826	2
LOWER PATUXENT-CALVERT	PRIN	17141656479	LAUREL	0028	0001	71.4	1236	2
LOWER PATUXENT-CALVERT	ANNE	020800090252786	LOTHIAN	0067	0009	71.125	734	2
LOWER PATUXENT-CALVERT	ANNE	020800000190400	LOTHIAN	0072	0016	71.06	1662	2
LOWER PATUXENT-CALVERT	CALV	0502006715	HUNTINGTOWN	0019	0003	71.01	830	2
LOWER PATUXENT-CALVERT	PRIN	17073763455	UPPER MARLBORO	0077		70.83	1119	2
LOWER PATUXENT-CALVERT	ANNE	020481690238324	ODENTON	0036	0105	70.571	665	2
LOWER PATUXENT-CALVERT	ANNE	020800090039505	LOTHIAN	0067	0010	69.71	1643	2
LOWER PATUXENT-CALVERT	CALV	0503008169	OWINGS	0003	0027	68.88	1722	2
LOWER PATUXENT-CALVERT	ANNE	020100090243591	HARWOOD	0063	0009	67.91	1632	2
LOWER PATUXENT-CALVERT	CALV	0503002012	FRIENDSHIP	0007	0007	67.66	1783	2
LOWER PATUXENT-CALVERT	ANNE	020800001288500	LOTHIAN	0076	0009	67.34	690	2
LOWER PATUXENT-CALVERT	PRIN	17070732859	UPPER MARLBORO	0077	0017	67.17	1102	2
LOWER PATUXENT-CALVERT	PRIN	17070733956	BOWIE	0064	0003	66.25	1103	2
LOWER PATUXENT-CALVERT	CALV	0503020282	OWINGS	0007	0234	64.89	1795	2
LOWER PATUXENT-CALVERT	PRIN	17080829820	AQUASCO	0178	0083	64.77	1130	2
LOWER PATUXENT-CALVERT	ANNE	020876890222889	LOTHIAN	0077	0070	64.647	2561	2
LOWER PATUXENT-CALVERT	ANNE	020100090007607	DAVIDSONVILLE	0054	0009	64.35	606	2
LOWER PATUXENT-CALVERT	CALV	0501009214	PORT REPUBLIC	0031	0017	63.78	1913	2
LOWER PATUXENT-CALVERT	PRIN	17080833327	AQUASCO	0178	0018	62.8	1148	2
LOWER PATUXENT-CALVERT	CALV	0502004216	HUNTINGTOWN	0018	0071	62.5	824	2
LOWER PATUXENT-CALVERT	CALV	0502003139	HUNTINGTOWN	0019	0021	61.93	821	2
LOWER PATUXENT-CALVERT	PRIN	17040253666	UPPER MARLBORO	0129		61.37	1038	2
LOWER PATUXENT-CALVERT	PRIN	17080832006	AQUASCO	0178	0035	60.38	1143	2
LOWER PATUXENT-CALVERT	ANNE	020100006247925	HARWOOD	0058	0031	60.19	594	2
LOWER PATUXENT-CALVERT	PRIN	17070682831	BOWIE	0064	0020	60	1086	2
LOWER PATUXENT-CALVERT	CALV	0503020517	FRIENDSHIP	0007	0187	59.82	989	2
LOWER PATUXENT-CALVERT	CALV	0502004631	PRINCE FREDERICK	0023	0024	58.89	1835	2
LOWER PATUXENT-CALVERT	CALV	0501006096	PORT REPUBLIC	0030	0092	57.59	1910	2
LOWER PATUXENT-CALVERT	CALV	0503020983	DUNKIRK	0003	0042	55.71	1729	2
LOWER PATUXENT-CALVERT	CALV	0501242199	SAINT LEONARD	0039	0245	53.8	813	2
LOWER PATUXENT-CALVERT	ANNE	020800000833000	LOTHIAN	0072	0039	53.79	681	2
LOWER PATUXENT-CALVERT	ANNE	020800001453000	DUNKIRK	0081	0095	53.722	693	2
LOWER PATUXENT-CALVERT	CALV	0502113422	HUNTINGTOWN	0017	0027	53.5	898	2
LOWER PATUXENT-CALVERT	CALV	0502017865	PRINCE FREDERICK	0027	0197	53.48	1856	2
LOWER PATUXENT-CALVERT	CALV	0502022036	PRINCE FREDERICK	0029	0009	53.33	1968	2
LOWER PATUXENT-CALVERT	ANNE	020100090011784	HARWOOD	0067	0050	53.25	612	2
LOWER PATUXENT-CALVERT	PRIN	17083325701	BRANDYWINE	0180	0069	52.96	1181	2
LOWER PATUXENT-CALVERT	ANNE	020841490236049	LOTHIAN	0073	0032	52.942	1648	2
LOWER PATUXENT-CALVERT	ANNE	020100000194585	HARWOOD	0063	0016	52.3	1611	2
LOWER PATUXENT-CALVERT	PRIN	17030239681	UPPER MARLBORO	0085		51.888	1030	2
LOWER PATUXENT-CALVERT	CALV	0503016323	CHESAPEAKE BEACH	0016	0207	51.77	973	2
LOWER PATUXENT-CALVERT	ANNE	020400005404000	ODENTON	0042	0004	51.247	656	2
LOWER PATUXENT-CALVERT	CALV	0502074028	PRINCE FREDERICK	0022	0008	51.22	867	2
LOWER PATUXENT-CALVERT	ANNE	020400003321160	ODENTON	0036	0262	50.59	1568	2
LOWER PATUXENT-CALVERT	CALV	0501014226	PORT REPUBLIC	0031	0002	50.54	764	2
LOWER PATUXENT-CALVERT	ANNE	020100000166600	HARWOOD	0062	0001	50.51	573	2
LOWER PATUXENT-CALVERT	ANNE	020200090050306	GAMBRILLS	0048	0001	50.02	648	2
LOWER PATUXENT-CALVERT	CALV	0502022109	PRINCE FREDERICK	0021	0041	50	1865	2
LOWER PATUXENT-CALVERT	CHAR	0909006826	BRANDYWINE	0017	0046	49.55	511	2
LOWER PATUXENT-CALVERT	PRIN	17080844571	AQUASCO	0178	0025	49.43	1811	2

UNIT	COUNTY	ACCT ID	CITY	MAP	PARCEL	SDAT ACRES	MAP NUMBER	TIER
LOWER PATUXENT-CALVERT	ANNE	020100007774200	HARWOOD	0066	0026	48.7	600	2
LOWER PATUXENT-CALVERT	CALV	0502121840	HUNTINGTOWN	0020	0214	48.53	905	2
LOWER PATUXENT-CALVERT	ANNE	020100090048127	DAVIDSONVILLE	0053	0001	48.02	1600	2
LOWER PATUXENT-CALVERT	CALV	0502109859	HUNTINGTOWN	0017	0203	47.61	883	2
LOWER PATUXENT-CALVERT	CALV	0502015714	PRINCE FREDERICK	0024	0069	47.19	1851	2
LOWER PATUXENT-CALVERT	ANNE	020800000166000	LOTHIAN	0072	0072	47.06	1660	2
LOWER PATUXENT-CALVERT	ANNE	020800090027493	DUNKIRK	0077	0141	46.44	714	2
LOWER PATUXENT-CALVERT	PRIN	17080830729	AQUASCO	0182	0078	46.4	2571	2
LOWER PATUXENT-CALVERT	CALV	0503021378	CHESAPEAKE BEACH	0016	0017	46.05	992	2
LOWER PATUXENT-CALVERT	PRIN	17030238444	UPPER MARLBORO	0102	0094	46	1701	2
LOWER PATUXENT-CALVERT	PRIN	17030216465	UPPER MARLBORO	0085	0034	45.62	1651	2
LOWER PATUXENT-CALVERT	CALV	0503011593	OWINGS	0007	0226	45.47	956	2
LOWER PATUXENT-CALVERT	PRIN	17080842757	AQUASCO	0180	0059	45.28	1165	2
LOWER PATUXENT-CALVERT	PRIN	17151750686	UPPER MARLBORO	0119	0112	45.12	2597	2
LOWER PATUXENT-CALVERT	ANNE	020800090252787	LOTHIAN	0067	0009	45.055	735	2
LOWER PATUXENT-CALVERT	CALV	0501001787	SAINT LEONARD	0033	0055	45	1902	2
LOWER PATUXENT-CALVERT	ANNE	020800001872500	LOTHIAN	0076	0205	44.58	702	2
LOWER PATUXENT-CALVERT	ANNE	020100090095831	HARWOOD	0066	0032	44.39	1630	2
LOWER PATUXENT-CALVERT	CALV	0503127818	OWINGS	0007	0456	44.1	998	2
LOWER PATUXENT-CALVERT	ANNE	020800000483720	LOTHIAN	0076	0125	44.01	1665	2
LOWER PATUXENT-CALVERT	CALV	0502111276	OWINGS	0010	0019	43.96	1770	2
LOWER PATUXENT-CALVERT	ANNE	020800001045815	DUNKIRK	0077	0069	43.92	686	2
LOWER PATUXENT-CALVERT	ANNE	020100090010780	DAVIDSONVILLE	0058	0174	43.65	1596	2
LOWER PATUXENT-CALVERT	CALV	0501001132	SAINT LEONARD	0033	0023	43.31	748	2
LOWER PATUXENT-CALVERT	CALV	0501014676	PORT REPUBLIC	0030	0036	42.45	1916	2
LOWER PATUXENT-CALVERT	CALV	0501000748	SAINT LEONARD	0034	0061	42	1899	2
LOWER PATUXENT-CALVERT	CALV	0502087324	PRINCE FREDERICK	0022	0184	41.96	875	2
LOWER PATUXENT-CALVERT	CALV	0503019284	DUNKIRK	0003	0017	41.83	986	2
LOWER PATUXENT-CALVERT	ANNE	020100005705003	HARWOOD	0063	0018	41.62	1618	2
LOWER PATUXENT-CALVERT	ANNE	020100003361300	HARWOOD	0063	0123	41.58	584	2
LOWER PATUXENT-CALVERT	CALV	0503010295	SUNDERLAND	0011	0119	41.57	950	2
LOWER PATUXENT-CALVERT	CALV	0503008266	SUNDERLAND	0011	0120	41.57	1787	2
LOWER PATUXENT-CALVERT	PRIN	17080831222	AQUASCO	0182	0042	41.35	1137	2
LOWER PATUXENT-CALVERT	ANNE	020100004142609	LOTHIAN	0067	0170	41.32	2075	2
LOWER PATUXENT-CALVERT	ANNE	020841490235977	LOTHIAN	0073	0032	41.195	739	2
LOWER PATUXENT-CALVERT	ANNE	020800000388950	LOTHIAN	0076	0140	41.17	1664	2
LOWER PATUXENT-CALVERT	CALV	0503157733	DUNKIRK	0001	0040	41.06	1002	2
LOWER PATUXENT-CALVERT	CALV	0503074005	DUNKIRK	0001	0038	40.88	1696	2
LOWER PATUXENT-CALVERT	ANNE	020200004795000	GAMBRILLS	0048	0006	40.86	643	2
LOWER PATUXENT-CALVERT	ANNE	020800000840000	OWINGS	0081	0112	40.81	682	2
LOWER PATUXENT-CALVERT	CALV	0502122952	HUNTINGTOWN	0022	0252	40.25	908	2
LOWER PATUXENT-CALVERT	CALV	0502087545	HUNTINGTOWN	0020	0153	40.17	1882	2
LOWER PATUXENT-CALVERT	PRIN	17070797845	UPPER MARLBORO	0078	0001	40.1	1112	2
LOWER PATUXENT-CALVERT	CALV	0502010259	PRINCE FREDERICK	0027	0068	39.99	1845	2
LOWER PATUXENT-CALVERT	ANNE	020800090004971	LOTHIAN	0071	0174	39.81	710	2
LOWER PATUXENT-CALVERT	ANNE	020800090007750	FRIENDSHIP	0081	0218	39.66	1712	2
LOWER PATUXENT-CALVERT	ANNE	020841490235978	LOTHIAN	0073	0032	39.639	740	2
LOWER PATUXENT-CALVERT	PRIN	17080843375	BRANDYWINE	0180	0101	39.32	2085	2
LOWER PATUXENT-CALVERT	ANNE	020400003781405	ODENTON	0042	0001	38.92	654	2
LOWER PATUXENT-CALVERT	CALV	0501154338	BROOMES ISLAND	0034	0297	38.58	1939	2
LOWER PATUXENT-CALVERT	CALV	0502061643	HUNTINGTOWN	0021	0301	38.53	1875	2
LOWER PATUXENT-CALVERT	PRIN	17080838250	BRANDYWINE	0180	0102	38.32	2080	2
LOWER PATUXENT-CALVERT	ANNE	020800390086208	LOTHIAN	0073	0144	37.58	1646	2
LOWER PATUXENT-CALVERT	PRIN	17040264564	UPPER MARLBORO	0119	0019	36.75	1054	2
LOWER PATUXENT-CALVERT	CALV	0503010287	OWINGS	0007	0119	36.2	949	2
LOWER PATUXENT-CALVERT	PRIN	17151750603	UPPER MARLBORO	0119	0107	36.04	2594	2
LOWER PATUXENT-CALVERT	CALV	0501139517	PORT REPUBLIC	0030	0215	35.94	1936	2
LOWER PATUXENT-CALVERT	ANNE	020800090027494	DUNKIRK	0077	0072	35.92	715	2
LOWER PATUXENT-CALVERT	PRIN	17043073640	UPPER MARLBORO	0119	0019	35.92	1065	2
LOWER PATUXENT-CALVERT	CALV	0501024574	SAINT LEONARD	0033	0035	35.4	1929	2
LOWER PATUXENT-CALVERT	CHAR	0909007814	HUGHESVILLE	0037	0029	35.14	512	2

UNIT	COUNTY	ACCT ID	CITY	MAP	PARCEL	SDAT ACRES	MAP NUMBER	TIER
LOWER PATUXENT-CALVERT	PRIN	17070821181	UPPER MARLBORO	0078	0048	35	1656	2
LOWER PATUXENT-CALVERT	ANNE	020800090004128	LOTHIAN	0076	0142	34.98	1679	2
LOWER PATUXENT-CALVERT	CALV	0503013243	DUNKIRK	0003	0078	34.92	960	2
LOWER PATUXENT-CALVERT	ANNE	020800090217942	LOTHIAN	0073	0195	34.48	1645	2
LOWER PATUXENT-CALVERT	ANNE	020800090033063	LOTHIAN	0072	0101	33.6	718	2
LOWER PATUXENT-CALVERT	ANNE	020400090045644	ODENTON	0042	0166	33.52	659	2
LOWER PATUXENT-CALVERT	CHAR	0909001115	BRANDYWINE	0018	0002	33.5	508	2
LOWER PATUXENT-CALVERT	ANNE	020800090029526	LOTHIAN	0077	0013	33.38	717	2
LOWER PATUXENT-CALVERT	CALV	0502083027	PRINCE FREDERICK	0024	0692	33.25	873	2
LOWER PATUXENT-CALVERT	PRIN	17070802520	UPPER MARLBORO	0078	0033	33.25	1655	2
LOWER PATUXENT-CALVERT	CALV	0501021311	PORT REPUBLIC	0031	0004	33.1	1925	2
LOWER PATUXENT-CALVERT	ANNE	020400004547200	ODENTON	0036	0100	32.95	1570	2
LOWER PATUXENT-CALVERT	CALV	0502051745	HUNTINGTOWN	0021	0275	32.42	1873	2
LOWER PATUXENT-CALVERT	ANNE	020100008587910	DAVIDSONVILLE	0054	0213	32.4	1594	2
LOWER PATUXENT-CALVERT	ANNE	020800090021171	FRIENDSHIP	0080	0008	32.31	1713	2
LOWER PATUXENT-CALVERT	CALV	0503014355	SUNDERLAND	0011	0174	32.25	2079	2
LOWER PATUXENT-CALVERT	CALV	0502253274	HUNTINGTOWN	0018	0548	32.17	1897	2
LOWER PATUXENT-CALVERT	PRIN	17151750637	UPPER MARLBORO	0119	0110	32.1	2596	2
LOWER PATUXENT-CALVERT	CALV	0503004082	CHESAPEAKE BEACH	0016	0005	31.67	940	2
LOWER PATUXENT-CALVERT	PRIN	17080844456	BRANDYWINE	0174	0013	31.27	1170	2
LOWER PATUXENT-CALVERT	ANNE	020800090069841	LOTHIAN	0072	0254	31.2	1689	2
LOWER PATUXENT-CALVERT	CALV	0502074273	PRINCE FREDERICK	0026	0272	30.85	868	2
LOWER PATUXENT-CALVERT	ANNE	020800390070430	LOTHIAN	0073	0144	30.84	736	2
LOWER PATUXENT-CALVERT	ANNE	020800001621190	DEALE	0073	0012	30.822	1638	2
LOWER PATUXENT-CALVERT	ANNE	020100007694500	HARWOOD	0063	0074	30.65	599	2
LOWER PATUXENT-CALVERT	CALV	0503011453	DUNKIRK	0001	0018	30.45	955	2
LOWER PATUXENT-CALVERT	CALV	0503018792	DUNKIRK	0001	0047	30.41	985	2
LOWER PATUXENT-CALVERT	ANNE	020800001701000	DUNKIRK	0076	0029	30.32	1675	2
LOWER PATUXENT-CALVERT	ANNE	020400001033600	ODENTON	0036	0033	30.262	653	2
LOWER PATUXENT-CALVERT	CALV	0502082195	PRINCE FREDERICK	0023	0134	30.19	872	2
LOWER PATUXENT-CALVERT	CALV	0501146424	PORT REPUBLIC	0030	0256	30.05	781	2
LOWER PATUXENT-CALVERT	CALV	0502048108	PRINCE FREDERICK	0030	0263	30.01	853	2
LOWER PATUXENT-CALVERT	ANNE	020800001631700	LOTHIAN	0076	0085	30	1672	2
LOWER PATUXENT-CALVERT	PRIN	17080840504	AQUASCO	0182	0032	30	2082	2
LOWER PATUXENT-CALVERT	CALV	0502019493	HUNTINGTOWN	0018	0178	29.32	1859	2
LOWER PATUXENT-CALVERT	ANNE	020800090069351	LOTHIAN	0077	0230	29.3	726	2
LOWER PATUXENT-CALVERT	ANNE	020100006144650	HARWOOD	0063	0067	29.17	593	2
LOWER PATUXENT-CALVERT	ANNE	020400001033605	ODENTON	0036	0101	29	1567	2
LOWER PATUXENT-CALVERT	PRIN	17070821058	UPPER MARLBORO	0078	0002	28.87	1116	2
LOWER PATUXENT-CALVERT	ANNE	020400090002348	ODENTON	0042	0191	28.837	657	2
LOWER PATUXENT-CALVERT	PRIN	17040263152	UPPER MARLBORO	0138	0075	28.82	1048	2
LOWER PATUXENT-CALVERT	PRIN	17040265975	UPPER MARLBORO	0148	0005	28.81	1749	2
LOWER PATUXENT-CALVERT	ANNE	020800090059126	LOTHIAN	0072	0242	28.79	724	2
LOWER PATUXENT-CALVERT	CALV	0503014223	SUNDERLAND	0011	0114	28.69	1790	2
LOWER PATUXENT-CALVERT	CALV	0502005778	PRINCE FREDERICK	0024	0531	28.67	825	2
LOWER PATUXENT-CALVERT	PRIN	17080831248	AQUASCO	0182	0049	28.63	1138	2
LOWER PATUXENT-CALVERT	CALV	0503014606	DUNKIRK	0003	0028	28.5	1726	2
LOWER PATUXENT-CALVERT	CALV	0503020169	DUNKIRK	0006	0045	28.3	988	2
LOWER PATUXENT-CALVERT	CALV	0503000133	DUNKIRK	0006	0004	27.95	929	2
LOWER PATUXENT-CALVERT	CALV	0501020528	SAINT LEONARD	0038	0105	27.95	1924	2
LOWER PATUXENT-CALVERT	CALV	0501197789	SAINT LEONARD	0031	0325	27.87	790	2
LOWER PATUXENT-CALVERT	PRIN	17030231191	UPPER MARLBORO	0102	0062	27.84	1027	2
LOWER PATUXENT-CALVERT	CALV	0502037017	PRINCE FREDERICK	0023	0107	27.82	1869	2
LOWER PATUXENT-CALVERT	PRIN	17080841908	AQUASCO	0183	0004	27.81	2084	2
LOWER PATUXENT-CALVERT	PRIN	17070704650	UPPER MARLBORO	0077	0022	27.5	1089	2
LOWER PATUXENT-CALVERT	CALV	0502006839	PRINCE FREDERICK	0020	0070	27.35	831	2
LOWER PATUXENT-CALVERT	CALV	0503191818	FRIENDSHIP	0007	0443	27.35	1008	2
LOWER PATUXENT-CALVERT	PRIN	17080837005	AQUASCO	0182	0025	27.33	2572	2
LOWER PATUXENT-CALVERT	CALV	0503136078	CHESAPEAKE BEACH	0016	0063	27.07	1000	2
LOWER PATUXENT-CALVERT	CALV	0501228625	PORT REPUBLIC	0030	0284	27.05	807	2
LOWER PATUXENT-CALVERT	ANNE	020400004830000	ODENTON	0036	0098	27	1571	2

UNIT	COUNTY	ACCT ID	CITY	MAP	PARCEL	SDAT ACRES	MAP NUMBER	TIER
LOWER PATUXENT-CALVERT	CALV	0503019306	DUNKIRK	0003	0113	27	2570	2
LOWER PATUXENT-CALVERT	CALV	0502007517	HUNTINGTOWN	0019	0017	26.98	834	2
LOWER PATUXENT-CALVERT	CALV	0503012646	CHESAPEAKE BEACH	0016	0011	26.92	959	2
LOWER PATUXENT-CALVERT	CALV	0503185559	CHESAPEAKE BEACH	0105	0021	26.89	2613	2
LOWER PATUXENT-CALVERT	CALV	0502253272	HUNTINGTOWN	0018	0546	26.88	926	2
LOWER PATUXENT-CALVERT	CALV	0502052202	PRINCE FREDERICK	0030	0001	26.82	855	2
LOWER PATUXENT-CALVERT	CALV	0503253373	OWINGS	0003	0412	26.81	1010	2
LOWER PATUXENT-CALVERT	PRIN	17040257634	UPPER MARLBORO	0129	0034	26.79	1043	2
LOWER PATUXENT-CALVERT	PRIN	17040264473	UPPER MARLBORO	0138	0072	26.77	1052	2
LOWER PATUXENT-CALVERT	CALV	0502076799	PRINCE FREDERICK	0022	0220	26.62	1878	2
LOWER PATUXENT-CALVERT	ANNE	020800090221492	LOTHIAN	0077	0033	26.48	730	2
LOWER PATUXENT-CALVERT	ANNE	020848590042047	LOTHIAN	0076	0172	26.44	1692	2
LOWER PATUXENT-CALVERT	CALV	0502139863	HUNTINGTOWN	0017	0236	26.3	918	2
LOWER PATUXENT-CALVERT	PRIN	17080832261	AQUASCO	0182	0072	26.27	1145	2
LOWER PATUXENT-CALVERT	PRIN	17070796086	UPPER MARLBORO	0078		26.24	1109	2
LOWER PATUXENT-CALVERT	CALV	0501023691	LUSBY	0042	0033	26.23	773	2
LOWER PATUXENT-CALVERT	CALV	0502147432	HUNTINGTOWN	0022	0284	26.22	923	2
LOWER PATUXENT-CALVERT	ANNE	020400003792600	ODENTON	0042	0008	26.2	655	2
LOWER PATUXENT-CALVERT	ANNE	020400090213204	ODENTON	0036	0389	26.18	662	2
LOWER PATUXENT-CALVERT	PRIN	17030238618	UPPER MARLBORO	0119	0030	26.03	1702	2
LOWER PATUXENT-CALVERT	CALV	0501222821	SAINT LEONARD	0034	0250	26	804	2
LOWER PATUXENT-CALVERT	CALV	0503014819	CHESAPEAKE BEACH	0012	0013	26	965	2
LOWER PATUXENT-CALVERT	CALV	0503253376	OWINGS	0003	0415	25.63	1011	2
LOWER PATUXENT-CALVERT	CALV	0502038579	HUNTINGTOWN	0018	0312	25.45	1870	2
LOWER PATUXENT-CALVERT	ANNE	020800090081021	LOTHIAN	0072	0261	25.31	729	2
LOWER PATUXENT-CALVERT	ANNE	020800090069352	LOTHIAN	0077	0230	25.21	1688	2
LOWER PATUXENT-CALVERT	CALV	0502023768	HUNTINGTOWN	0020	0137	25.11	1868	2
LOWER PATUXENT-CALVERT	CALV	0503102785	DUNKIRK	0001	0058	25.03	997	2
LOWER PATUXENT-CALVERT	CALV	0502113392	HUNTINGTOWN	0017	0024	25	895	2
LOWER PATUXENT-CALVERT	CALV	0501205927	PORT REPUBLIC	0028	0222	25	1943	2
LOWER PATUXENT-CALVERT	CALV	0501249142	LUSBY	0042	0416	25	1956	2
LOWER PATUXENT-CALVERT	CALV	0501198750	LUSBY	0042	0099	24.95	1942	2
LOWER PATUXENT-CALVERT	ANNE	020827790037247	LOTHIAN	0072	0030	24.88	1647	2
LOWER PATUXENT-CALVERT	CALV	0503012425	CHESAPEAKE BEACH	0012	0014	24.75	958	2
LOWER PATUXENT-CALVERT	CALV	0501013432	SAINT LEONARD	0031	0094	24.55	761	2
LOWER PATUXENT-CALVERT	CALV	0501197770	SAINT LEONARD	0031	0325	24.54	789	2
LOWER PATUXENT-CALVERT	CALV	0503007995	OWINGS	0007	0348	24.29	945	2
LOWER PATUXENT-CALVERT	PRIN	17040257014	UPPER MARLBORO	0119		24.19	1041	2
LOWER PATUXENT-CALVERT	CALV	0502253023	PRINCE FREDERICK	0024	0860	24.15	925	2
LOWER PATUXENT-CALVERT	CALV	0502116456	HUNTINGTOWN	0017	0204	24.03	901	2
LOWER PATUXENT-CALVERT	PRIN	17030197467	UPPER MARLBORO	0102	0059	24	1015	2
LOWER PATUXENT-CALVERT	CALV	0501252707	LUSBY	0039	0198	24	1957	2
LOWER PATUXENT-CALVERT	CALV	0501211803	SAINT LEONARD	0031	0358	23.93	796	2
LOWER PATUXENT-CALVERT	CALV	0501023306	SAINT LEONARD	0034	0045	23.89	771	2
LOWER PATUXENT-CALVERT	ANNE	020800000160700	LOTHIAN	0076	0082	23.87	668	2
LOWER PATUXENT-CALVERT	ANNE	020100000760950	DAVIDSONVILLE	0054	0069	23.76	576	2
LOWER PATUXENT-CALVERT	ANNE	020800000708300	TRACYS LANDING	0077	0247	23.68	678	2
LOWER PATUXENT-CALVERT	PRIN	17040264358	UPPER MARLBORO	0128	0034	23.51	1051	2
LOWER PATUXENT-CALVERT	PRIN	17030200105	UPPER MARLBORO	0111	0017	23.45	1017	2
LOWER PATUXENT-CALVERT	CALV	0503172155	OWINGS	0007	0562	23.41	1731	2
LOWER PATUXENT-CALVERT	ANNE	020100090087942	HARWOOD	0058	0206	23.36	623	2
LOWER PATUXENT-CALVERT	CALV	0502022257	PRINCE FREDERICK	0024	0173	23.28	845	2
LOWER PATUXENT-CALVERT	CALV	0503011127	DUNKIRK	0003	0200	23.28	953	2
LOWER PATUXENT-CALVERT	PRIN	17040265470	BRANDYWINE	0168	0090	23.24	1058	2
LOWER PATUXENT-CALVERT	CALV	0501003984	SAINT LEONARD	0033	0013	23.1	751	2
LOWER PATUXENT-CALVERT	ANNE	020800090036270	LOTHIAN	0073	0034	23.088	1642	2
LOWER PATUXENT-CALVERT	CALV	0502084651	PRINCE FREDERICK	0021	0345	23	874	2
LOWER PATUXENT-CALVERT	ANNE	020200004231530	ODENTON	0042	0042	22.92	642	2
LOWER PATUXENT-CALVERT	PRIN	17080841361	AQUASCO	0178	0042	22.85	1160	2
LOWER PATUXENT-CALVERT	CALV	0501021605	LUSBY	0044	0002	22.77	2605	2
LOWER PATUXENT-CALVERT	CALV	0502125552	OWINGS	0010	0311	22.66	911	2

UNIT	COUNTY	ACCT ID	CITY	MAP	PARCEL	SDAT ACRES	MAP NUMBER	TIER
LOWER PATUXENT-CALVERT	CALV	0501023713	LUSBY	0039	0109	22.64	1928	2
LOWER PATUXENT-CALVERT	CHAR	0909001808	HUGHESVILLE	0037	0001	22.62	509	2
LOWER PATUXENT-CALVERT	CALV	0503018326	DUNKIRK	0006	0008	22.62	983	2
LOWER PATUXENT-CALVERT	ANNE	020800690023390	DUNKIRK	0077	0357	22.46	737	2
LOWER PATUXENT-CALVERT	ANNE	020100000803000	HARWOOD	0063	0026	22.45	578	2
LOWER PATUXENT-CALVERT	CALV	0502084368	HUNTINGTOWN	0022	0236	22.43	1880	2
LOWER PATUXENT-CALVERT	PRIN	17040263814	UPPER MARLBORO	0138	0078	22.3	1050	2
LOWER PATUXENT-CALVERT	ANNE	020800090017449	LOTHIAN	0072	0070	22.24	1681	2
LOWER PATUXENT-CALVERT	ANNE	020800090017449	LOTHIAN	0072	0070	22.24	1691	2
LOWER PATUXENT-CALVERT	PRIN	17080837021	BRANDYWINE	0180	0069	22.2	1153	2
LOWER PATUXENT-CALVERT	ANNE	020100090042024	HARWOOD	0058	0161	22.02	618	2
LOWER PATUXENT-CALVERT	PRIN	17141651470	LAUREL	0028	0141	22.01	1235	2
LOWER PATUXENT-CALVERT	ANNE	020800000495000	LOTHIAN	0076	0003	22	672	2
LOWER PATUXENT-CALVERT	CALV	0501226134	LUSBY	0039	0228	21.77	1950	2
LOWER PATUXENT-CALVERT	CALV	0502004186	HUNTINGTOWN	0021	0086	21.65	1834	2
LOWER PATUXENT-CALVERT	ANNE	020800001699805	LOTHIAN	0077	0349	21.56	1674	2
LOWER PATUXENT-CALVERT	CALV	0501218816	SAINT LEONARD	0038	0004	21.53	799	2
LOWER PATUXENT-CALVERT	CALV	0501206095	SAINT LEONARD	0033	0186	21.37	795	2
LOWER PATUXENT-CALVERT	ANNE	020400090073871	ODENTON	0036	0022	21.29	661	2
LOWER PATUXENT-CALVERT	CALV	0501251988	LUSBY	0042	0422	21.1	815	2
LOWER PATUXENT-CALVERT	CALV	0502005042	PRINCE FREDERICK	0024	0123	21.1	1836	2
LOWER PATUXENT-CALVERT	CALV	0501017853	SAINT LEONARD	0038	0122	21.01	1919	2
LOWER PATUXENT-CALVERT	ANNE	020800000229005	LOTHIAN	0071	0187	21	1635	2
LOWER PATUXENT-CALVERT	PRIN	17070725606	BOWIE	0064	0034	20.93	1096	2
LOWER PATUXENT-CALVERT	PRIN	17073439338	BOWIE	0064	0033	20.93	1118	2
LOWER PATUXENT-CALVERT	CALV	0503011704	CHESAPEAKE BEACH	0012	0023	20.87	2078	2
LOWER PATUXENT-CALVERT	PRIN	17080839597	AQUASCO	0182	0001	20.69	1157	2
LOWER PATUXENT-CALVERT	PRIN	17070703298	UPPER MARLBORO	0077	0011	20.64	1088	2
LOWER PATUXENT-CALVERT	ANNE	020400090058123	ODENTON	0036	0383	20.64	1582	2
LOWER PATUXENT-CALVERT	PRIN	17042751139	UPPER MARLBORO	0138		20.52	1063	2
LOWER PATUXENT-CALVERT	ANNE	020800090078042	DUNKIRK	0076	0193	20.48	728	2
LOWER PATUXENT-CALVERT	ANNE	020800090053006	LOTHIAN	0076	0180	20.42	1687	2
LOWER PATUXENT-CALVERT	PRIN	17080842773	AQUASCO	0180	0061	20.28	1166	2
LOWER PATUXENT-CALVERT	ANNE	020800000410200	LOTHIAN	0066	0003	20.22	670	2
LOWER PATUXENT-CALVERT	ANNE	020400090045651	ODENTON	0036	0194	20.19	660	2
LOWER PATUXENT-CALVERT	CALV	0502139561	HUNTINGTOWN	0017	0236	20.07	917	2
LOWER PATUXENT-CALVERT	PRIN	17070729517	UPPER MARLBORO	0078	0012	20.07	1654	2
LOWER PATUXENT-CALVERT	ANNE	020800001739100	LOTHIAN	0076	0066	20.01	698	2
LOWER PATUXENT-CALVERT	PRIN	17030246728	UPPER MARLBORO	0111		20.01	1033	2
LOWER PATUXENT-CALVERT	CALV	0502112779	HUNTINGTOWN	0017	0017	20	894	2
LOWER PATUXENT-CALVERT	PRIN	17040265025	UPPER MARLBORO	0119		20	1055	2
LOWER PATUXENT-CALVERT	ANNE	020200011094901	DAVIDSONVILLE	0049	0059	154.65	645	1
LOWER PATUXENT-CALVERT	ANNE	020100007589400	HARWOOD	0063	0030	150.36	598	1
LOWER PATUXENT-CALVERT	ANNE	020800001992200	FRIENDSHIP	0081	0048	146.02	705	1
LOWER PATUXENT-CALVERT	ANNE	020200003377200	GAMBRILLS	0049	0054	137.49	640	1
LOWER PATUXENT-CALVERT	CALV	0502112310	HUNTINGTOWN	0014	0057	131.7	1772	1
LOWER PATUXENT-CALVERT	ANNE	020100008304501	DAVIDSONVILLE	0058	0037	131.069	1593	1
LOWER PATUXENT-CALVERT	ANNE	020100005098800	DAVIDSONVILLE	0058	0034	128.235	1589	1
LOWER PATUXENT-CALVERT	PRIN	17040259655	UPPER MARLBORO	0128	0027	119.2	1044	1
LOWER PATUXENT-CALVERT	PRIN	17040259424	UPPER MARLBORO	0148	0002	114.74	1746	1
LOWER PATUXENT-CALVERT	PRIN	17070739490	UPPER MARLBORO	0071	0032	109.479	1608	1
LOWER PATUXENT-CALVERT	CALV	0502115840	HUNTINGTOWN	0020	0048	104.58	1884	1
LOWER PATUXENT-CALVERT	ANNE	020100003760400	DAVIDSONVILLE	0058	0001	104	587	1
LOWER PATUXENT-CALVERT	CALV	0502111381	OWINGS	0010	0024	103.81	886	1
LOWER PATUXENT-CALVERT	PRIN	17030230201	UPPER MARLBORO	0085	0011	101.77	1026	1
LOWER PATUXENT-CALVERT	ANNE	020200090045650	DAVIDSONVILLE	0054	0077	101.29	1604	1
LOWER PATUXENT-CALVERT	ANNE	020800002065900	TRACYS LANDING	0081	0097	98	1711	1
LOWER PATUXENT-CALVERT	CALV	0502001136	PRINCE FREDERICK	0024	0003	91.73	819	1
LOWER PATUXENT-CALVERT	CALV	0501216341	SAINT LEONARD	0033	0028	87.6	798	1
LOWER PATUXENT-CALVERT	ANNE	020800001308505	LOTHIAN	0076	0004	85.249	1671	1
LOWER PATUXENT-CALVERT	CALV	0501002368	LUSBY	0042	0009	84.34	1904	1

UNIT	COUNTY	ACCT ID	CITY	MAP	PARCEL	SDAT ACRES	MAP NUMBER	TIER
LOWER PATUXENT-CALVERT	PRIN	17030203943	UPPER MARLBORO	0102	0049	81.16	1021	1
LOWER PATUXENT-CALVERT	CALV	0502008491	HUNTINGTOWN	0019	0028	80.34	1842	1
LOWER PATUXENT-CALVERT	CALV	0503191966	SUNDERLAND	0015	0150	78.61	1009	1
LOWER PATUXENT-CALVERT	CALV	0503020746	OWINGS	0011	0124	77.13	1796	1
LOWER PATUXENT-CALVERT	CALV	0501003739	SAINT LEONARD	0038	0001	75	1909	1
LOWER PATUXENT-CALVERT	CALV	0502000199	HUNTINGTOWN	0022	0004	73.83	818	1
LOWER PATUXENT-CALVERT	ANNE	020100090022431	LOTHIAN	0067	0023	72.07	613	1
LOWER PATUXENT-CALVERT	CALV	0502108844	HUNTINGTOWN	0014	0058	68.08	880	1
LOWER PATUXENT-CALVERT	CALV	0503008061	OWINGS	0007	0123	65.59	946	1
LOWER PATUXENT-CALVERT	CALV	0501027573	SAINT LEONARD	0031	0028	63	778	1
LOWER PATUXENT-CALVERT	CALV	0503019853	OWINGS	0007	0117	61.35	987	1
LOWER PATUXENT-CALVERT	ANNE	020100005672803	LOTHIAN	0067	0091	60	1617	1
LOWER PATUXENT-CALVERT	ANNE	020800000848400	LOTHIAN	0076	0007	59	683	1
LOWER PATUXENT-CALVERT	ANNE	020100009499000	DAVIDSONVILLE	0054	0086	57.66	603	1
LOWER PATUXENT-CALVERT	ANNE	020800090008711	DUNKIRK	0081	0119	56.76	711	1
LOWER PATUXENT-CALVERT	CALV	0501221264	LUSBY	0042	0369	55.01	803	1
LOWER PATUXENT-CALVERT	ANNE	020800001209900	LOTHIAN	0073	0002	50.49	689	1
LOWER PATUXENT-CALVERT	ANNE	020100090042993	LOTHIAN	0067	0051	50.14	619	1
LOWER PATUXENT-CALVERT	CALV	0501242180	SAINT LEONARD	0039	0246	50.07	812	1
LOWER PATUXENT-CALVERT	ANNE	020848190240609	OWINGS	0081	0114	49.96	1714	1
LOWER PATUXENT-CALVERT	CALV	0503184188	DUNKIRK	0006	0450	49.89	1005	1
LOWER PATUXENT-CALVERT	ANNE	020100090037166	HARWOOD	0064	0107	49.46	1626	1
LOWER PATUXENT-CALVERT	ANNE	020100090010391	LOTHIAN	0067	0076	48.79	610	1
LOWER PATUXENT-CALVERT	CALV	0502110814	OWINGS	0010	0117	47.71	1767	1
LOWER PATUXENT-CALVERT	CALV	0501018159	SAINT LEONARD	0033	0088	47.65	1920	1
LOWER PATUXENT-CALVERT	ANNE	020100002580300	LOTHIAN	0068	0155	46.75	581	1
LOWER PATUXENT-CALVERT	ANNE	020800090009616	LOTHIAN	0076	0015	44.95	712	1
LOWER PATUXENT-CALVERT	ANNE	020100005801200	LOTHIAN	0067	0130	44.06	1621	1
LOWER PATUXENT-CALVERT	CALV	0503015017	DUNKIRK	0003	0005	41.96	966	1
LOWER PATUXENT-CALVERT	ANNE	020100007185500	HARWOOD	0058	0032	41.9	1591	1
LOWER PATUXENT-CALVERT	PRIN	17030216606	UPPER MARLBORO	0093	0008	41.09	1024	1
LOWER PATUXENT-CALVERT	ANNE	020100090070376	LOTHIAN	0067	0025	41.07	1628	1
LOWER PATUXENT-CALVERT	ANNE	020800000625330	FRIENDSHIP	0081	0068	40.1	675	1
LOWER PATUXENT-CALVERT	ANNE	020200090109627	GAMBRILLS	0049	0006	40	650	1
LOWER PATUXENT-CALVERT	CALV	0503000451	SUNDERLAND	0011	0294	40	930	1
LOWER PATUXENT-CALVERT	PRIN	17040265330	BRANDYWINE	0158	0007	39.42	1056	1
LOWER PATUXENT-CALVERT	CALV	0502132796	HUNTINGTOWN	0017	0236	39.36	915	1
LOWER PATUXENT-CALVERT	CALV	0501006789	SAINT LEONARD	0033	0061	39.1	754	1
LOWER PATUXENT-CALVERT	ANNE	020800090050324	LOTHIAN	0072	0110	39.03	1686	1
LOWER PATUXENT-CALVERT	CALV	0502006081	HUNTINGTOWN	0022	0006	38.71	827	1
LOWER PATUXENT-CALVERT	CALV	0502118599	HUNTINGTOWN	0020	0211	38.42	1885	1
LOWER PATUXENT-CALVERT	ANNE	020100090007967	LOTHIAN	0067	0088	37.554	608	1
LOWER PATUXENT-CALVERT	PRIN	17080835918	AQUASCO	0178	0079	37.49	1151	1
LOWER PATUXENT-CALVERT	PRIN	17070732768	UPPER MARLBORO	0077	0012	37.39	1101	1
LOWER PATUXENT-CALVERT	ANNE	020100003763500	LOTHIAN	0068	0078	36.76	588	1
LOWER PATUXENT-CALVERT	ANNE	020100090252379	LOTHIAN	0067	0024	36.3	628	1
LOWER PATUXENT-CALVERT	CALV	0501001019	LUSBY	0042	0081	36.16	2071	1
LOWER PATUXENT-CALVERT	CALV	0501024256	LUSBY	0042	0006	36.13	2072	1
LOWER PATUXENT-CALVERT	CALV	0503187624	OWINGS	0006	0460	35.94	1006	1
LOWER PATUXENT-CALVERT	CALV	0501020099	SAINT LEONARD	0034	0137	35.75	767	1
LOWER PATUXENT-CALVERT	CALV	0501242172	SAINT LEONARD	0038	0247	35.72	811	1
LOWER PATUXENT-CALVERT	CALV	0503017842	SUNDERLAND	0011	0220	35.71	981	1
LOWER PATUXENT-CALVERT	ANNE	020800090220639	LOTHIAN	0072	0114	35.58	1690	1
LOWER PATUXENT-CALVERT	ANNE	020100003521390	HARWOOD	0058	0085	35.42	586	1
LOWER PATUXENT-CALVERT	ANNE	020800090046160	LOTHIAN	0072	0116	34.83	721	1
LOWER PATUXENT-CALVERT	CALV	0503020126	OWINGS	0006	0476	34.76	1728	1
LOWER PATUXENT-CALVERT	CALV	0502149540	HUNTINGTOWN	0020	0229	34.73	1895	1
LOWER PATUXENT-CALVERT	CALV	0502047128	HUNTINGTOWN	0019	0145	34.52	852	1
LOWER PATUXENT-CALVERT	CALV	0502048256	HUNTINGTOWN	0019	0151	34.52	1760	1
LOWER PATUXENT-CALVERT	CALV	0503016803	OWINGS	0003	0149	34.41	977	1
LOWER PATUXENT-CALVERT	PRIN	17030199885	UPPER MARLBORO	0093	0013	34.3	1016	1

UNIT	COUNTY	ACCT ID	CITY	MAP	PARCEL	SDAT ACRES	MAP NUMBER	TIER
LOWER PATUXENT-CALVERT	CALV	0501252443	BROOMES ISLAND	0034	0302	33.65	816	1
LOWER PATUXENT-CALVERT	ANNE	020800001664675	LOTHIAN	0071	0215	33.59	696	1
LOWER PATUXENT-CALVERT	ANNE	020800090034974	LOTHIAN	0072	0020	33.51	719	1
LOWER PATUXENT-CALVERT	ANNE	020873590086235	DUNKIRK	0081	0075	32.74	745	1
LOWER PATUXENT-CALVERT	ANNE	020100000326100	HARWOOD	0063	0121	32.6	2558	1
LOWER PATUXENT-CALVERT	CALV	0502023385	HUNTINGTOWN	0020	0036	32.5	1866	1
LOWER PATUXENT-CALVERT	ANNE	020100090060640	LOTHIAN	0067	0030	32.326	2076	1
LOWER PATUXENT-CALVERT	PRIN	17080833152	AQUASCO	0182	0003	31.73	1147	1
LOWER PATUXENT-CALVERT	CALV	0502046962	PRINCE FREDERICK	0030	0258	31.73	1971	1
LOWER PATUXENT-CALVERT	ANNE	020100005705200	LOTHIAN	0067	0248	31.71	1620	1
LOWER PATUXENT-CALVERT	CALV	0502022524	PRINCE FREDERICK	0029	0055	30.33	1970	1
LOWER PATUXENT-CALVERT	ANNE	020100090079652	LOTHIAN	0068	0155	30	622	1
LOWER PATUXENT-CALVERT	PRIN	17030196717	UPPER MARLBORO	0085	0053	29.36	1649	1
LOWER PATUXENT-CALVERT	ANNE	020800090062783	LOTHIAN	0072	0197	29.07	725	1
LOWER PATUXENT-CALVERT	CALV	0503016498	HUNTINGTOWN	0011	0049	28.67	975	1
LOWER PATUXENT-CALVERT	CALV	0503016943	OWINGS	0007	0030	28.44	979	1
LOWER PATUXENT-CALVERT	ANNE	020800090012334	LOTHIAN	0076	0038	28.31	1680	1
LOWER PATUXENT-CALVERT	CALV	0501221248	LUSBY	0042	0367	28.12	802	1
LOWER PATUXENT-CALVERT	ANNE	020800001593600	LOTHIAN	0066	0059	28	694	1
LOWER PATUXENT-CALVERT	CALV	0502144794	HUNTINGTOWN	0022	0273	27.57	1892	1
LOWER PATUXENT-CALVERT	PRIN	17151750660	UPPER MARLBORO	0128	0097	27.33	2599	1
LOWER PATUXENT-CALVERT	CALV	0502074001	HUNTINGTOWN	0022	0211	27.28	866	1
LOWER PATUXENT-CALVERT	ANNE	020800090004719	LOTHIAN	0072	0052	27.227	1640	1
LOWER PATUXENT-CALVERT	ANNE	020800090043983	DUNKIRK	0077	0025	26.95	720	1
LOWER PATUXENT-CALVERT	ANNE	020800000325100	LOTHIAN	0072	0026	26.18	1663	1
LOWER PATUXENT-CALVERT	ANNE	020100090050060	HARWOOD	0063	0060	26.16	621	1
LOWER PATUXENT-CALVERT	CALV	0502036924	HUNTINGTOWN	0019	0128	26.1	851	1
LOWER PATUXENT-CALVERT	CALV	0501013076	SAINT LEONARD	0038	0046	25.68	1915	1
LOWER PATUXENT-CALVERT	ANNE	020830090212270	LOTHIAN	0072	0182	25.54	738	1
LOWER PATUXENT-CALVERT	ANNE	020800002023305	LOTHIAN	0072	0174	25.23	706	1
LOWER PATUXENT-CALVERT	CALV	0502253534	HUNTINGTOWN	0019	0269	25.01	927	1
LOWER PATUXENT-CALVERT	CALV	0501149563	SAINT LEONARD	0033	0159	25	783	1
LOWER PATUXENT-CALVERT	PRIN	17075501481	UPPER MARLBORO	0077	0137	24.91	1120	1
LOWER PATUXENT-CALVERT	ANNE	020200090050304	GAMBRILLS	0048	0001	24.52	647	1
LOWER PATUXENT-CALVERT	ANNE	020800001047600	LOTHIAN	0072	0125	24.23	687	1
LOWER PATUXENT-CALVERT	CALV	0501022083	SAINT LEONARD	0031	0063	23.78	769	1
LOWER PATUXENT-CALVERT	ANNE	020173190053230	LOTHIAN	0068	0056	23.72	1634	1
LOWER PATUXENT-CALVERT	CALV	0503003264	OWINGS	0007	0056	23.62	938	1
LOWER PATUXENT-CALVERT	ANNE	020800000625325	LOTHIAN	0072	0048	23.28	674	1
LOWER PATUXENT-CALVERT	CALV	0502130629	OWINGS	0010	0326	23.26	913	1
LOWER PATUXENT-CALVERT	CALV	0502134799	OWINGS	0010	0331	23.25	916	1
LOWER PATUXENT-CALVERT	ANNE	020100004118800	LOTHIAN	0067	0035	22.98	1613	1
LOWER PATUXENT-CALVERT	PRIN	17070725937	BOWIE	0064	0001	22.93	1098	1
LOWER PATUXENT-CALVERT	CALV	0501027816	SAINT LEONARD	0033	0089	22.5	779	1
LOWER PATUXENT-CALVERT	PRIN	17080845578	AQUASCO	0182	0046	22.32	1175	1
LOWER PATUXENT-CALVERT	PRIN	17030249201	UPPER MARLBORO	0102	0031	22.31	1035	1
LOWER PATUXENT-CALVERT	ANNE	020171190084150	LOTHIAN	0067	0090	22.28	633	1
LOWER PATUXENT-CALVERT	CALV	0502008076	HUNTINGTOWN	0018	0025	22.23	1840	1
LOWER PATUXENT-CALVERT	ANNE	020207690053616	GAMBRILLS	0049	0204	22.16	1577	1
LOWER PATUXENT-CALVERT	ANNE	020800001053300	LOTHIAN	0068	0010	22.16	1637	1
LOWER PATUXENT-CALVERT	ANNE	020200000204527	GAMBRILLS	0049	0006	22.04	638	1
LOWER PATUXENT-CALVERT	PRIN	17085627047	AQUASCO	0181		22.017	1188	1
LOWER PATUXENT-CALVERT	ANNE	020200090101463	GAMBRILLS	0049	0058	21.83	1576	1
LOWER PATUXENT-CALVERT	ANNE	020100006310522	HARWOOD	0064	0158	21.81	595	1
LOWER PATUXENT-CALVERT	CALV	0502113791	OWINGS	0010	0170	21.81	900	1
LOWER PATUXENT-CALVERT	ANNE	020800090073029	DUNKIRK	0081	0099	21.72	727	1
LOWER PATUXENT-CALVERT	ANNE	020188890067752	HARWOOD	0063	0106	21.66	635	1
LOWER PATUXENT-CALVERT	ANNE	020200090109632	GAMBRILLS	0049	0006	21.64	651	1
LOWER PATUXENT-CALVERT	PRIN	17040260877	UPPER MARLBORO	0137	0088	21.56	1045	1
LOWER PATUXENT-CALVERT	CALV	0501203339	LUSBY	0042	0351	21.55	792	1
LOWER PATUXENT-CALVERT	CALV	0501229281	SAINT LEONARD	0038	0158	21.26	808	1

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LOWER PATUXENT-CALVERT	PRIN	17080843540	BRANDYWINE	0180	0134	21.25	2086	1
LOWER PATUXENT-CALVERT	PRIN	17030205252	UPPER MARLBORO	0093	0090	21.221	1022	1
LOWER PATUXENT-CALVERT	PRIN	17030215475	UPPER MARLBORO	0102	0025	21.17	1023	1
LOWER PATUXENT-CALVERT	CALV	0501199544	SAINT LEONARD	0033	0039	21.12	791	1
LOWER PATUXENT-CALVERT	CALV	0503076717	DUNKIRK	0006	0271	21.05	994	1
LOWER PATUXENT-CALVERT	ANNE	020800000647100	LOTHIAN	0077	0004	21.03	676	1
LOWER PATUXENT-CALVERT	PRIN	17030231548	UPPER MARLBORO	0093	0071	21	1028	1
LOWER PATUXENT-CALVERT	CALV	0502018357	PRINCE FREDERICK	0029	0032	21	1966	1
LOWER PATUXENT-CALVERT	PRIN	17070725739	BOWIE	0064	0035	20.93	1097	1
LOWER PATUXENT-CALVERT	PRIN	17070725960	BOWIE	0056	0032	20.93	1099	1
LOWER PATUXENT-CALVERT	PRIN	17141633163	BOWIE	0022	0018	20.9	1234	1
LOWER PATUXENT-CALVERT	ANNE	020100090220718	HARWOOD	0063	0052	20.8	1631	1
LOWER PATUXENT-CALVERT	ANNE	020100090231493	HARWOOD	0063	0140	20.67	2607	1
LOWER PATUXENT-CALVERT	PRIN	17033669371	UPPER MARLBORO	0085		20.6	1652	1
LOWER PATUXENT-CALVERT	ANNE	020800090051178	LOTHIAN	0072	0110	20.49	723	1
LOWER PATUXENT-CALVERT	PRIN	17043705167	UPPER MARLBORO	0138	0074	20.3	1067	1
LOWER PATUXENT-CALVERT	PRIN	17070718684	UPPER MARLBORO	0078		20.23	1093	1
LOWER PATUXENT-CALVERT	CALV	0502088606	HUNTINGTOWN	0019	0229	20.23	1762	1
LOWER PATUXENT-CALVERT	ANNE	020800001899000	FRIENDSHIP	0081	0010	20.15	703	1
LOWER PATUXENT-CALVERT	ANNE	020188890067751	HARWOOD	0063	0106	20.11	634	1
LOWER PATUXENT-CALVERT	ANNE	020207690053617	GAMBRILLS	0049	0204	20.05	1578	1
LOWER PATUXENT-CALVERT	ANNE	020106190100392	LOTHIAN	0067	0046	20.01	630	1
LOWER PATUXENT-CALVERT	ANNE	020163090042113	LOTHIAN	0067	0079	20	631	1
LOWER PATUXENT-CALVERT	CALV	0501152866	LUSBY	0039	0196	20	784	1
LOWER PATUXENT-CALVERT	CALV	0502135221	OWINGS	0010	0309	20	1777	1
LOWER PATUXENT-CALVERT	PRIN	17151750678	UPPER MARLBORO	0128	0098	19.04	2600	1
LOWER PATUXENT-CALVERT	PRIN	17151750645	UPPER MARLBORO	0119	0111	12.19	2598	1
LOWER PATUXENT-CALVERT	CALV	0502108984	HUNTINGTOWN	0014	0163	181.1	1764	0
LOWER PATUXENT-CALVERT	CALV	0503000737	OWINGS	0011	0123	100.36	932	0
LOWER PATUXENT-CALVERT	ANNE	020100006097000	LOTHIAN	0067	0036	100	592	0
LOWER PATUXENT-CALVERT	ANNE	020100000415000	DAVIDSONVILLE	0054	0120	96.16	1586	0
LOWER PATUXENT-CALVERT	CALV	0502111896	OWINGS	0010	0015	94.55	1718	0
LOWER PATUXENT-CALVERT	ANNE	020100001724600	DAVIDSONVILLE	0054	0039	92.67	580	0
LOWER PATUXENT-CALVERT	PRIN	17070718262	BOWIE	0064	0002	84.64	1092	0
LOWER PATUXENT-CALVERT	ANNE	020100090082202	LOTHIAN	0067	0113	82.32	1629	0
LOWER PATUXENT-CALVERT	ANNE	020100002660000	HARWOOD	0058	0033	79.934	582	0
LOWER PATUXENT-CALVERT	PRIN	17070796227	BOWIE	0070	0038	79.5	1110	0
LOWER PATUXENT-CALVERT	ANNE	020800000734300	FRIENDSHIP	0081	0013	78.5	679	0
LOWER PATUXENT-CALVERT	ANNE	020200011761400	DAVIDSONVILLE	0054	0083	77.42	1603	0
LOWER PATUXENT-CALVERT	ANNE	020100000458300	DAVIDSONVILLE	0058	0025	70.26	574	0
LOWER PATUXENT-CALVERT	ANNE	020100004288200	DAVIDSONVILLE	0054	0030	69.51	589	0
LOWER PATUXENT-CALVERT	CALV	0502001144	PRINCE FREDERICK	0024	0344	68.25	1830	0
LOWER PATUXENT-CALVERT	ANNE	020100002029000	DAVIDSONVILLE	0054	0011	66.9	1587	0
LOWER PATUXENT-CALVERT	CALV	0503162613	OWINGS	0007	0027	62.52	1003	0
LOWER PATUXENT-CALVERT	ANNE	020100005705004	LOTHIAN	0067	0083	62	1619	0
LOWER PATUXENT-CALVERT	ANNE	020100090044271	DAVIDSONVILLE	0054	0025	60.729	1599	0
LOWER PATUXENT-CALVERT	PRIN	17070732867	BOWIE	0064	0016	60	1607	0
LOWER PATUXENT-CALVERT	ANNE	020100000367900	LOTHIAN	0067	0075	59.91	1612	0
LOWER PATUXENT-CALVERT	PRIN	17030196865	UPPER MARLBORO	0093	0040	58.71	1650	0
LOWER PATUXENT-CALVERT	ANNE	020800000596150	FRIENDSHIP	0081	0144	58.5	673	0
LOWER PATUXENT-CALVERT	CALV	0502023504	HUNTINGTOWN	0018	0019	56.16	849	0
LOWER PATUXENT-CALVERT	ANNE	020100090010685	DAVIDSONVILLE	0054	0015	55.75	611	0
LOWER PATUXENT-CALVERT	CALV	0503011208	OWINGS	0007	0023	53.34	1724	0
LOWER PATUXENT-CALVERT	CALV	0503005267	SUNDERLAND	0011	0019	52.51	944	0
LOWER PATUXENT-CALVERT	ANNE	020100090022246	DAVIDSONVILLE	0054	0195	51.93	1597	0
LOWER PATUXENT-CALVERT	PRIN	17070735084	BOWIE	0071	0106	50.65	1105	0
LOWER PATUXENT-CALVERT	PRIN	17040267088	UPPER MARLBORO	0129		47.7	1062	0
LOWER PATUXENT-CALVERT	CALV	0503173526	OWINGS	0010	0316	47.51	1004	0
LOWER PATUXENT-CALVERT	ANNE	020800090229098	OWINGS	0081	0098	47.17	732	0
LOWER PATUXENT-CALVERT	PRIN	17075544988	BOWIE	0055		46.77	1610	0
LOWER PATUXENT-CALVERT	ANNE	020800001797200	FRIENDSHIP	0081	0124	46.23	701	0

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LOWER PATUXENT-CALVERT	PRIN	17045633948	UPPER MARLBORO	0138	0160	45.91	1068	0
LOWER PATUXENT-CALVERT	ANNE	020100090041301	DAVIDSONVILLE	0054	0124	45.04	617	0
LOWER PATUXENT-CALVERT	ANNE	020100090234970	DAVIDSONVILLE	0058	0051	43.746	1601	0
LOWER PATUXENT-CALVERT	PRIN	17070818492	BOWIE	0055	0029	42.17	1115	0
LOWER PATUXENT-CALVERT	PRIN	17070787762	BOWIE	0055	0074	41.82	1107	0
LOWER PATUXENT-CALVERT	ANNE	020100090034462	HARWOOD	0063	0050	39.71	2559	0
LOWER PATUXENT-CALVERT	ANNE	020100008527800	HARWOOD	0063	0152	39.31	602	0
LOWER PATUXENT-CALVERT	CALV	0503011186	OWINGS	0007	0572	39	954	0
LOWER PATUXENT-CALVERT	ANNE	020100000410200	DAVIDSONVILLE	0054	0014	38.73	1585	0
LOWER PATUXENT-CALVERT	ANNE	020100090028869	DAVIDSONVILLE	0059	0017	37.34	616	0
LOWER PATUXENT-CALVERT	ANNE	020800000800900	OWINGS	0081	0052	37.01	680	0
LOWER PATUXENT-CALVERT	ANNE	020100002858500	DAVIDSONVILLE	0054	0157	35.89	583	0
LOWER PATUXENT-CALVERT	PRIN	17040254912	UPPER MARLBORO	0138	0080	35.85	1040	0
LOWER PATUXENT-CALVERT	ANNE	020800000853000	FRIENDSHIP	0081	0047	35.51	684	0
LOWER PATUXENT-CALVERT	ANNE	020100004124800	LOTHIAN	0067	0116	35.25	2074	0
LOWER PATUXENT-CALVERT	ANNE	020800090050595	OWINGS	0081	0076	34.79	722	0
LOWER PATUXENT-CALVERT	ANNE	020100003368400	DAVIDSONVILLE	0058	0024	34	585	0
LOWER PATUXENT-CALVERT	ANNE	020876790013505	FRIENDSHIP	0081	0228	33.76	746	0
LOWER PATUXENT-CALVERT	ANNE	020200008484000	DAVIDSONVILLE	0054	0081	33	1598	0
LOWER PATUXENT-CALVERT	ANNE	020200008484000	DAVIDSONVILLE	0054	0081	33	1602	0
LOWER PATUXENT-CALVERT	CALV	0503013855	DUNKIRK	0003	0059	32.94	1725	0
LOWER PATUXENT-CALVERT	CALV	0502023075	HUNTINGTOWN	0019	0057	32.89	846	0
LOWER PATUXENT-CALVERT	ANNE	020100009038150	LOTHIAN	0067	0247	32.59	1623	0
LOWER PATUXENT-CALVERT	PRIN	17070815654	UPPER MARLBORO	0070	0076	31.64	1609	0
LOWER PATUXENT-CALVERT	PRIN	17070719492	UPPER MARLBORO	0071	0017	30.62	1094	0
LOWER PATUXENT-CALVERT	CALV	0502111675	HUNTINGTOWN	0015	0001	30.58	889	0
LOWER PATUXENT-CALVERT	ANNE	020100090026527	DAVIDSONVILLE	0059	0128	30.34	615	0
LOWER PATUXENT-CALVERT	ANNE	020100000781200	DAVIDSONVILLE	0058	0019	30.11	577	0
LOWER PATUXENT-CALVERT	ANNE	020100090009904	DAVIDSONVILLE	0054	0049	30	1595	0
LOWER PATUXENT-CALVERT	ANNE	020100090007597	LOTHIAN	0072	0195	29.5	605	0
LOWER PATUXENT-CALVERT	CALV	0502111543	HUNTINGTOWN	0014	0011	29.45	888	0
LOWER PATUXENT-CALVERT	ANNE	020100090091051	DAVIDSONVILLE	0054	0086	28.83	624	0
LOWER PATUXENT-CALVERT	PRIN	17070713271	BOWIE	0063	0068	28.49	1091	0
LOWER PATUXENT-CALVERT	ANNE	020100090023845	DAVIDSONVILLE	0054	0129	28.42	614	0
LOWER PATUXENT-CALVERT	ANNE	020800001615903	LOTHIAN	0072	0187R	27.83	695	0
LOWER PATUXENT-CALVERT	CALV	0502099667	HUNTINGTOWN	0015	0304	27.75	878	0
LOWER PATUXENT-CALVERT	PRIN	17070818088	BOWIE	0071	0121	27.5	1114	0
LOWER PATUXENT-CALVERT	ANNE	020100007273000	HARWOOD	0064	0043	27.47	597	0
LOWER PATUXENT-CALVERT	PRIN	17070729574	BOWIE	0071	0031	27.16	1100	0
LOWER PATUXENT-CALVERT	PRIN	17070788372	BOWIE	0071	0124	26.37	1108	0
LOWER PATUXENT-CALVERT	ANNE	020138490039205	HARWOOD	0063	0095	26.3	2606	0
LOWER PATUXENT-CALVERT	CALV	0503021386	OWINGS	0011	0009	26.29	993	0
LOWER PATUXENT-CALVERT	ANNE	020200003383000	DAVIDSONVILLE	0049	0060	26.02	641	0
LOWER PATUXENT-CALVERT	CALV	0503021319	OWINGS	0011	0008	25.93	991	0
LOWER PATUXENT-CALVERT	ANNE	020800000763500	FRIENDSHIP	0081	0223	25.59	2560	0
LOWER PATUXENT-CALVERT	CALV	0502013657	HUNTINGTOWN	0019	0122	25.22	838	0
LOWER PATUXENT-CALVERT	ANNE	020100001359400	DAVIDSONVILLE	0058	0088	25	579	0
LOWER PATUXENT-CALVERT	CALV	0503253397	SUNDERLAND	0011	0540	25	1012	0
LOWER PATUXENT-CALVERT	PRIN	17070704890	UPPER MARLBORO	0071	0118	24.82	1090	0
LOWER PATUXENT-CALVERT	CALV	0503013308	OWINGS	0006	0121	24.3	961	0
LOWER PATUXENT-CALVERT	CALV	0503000982	OWINGS	0011	0073	24.22	933	0
LOWER PATUXENT-CALVERT	CALV	0503000087	DUNKIRK	0003	0083	23.88	1693	0
LOWER PATUXENT-CALVERT	PRIN	17070725218	BOWIE	0071	0107	23.41	1095	0
LOWER PATUXENT-CALVERT	ANNE	020100090091052	DAVIDSONVILLE	0054	0086	23.34	625	0
LOWER PATUXENT-CALVERT	CALV	0503000109	DUNKIRK	0003	0045	23.29	928	0
LOWER PATUXENT-CALVERT	CALV	0502087677	HUNTINGTOWN	0015	0360	23.18	876	0
LOWER PATUXENT-CALVERT	PRIN	17070797407	BOWIE	0063	0069	23.13	1111	0
LOWER PATUXENT-CALVERT	ANNE	020200010367000	DAVIDSONVILLE	0049	0068	23.06	644	0
LOWER PATUXENT-CALVERT	CALV	0502110172	HUNTINGTOWN	0010	0087	23	884	0
LOWER PATUXENT-CALVERT	ANNE	020100090005144	HARWOOD	0063	0042	22.65	604	0
LOWER PATUXENT-CALVERT	ANNE	020100090008287	DAVIDSONVILLE	0054	0037	22.52	609	0

UNIT	COUNTY	ACCT ID	CITY	MAP	PARCEL	SDAT ACRES	MAP NUMBER	TIER
LOWER PATUXENT-CALVERT	ANNE	020800000101855	LOTHIAN	0072	0206	22.4	667	0
LOWER PATUXENT-CALVERT	ANNE	020100090047118	DAVIDSONVILLE	0054	0028	21.99	620	0
LOWER PATUXENT-CALVERT	PRIN	17070797936	UPPER MARLBORO	0071	0108	21.99	1113	0
LOWER PATUXENT-CALVERT	PRIN	17040254441	UPPER MARLBORO	0138	0040	21.858	1039	0
LOWER PATUXENT-CALVERT	PRIN	17070734103	BOWIE	0071	0010	21.51	1104	0
LOWER PATUXENT-CALVERT	ANNE	020800090028022	LOTHIAN	0072	0012R	21.48	716	0
LOWER PATUXENT-CALVERT	ANNE	020188890067753	HARWOOD	0063	0106	21.39	636	0
LOWER PATUXENT-CALVERT	CALV	0502050927	HUNTINGTOWN	0019	0156	21.34	854	0
LOWER PATUXENT-CALVERT	CALV	0503010473	SUNDERLAND	0011	0219	21.33	951	0
LOWER PATUXENT-CALVERT	ANNE	020100004317700	DAVIDSONVILLE	0054	0228	20.86	590	0
LOWER PATUXENT-CALVERT	ANNE	020100008036600	DAVIDSONVILLE	0054	0229	20.85	601	0
LOWER PATUXENT-CALVERT	ANNE	020170490050710	DAVIDSONVILLE	0058	0013	20.81	632	0
LOWER PATUXENT-CALVERT	ANNE	020100090229502	DAVIDSONVILLE	0054	0150	20.69	627	0
LOWER PATUXENT-CALVERT	ANNE	020800002052700	FRIENDSHIP	0081	0015R	20.65	708	0
LOWER PATUXENT-CALVERT	CALV	0502118513	OWINGS	0011	0018	20.61	904	0
LOWER PATUXENT-CALVERT	ANNE	020188890067759	HARWOOD	0063	0106	20.53	637	0
LOWER PATUXENT-CALVERT	ANNE	020106190100344	LOTHIAN	0067	0046	20.36	629	0
LOWER PATUXENT-CALVERT	ANNE	020200090026383	DAVIDSONVILLE	0049	0082	20.35	646	0
LOWER PATUXENT-CALVERT	ANNE	020100090215809	DAVIDSONVILLE	0054	0063	20.15	626	0
LOWER PATUXENT-CALVERT	PRIN	17073194511	BOWIE	0071	0125	20.1	1117	0
LOWER PATUXENT-CALVERT	PRIN	17040257196	UPPER MARLBORO	0128		20.02	1042	0
LOWER PATUXENT-CALVERT	ANNE	020800090229424	FRIENDSHIP	0081	0010	20	733	0
LOWER PATUXENT-CALVERT	ANNE	020858090063031	LOTHIAN	0072	0251	20	744	0

Nanjemoy-Mattawoman Unit - Tiered Parcels (Tier 0 = Lowest Value/Priority; Tier 6 = Highest Value/Priority)

	A	B	C	D	E	F	G	H	I
1	UNIT	COUNTY	ACCT ID	CITY	MAP	PARCEL	SDAT ACRES	MAP NUMBER	TIER
2	NANJEMOY-MATTAWOMAN	CHAR	0903001202	NANJEMOY	0039	0002	3660.56	2422	6
3	NANJEMOY-MATTAWOMAN	CHAR	0903015084	NANJEMOY	0040	0005	552.42	179	6
4	NANJEMOY-MATTAWOMAN	CHAR	0903001172	NANJEMOY	0050	0001	523.75	111	6
5	NANJEMOY-MATTAWOMAN	CHAR	0903015904	INDIAN HEAD	0040	0040	351.1	2506	6
6	NANJEMOY-MATTAWOMAN	CHAR	0903011143	NANJEMOY	0069	0083	313.45	160	6
7	NANJEMOY-MATTAWOMAN	CHAR	0903009246	NANJEMOY	0070	0091	293.06	154	6
8	NANJEMOY-MATTAWOMAN	CHAR	0903021122	NANJEMOY	0070	0223	285.16	2491	6
9	NANJEMOY-MATTAWOMAN	CHAR	0903010775	NANJEMOY	0060	0039	272.69	2463	6
10	NANJEMOY-MATTAWOMAN	CHAR	0903010082	NANJEMOY	0060	0030	263.07	2461	6
11	NANJEMOY-MATTAWOMAN	CHAR	0903003205	NANJEMOY	0077	0010	240.96	119	6
12	NANJEMOY-MATTAWOMAN	CHAR	0903006689	NANJEMOY	0069	0046	213	136	6
13	NANJEMOY-MATTAWOMAN	CHAR	0903010538	NANJEMOY	0078	0002	209.35	157	6
14	NANJEMOY-MATTAWOMAN	CHAR	0903004228	NANJEMOY	0077	0070	205	126	6
15	NANJEMOY-MATTAWOMAN	CHAR	0910003067	INDIAN HEAD	0040	0001	179	2511	6
16	NANJEMOY-MATTAWOMAN	CHAR	0903002349	NANJEMOY	0078	0017	178.52	2425	6
17	NANJEMOY-MATTAWOMAN	CHAR	0903020533	NANJEMOY	0070	0215	169.23	2489	6
18	NANJEMOY-MATTAWOMAN	CHAR	0903015602	NANJEMOY	0070	0038	167.94	2480	6
19	NANJEMOY-MATTAWOMAN	CHAR	0903024512	NANJEMOY	0077	0090	162.28	2494	6
20	NANJEMOY-MATTAWOMAN	CHAR	0903009351	NANJEMOY	0069	0008	151.6	2456	6
21	NANJEMOY-MATTAWOMAN	CHAR	0903003574	NANJEMOY	0077	0043	148.85	2428	6
22	NANJEMOY-MATTAWOMAN	CHAR	0903006964	NANJEMOY	0061	0012	145.67	138	6
23	NANJEMOY-MATTAWOMAN	CHAR	0903012751	NANJEMOY	0060	0089	142.29	2467	6
24	NANJEMOY-MATTAWOMAN	CHAR	0903000583	NANJEMOY	0069	0030	141.326	109	6
25	NANJEMOY-MATTAWOMAN	CHAR	0903007928	NANJEMOY	0051	0048	138.22	142	6
26	NANJEMOY-MATTAWOMAN	CHAR	0910008271	INDIAN HEAD	0040	0002	130.48	2514	6
27	NANJEMOY-MATTAWOMAN	CHAR	0903009408	NANJEMOY	0051	0018	121.98	2457	6
28	NANJEMOY-MATTAWOMAN	CHAR	0903012689	NANJEMOY	0070	0216	121.57	172	6
29	NANJEMOY-MATTAWOMAN	CHAR	0903014975	INDIAN HEAD	0029	0060	115.611	2505	6
30	NANJEMOY-MATTAWOMAN	CHAR	0903003922	INDIAN HEAD	0040	0027	113.5	2529	6
31	NANJEMOY-MATTAWOMAN	CHAR	0903007995	NANJEMOY	0077	0015	112.58	2448	6
32	NANJEMOY-MATTAWOMAN	CHAR	0903009505	NANJEMOY	0069	0028	109.03	2458	6
33	NANJEMOY-MATTAWOMAN	CHAR	0903014134	NANJEMOY	0060	0184	105.957	2474	6
34	NANJEMOY-MATTAWOMAN	CHAR	0903008592	NANJEMOY	0069	0056	72.5	146	6
35	NANJEMOY-MATTAWOMAN	CHAR	0907028946	BRYANS ROAD	0013	0051	269.21	401	5
36	NANJEMOY-MATTAWOMAN	CHAR	0906024912	WHITE PLAINS	0013	0052A	243.639	2330	5
37	NANJEMOY-MATTAWOMAN	CHAR	0906028381	POMFRET	0032	0001	231.796	342	5
38	NANJEMOY-MATTAWOMAN	CHAR	0906037232	POMFRET	0013	0146	225.155	2334	5
39	NANJEMOY-MATTAWOMAN	CHAR	0910009081	INDIAN HEAD	0041	0002	196.5	2542	5
40	NANJEMOY-MATTAWOMAN	PRIN	17050363887	ACCOKEEK	0170	0068	169.44	2372	5
41	NANJEMOY-MATTAWOMAN	CHAR	0902006707	NANJEMOY	0052	0126	161.22	2520	5
42	NANJEMOY-MATTAWOMAN	CHAR	0907024754	LA PLATA	0012	0016	157.07	392	5
43	NANJEMOY-MATTAWOMAN	CHAR	0906030572	WHITE PLAINS	0013	0013	143.56	2332	5
44	NANJEMOY-MATTAWOMAN	CHAR	0903005747	NANJEMOY	0052	0045	135.92	2530	5
45	NANJEMOY-MATTAWOMAN	CHAR	0907006926	LA PLATA	0021	0034	118	375	5
46	NANJEMOY-MATTAWOMAN	CHAR	0907011512	BRYANS ROAD	0013	0156	110.92	382	5
47	NANJEMOY-MATTAWOMAN	CHAR	0903016498	NANJEMOY	0052	0020	107.82	2537	5
48	NANJEMOY-MATTAWOMAN	CHAR	0903009378	NANJEMOY	0052	0008	104.51	2534	5
49	NANJEMOY-MATTAWOMAN	CHAR	0910008298	INDIAN HEAD	0040	0079	98.36	2515	5
50	NANJEMOY-MATTAWOMAN	CHAR	0903004996	INDIAN HEAD	0040	0002	98.12	2500	5
51	NANJEMOY-MATTAWOMAN	CHAR	0903020177	INDIAN HEAD	0040	0003	96.17	202	5
52	NANJEMOY-MATTAWOMAN	CHAR	0903024229	NANJEMOY	0077	0089	95.63	2611	5
53	NANJEMOY-MATTAWOMAN	CHAR	0903011623	NANJEMOY	0070	0174	93.89	167	5
54	NANJEMOY-MATTAWOMAN	CHAR	0903001903	NANJEMOY	0052	0111	93.78	2523	5
55	NANJEMOY-MATTAWOMAN	CHAR	0903013405	NANJEMOY	0061	0073	90.62	2472	5
56	NANJEMOY-MATTAWOMAN	CHAR	0903012263	INDIAN HEAD	0040	0071	89.37	2503	5
57	NANJEMOY-MATTAWOMAN	CHAR	0903001962	NANJEMOY	0051	0057	88.97	115	5
58	NANJEMOY-MATTAWOMAN	CHAR	0903005798	NANJEMOY	0070	0202	85.12	2439	5
59	NANJEMOY-MATTAWOMAN	CHAR	0903008762	NANJEMOY	0051	0113	83.59	2549	5
60	NANJEMOY-MATTAWOMAN	CHAR	0903019586	NANJEMOY	0060	0185	81.3	198	5

	A	B	C	D	E	F	G	H	I
1	UNIT	COUNTY	ACCT ID	CITY	MAP	PARCEL	SDAT ACRES	MAP NUMBER	TIER
61	NANJEMOY-MATTAWOMAN	CHAR	0903027392	NANJEMOY	0060	0231	80.37	2497	5
62	NANJEMOY-MATTAWOMAN	CHAR	0903008266	NANJEMOY	0060	0007	78.756	2451	5
63	NANJEMOY-MATTAWOMAN	CHAR	0903000222	NANJEMOY	0061	0010	78.45	2419	5
64	NANJEMOY-MATTAWOMAN	CHAR	0903351476	NANJEMOY	0060	0041	78	2498	5
65	NANJEMOY-MATTAWOMAN	CHAR	0903018032	NANJEMOY	0051	0225	75.9	2483	5
66	NANJEMOY-MATTAWOMAN	CHAR	0903012255	INDIAN HEAD	0040	0072	75	2502	5
67	NANJEMOY-MATTAWOMAN	CHAR	0903005445	NANJEMOY	0078	0003	73.5	131	5
68	NANJEMOY-MATTAWOMAN	CHAR	0903015769	NANJEMOY	0060	0003	72.75	2481	5
69	NANJEMOY-MATTAWOMAN	CHAR	0903007987	NANJEMOY	0077	0027	72.3	2447	5
70	NANJEMOY-MATTAWOMAN	CHAR	0903021807	NANJEMOY	0060	0026	71.56	2492	5
71	NANJEMOY-MATTAWOMAN	CHAR	0903002292	NANJEMOY	0051	0085	71.46	117	5
72	NANJEMOY-MATTAWOMAN	CHAR	0903006425	NANJEMOY	0070	0068	71	2442	5
73	NANJEMOY-MATTAWOMAN	CHAR	0910002605	INDIAN HEAD	0040	0067	70.96	2509	5
74	NANJEMOY-MATTAWOMAN	CHAR	0903007413	NANJEMOY	0069	0007	70.81	140	5
75	NANJEMOY-MATTAWOMAN	CHAR	0903014266	NANJEMOY	0077	0016	69.5	2536	5
76	NANJEMOY-MATTAWOMAN	CHAR	0903004651	NANJEMOY	0051	0013	68.38	2436	5
77	NANJEMOY-MATTAWOMAN	CHAR	0903002926	NANJEMOY	0050	0004	65.73	2426	5
78	NANJEMOY-MATTAWOMAN	CHAR	0903009874	NANJEMOY	0051	0115	64.03	2459	5
79	NANJEMOY-MATTAWOMAN	CHAR	0903013189	NANJEMOY	0059	0008	64	2470	5
80	NANJEMOY-MATTAWOMAN	CHAR	0903013685	NANJEMOY	0077	0021	62.5	175	5
81	NANJEMOY-MATTAWOMAN	CHAR	0903008193	NANJEMOY	0069	0025	62	2449	5
82	NANJEMOY-MATTAWOMAN	CHAR	0903005062	NANJEMOY	0077	0012	60.42	129	5
83	NANJEMOY-MATTAWOMAN	CHAR	0903019888	NANJEMOY	0051	0243	59.79	2486	5
84	NANJEMOY-MATTAWOMAN	CHAR	0903009203	NANJEMOY	0051	0179	59.16	2455	5
85	NANJEMOY-MATTAWOMAN	CHAR	0903019403	INDIAN HEAD	0040	0131	58.88	196	5
86	NANJEMOY-MATTAWOMAN	CHAR	0903000117	NANJEMOY	0060	0042	57.62	105	5
87	NANJEMOY-MATTAWOMAN	CHAR	0903000567	NANJEMOY	0069	0047	56.22	108	5
88	NANJEMOY-MATTAWOMAN	CHAR	0903003647	NANJEMOY	0060	0020	56	2429	5
89	NANJEMOY-MATTAWOMAN	CHAR	0903025543	NANJEMOY	0069	0128	55.86	211	5
90	NANJEMOY-MATTAWOMAN	CHAR	0903005941	NANJEMOY	0051	0216	55	132	5
91	NANJEMOY-MATTAWOMAN	CHAR	0903012905	NANJEMOY	0077	0004	55	174	5
92	NANJEMOY-MATTAWOMAN	CHAR	0903012891	INDIAN HEAD	0040	0023	53.97	173	5
93	NANJEMOY-MATTAWOMAN	CHAR	0903002144	NANJEMOY	0052	0052	53.89	2524	5
94	NANJEMOY-MATTAWOMAN	CHAR	0903011739	NANJEMOY	0051	0046	53.32	168	5
95	NANJEMOY-MATTAWOMAN	CHAR	0903003272	NANJEMOY	0052	0009	53.07	120	5
96	NANJEMOY-MATTAWOMAN	CHAR	0903008401	NANJEMOY	0070	0031	52	145	5
97	NANJEMOY-MATTAWOMAN	CHAR	0903020703	NANJEMOY	0061	0109	51.55	2490	5
98	NANJEMOY-MATTAWOMAN	CHAR	0903015386	NANJEMOY	0070	0153	51.38	2477	5
99	NANJEMOY-MATTAWOMAN	CHAR	0903024822	NANJEMOY	0070	0095	51.09	209	5
100	NANJEMOY-MATTAWOMAN	CHAR	0903353475	NANJEMOY	0051	0059	51	214	5
101	NANJEMOY-MATTAWOMAN	CHAR	0903015475	NANJEMOY	0070	0135	49.82	2479	5
102	NANJEMOY-MATTAWOMAN	CHAR	0903000672	NANJEMOY	0069	0088	49.75	110	5
103	NANJEMOY-MATTAWOMAN	CHAR	0903011305	NANJEMOY	0061	0072	49.72	161	5
104	NANJEMOY-MATTAWOMAN	CHAR	0903001865	NANJEMOY	0040	0016	47.8	114	5
105	NANJEMOY-MATTAWOMAN	CHAR	0903012239	INDIAN HEAD	0040	0026	46.59	170	5
106	NANJEMOY-MATTAWOMAN	CHAR	0903010945	NANJEMOY	0051	0059	45.989	158	5
107	NANJEMOY-MATTAWOMAN	CHAR	0903000907	NANJEMOY	0077	0041	45.89	2421	5
108	NANJEMOY-MATTAWOMAN	CHAR	0903018555	NANJEMOY	0051	0228	45.4	2484	5
109	NANJEMOY-MATTAWOMAN	CHAR	0903008975	NANJEMOY	0077	0073	45.29	150	5
110	NANJEMOY-MATTAWOMAN	CHAR	0903003337	NANJEMOY	0070	0070	45.28	122	5
111	NANJEMOY-MATTAWOMAN	CHAR	0903020088	NANJEMOY	0069	0107	45	200	5
112	NANJEMOY-MATTAWOMAN	CHAR	0903000591	NANJEMOY	0061	0023	43.84	2420	5
113	NANJEMOY-MATTAWOMAN	CHAR	0903011895	NANJEMOY	0051	0058	43.17	169	5
114	NANJEMOY-MATTAWOMAN	CHAR	0903008045	NANJEMOY	0040	0044	43.06	144	5
115	NANJEMOY-MATTAWOMAN	CHAR	0903022749	NANJEMOY	0060	0043	43.05	2440	5
116	NANJEMOY-MATTAWOMAN	CHAR	0903022749	NANJEMOY	0060	0043	43.05	2493	5
117	NANJEMOY-MATTAWOMAN	CHAR	0903008037	NANJEMOY	0078	0063	42.65	143	5
118	NANJEMOY-MATTAWOMAN	CHAR	0903011518	NANJEMOY	0077	0013	42.55	165	5
119	NANJEMOY-MATTAWOMAN	CHAR	0903018784	NANJEMOY	0051	0234	41.75	191	5

	A	B	C	D	E	F	G	H	I
1	UNIT	COUNTY	ACCT ID	CITY	MAP	PARCEL	SDAT ACRES	MAP NUMBER	TIER
120	NANJEMOY-MATTAWOMAN	CHAR	0903003566	NANJEMOY	0077	0080	41	124	5
121	NANJEMOY-MATTAWOMAN	CHAR	0903007979	NANJEMOY	0077	0037	41	2446	5
122	NANJEMOY-MATTAWOMAN	CHAR	0903007618	INDIAN HEAD	0040	0054	40.53	141	5
123	NANJEMOY-MATTAWOMAN	CHAR	0903018962	NANJEMOY	0061	0096	40.11	194	5
124	NANJEMOY-MATTAWOMAN	CHAR	0903022293	NANJEMOY	0061	0101	40.025	206	5
125	NANJEMOY-MATTAWOMAN	CHAR	0903010457	NANJEMOY	0069	0067	39.88	2462	5
126	NANJEMOY-MATTAWOMAN	CHAR	0903011526	NANJEMOY	0077	0011	39.76	166	5
127	NANJEMOY-MATTAWOMAN	CHAR	0903012867	NANJEMOY	0060	0151	39.717	2469	5
128	NANJEMOY-MATTAWOMAN	CHAR	0903007324	NANJEMOY	0060	0127	39.51	2443	5
129	NANJEMOY-MATTAWOMAN	CHAR	0903008657	NANJEMOY	0070	0149	39.2	2452	5
130	NANJEMOY-MATTAWOMAN	CHAR	0903004678	NANJEMOY	0051	0109	39.102	2437	5
131	NANJEMOY-MATTAWOMAN	CHAR	0903013782	NANJEMOY	0069	0011	39.063	2473	5
132	NANJEMOY-MATTAWOMAN	CHAR	0903014428	NANJEMOY	0051	0123	38.96	2475	5
133	NANJEMOY-MATTAWOMAN	CHAR	0903007774	NANJEMOY	0060	0153	38.75	2445	5
134	NANJEMOY-MATTAWOMAN	CHAR	0903005208	NANJEMOY	0051	0163	38.16	2438	5
135	NANJEMOY-MATTAWOMAN	CHAR	0903015505	NANJEMOY	0077	0028	38	182	5
136	NANJEMOY-MATTAWOMAN	CHAR	0903016161	NANJEMOY	0069	0086	37.5	187	5
137	NANJEMOY-MATTAWOMAN	CHAR	0903000729	NANJEMOY	0069	0095	37	2522	5
138	NANJEMOY-MATTAWOMAN	CHAR	0903013812	INDIAN HEAD	0040	0042	36.84	2504	5
139	NANJEMOY-MATTAWOMAN	CHAR	0903002012	NANJEMOY	0060	0122	36.47	2424	5
140	NANJEMOY-MATTAWOMAN	CHAR	0903008983	NANJEMOY	0060	0038	36.3	151	5
141	NANJEMOY-MATTAWOMAN	CHAR	0903020398	NANJEMOY	0061	0107	35.67	2487	5
142	NANJEMOY-MATTAWOMAN	CHAR	0903015424	NANJEMOY	0051	0080	35.25	181	5
143	NANJEMOY-MATTAWOMAN	CHAR	0903000087	NANJEMOY	0078	0060	35	104	5
144	NANJEMOY-MATTAWOMAN	CHAR	0903010341	NANJEMOY	0050	0006	35	156	5
145	NANJEMOY-MATTAWOMAN	CHAR	0903006344	NANJEMOY	0077	0026	34.89	134	5
146	NANJEMOY-MATTAWOMAN	CHAR	0903011488	NANJEMOY	0051	0166	34.69	2464	5
147	NANJEMOY-MATTAWOMAN	CHAR	0903003302	NANJEMOY	0070	0116	33.97	121	5
148	NANJEMOY-MATTAWOMAN	CHAR	0903004546	NANJEMOY	0070	0104	33.85	2434	5
149	NANJEMOY-MATTAWOMAN	CHAR	0903005364	INDIAN HEAD	0040	0062	33.72	2548	5
150	NANJEMOY-MATTAWOMAN	CHAR	0903009815	NANJEMOY	0060	0056	33.09	155	5
151	NANJEMOY-MATTAWOMAN	CHAR	0903008819	NANJEMOY	0069	0005	33.04	149	5
152	NANJEMOY-MATTAWOMAN	CHAR	0903011429	NANJEMOY	0077	0054	32.53	163	5
153	NANJEMOY-MATTAWOMAN	CHAR	0903019721	NANJEMOY	0070	0138	32.5	2485	5
154	NANJEMOY-MATTAWOMAN	CHAR	0903001687	NANJEMOY	0051	0294	32.37	2423	5
155	NANJEMOY-MATTAWOMAN	CHAR	0903015696	NANJEMOY	0077	0033	31.74	184	5
156	NANJEMOY-MATTAWOMAN	CHAR	0903003175	NANJEMOY	0051	0167	31	2427	5
157	NANJEMOY-MATTAWOMAN	CHAR	0903006239	NANJEMOY	0060	0093	30.78	133	5
158	NANJEMOY-MATTAWOMAN	CHAR	0903015394	NANJEMOY	0078	0058	30.748	2478	5
159	NANJEMOY-MATTAWOMAN	CHAR	0903011356	INDIAN HEAD	0040	0008	30.62	162	5
160	NANJEMOY-MATTAWOMAN	CHAR	0903018326	NANJEMOY	0078	0059	30.104	190	5
161	NANJEMOY-MATTAWOMAN	CHAR	0903006395	NANJEMOY	0078	0062	30	2441	5
162	NANJEMOY-MATTAWOMAN	CHAR	0903012638	NANJEMOY	0051	0241	30	2466	5
163	NANJEMOY-MATTAWOMAN	CHAR	0903003558	NANJEMOY	0077	0084	28.61	123	5
164	NANJEMOY-MATTAWOMAN	CHAR	0903015742	NANJEMOY	0060	0057	28.54	185	5
165	NANJEMOY-MATTAWOMAN	CHAR	0903010716	INDIAN HEAD	0040	0031	28	2501	5
166	NANJEMOY-MATTAWOMAN	CHAR	0903015149	NANJEMOY	0060	0050	27.9	180	5
167	NANJEMOY-MATTAWOMAN	CHAR	0903003639	NANJEMOY	0052	0078	27.75	2528	5
168	NANJEMOY-MATTAWOMAN	CHAR	0903013758	NANJEMOY	0061	0105	27.53	176	5
169	NANJEMOY-MATTAWOMAN	CHAR	0903005127	NANJEMOY	0069	0072	27.2	130	5
170	NANJEMOY-MATTAWOMAN	CHAR	0903019454	NANJEMOY	0060	0188	27.13	197	5
171	NANJEMOY-MATTAWOMAN	CHAR	0903351478	NANJEMOY	0060	0041	27.129	213	5
172	NANJEMOY-MATTAWOMAN	CHAR	0903016536	NANJEMOY	0060	0161	27	189	5
173	NANJEMOY-MATTAWOMAN	CHAR	0903014568	NANJEMOY	0060	0092	26.88	177	5
174	NANJEMOY-MATTAWOMAN	CHAR	0903004635	NANJEMOY	0060	0104	26.79	2435	5
175	NANJEMOY-MATTAWOMAN	CHAR	0903022471	NANJEMOY	0077	0085	26.17	207	5
176	NANJEMOY-MATTAWOMAN	CHAR	0903011062	NANJEMOY	0051	0051	25.65	159	5
177	NANJEMOY-MATTAWOMAN	CHAR	0903001199	NANJEMOY	0070	0142	25.6	112	5
178	NANJEMOY-MATTAWOMAN	CHAR	0903002195	NANJEMOY	0061	0035	25.24	116	5

	A	B	C	D	E	F	G	H	I
1	UNIT	COUNTY	ACCT ID	CITY	MAP	PARCEL	SDAT ACRES	MAP NUMBER	TIER
179	NANJEMOY-MATTAWOMAN	CHAR	0903003965	NANJEMOY	0051	0107	25.13	2433	5
180	NANJEMOY-MATTAWOMAN	CHAR	0903002845	NANJEMOY	0051	0273	25	118	5
181	NANJEMOY-MATTAWOMAN	CHAR	0903020479	NANJEMOY	0061	0108	25	2488	5
182	NANJEMOY-MATTAWOMAN	CHAR	0903006956	INDIAN HEAD	0040	0133	25	2533	5
183	NANJEMOY-MATTAWOMAN	CHAR	0903003752	NANJEMOY	0070	0098	24.789	2430	5
184	NANJEMOY-MATTAWOMAN	CHAR	0903015076	NANJEMOY	0051	0001	24.3	2476	5
185	NANJEMOY-MATTAWOMAN	CHAR	0903007391	NANJEMOY	0070	0161	23.71	2444	5
186	NANJEMOY-MATTAWOMAN	CHAR	0903005046	NANJEMOY	0078	0052	23.48	128	5
187	NANJEMOY-MATTAWOMAN	CHAR	0903021173	INDIAN HEAD	0040	0145	23.457	203	5
188	NANJEMOY-MATTAWOMAN	CHAR	0903008703	INDIAN HEAD	0040	0082	23.45	147	5
189	NANJEMOY-MATTAWOMAN	CHAR	0903016048	NANJEMOY	0061	0051	23.03	2482	5
190	NANJEMOY-MATTAWOMAN	CHAR	0903012395	NANJEMOY	0061	0053	23	171	5
191	NANJEMOY-MATTAWOMAN	CHAR	0903003604	NANJEMOY	0077	0040	22.98	125	5
192	NANJEMOY-MATTAWOMAN	CHAR	0903003914	NANJEMOY	0051	0202	22.94	2432	5
193	NANJEMOY-MATTAWOMAN	CHAR	0903012603	NANJEMOY	0070	0162	22.86	2465	5
194	NANJEMOY-MATTAWOMAN	CHAR	0903008908	NANJEMOY	0070	0197	22.56	2453	5
195	NANJEMOY-MATTAWOMAN	CHAR	0903011461	NANJEMOY	0051	0063	22.4	164	5
196	NANJEMOY-MATTAWOMAN	CHAR	0903015513	NANJEMOY	0051	0067	22.4	183	5
197	NANJEMOY-MATTAWOMAN	CHAR	0903005003	NANJEMOY	0060	0024	22	127	5
198	NANJEMOY-MATTAWOMAN	CHAR	0903025667	NANJEMOY	0070	0260	22	2496	5
199	NANJEMOY-MATTAWOMAN	CHAR	0903022285	NANJEMOY	0061	0101	21.74	205	5
200	NANJEMOY-MATTAWOMAN	CHAR	0903009149	NANJEMOY	0051	0182	21.5	153	5
201	NANJEMOY-MATTAWOMAN	CHAR	0903024741	INDIAN HEAD	0040	0043	21.39	208	5
202	NANJEMOY-MATTAWOMAN	CHAR	0903012824	NANJEMOY	0061	0142	21.37	2468	5
203	NANJEMOY-MATTAWOMAN	CHAR	0903006662	NANJEMOY	0060	0016	21.13	135	5
204	NANJEMOY-MATTAWOMAN	CHAR	0903003078	INDIAN HEAD	0040	0084	21	2499	5
205	NANJEMOY-MATTAWOMAN	CHAR	0903007405	NANJEMOY	0051	0103	20.825	139	5
206	NANJEMOY-MATTAWOMAN	CHAR	0903025055	NANJEMOY	0061	0139	20.77	2495	5
207	NANJEMOY-MATTAWOMAN	CHAR	0903016226	NANJEMOY	0060	0162	20.7	188	5
208	NANJEMOY-MATTAWOMAN	CHAR	0903014711	NANJEMOY	0069	0092	20.52	178	5
209	NANJEMOY-MATTAWOMAN	CHAR	0903009025	NANJEMOY	0070	0034	20.43	152	5
210	NANJEMOY-MATTAWOMAN	CHAR	0903001415	NANJEMOY	0070	0144	20.27	113	5
211	NANJEMOY-MATTAWOMAN	CHAR	0903008754	NANJEMOY	0061	0038	20.12	148	5
212	NANJEMOY-MATTAWOMAN	CHAR	0903009882	NANJEMOY	0070	0182	20.04	2460	5
213	NANJEMOY-MATTAWOMAN	CHAR	0903006026	INDIAN HEAD	0041	0036	20.04	2531	5
214	NANJEMOY-MATTAWOMAN	CHAR	0903000389	NANJEMOY	0061	0071	20	107	5
215	NANJEMOY-MATTAWOMAN	CHAR	0903003841	NANJEMOY	0069	0013	20	2431	5
216	NANJEMOY-MATTAWOMAN	CHAR	0903008215	NANJEMOY	0061	0070	20	2450	5
217	NANJEMOY-MATTAWOMAN	CHAR	0903009076	NANJEMOY	0051	0040	20	2454	5
218	NANJEMOY-MATTAWOMAN	CHAR	0903013391	NANJEMOY	0069	0017	20	2471	5
219	NANJEMOY-MATTAWOMAN	CHAR	0902004712	WELCOME	0062	0014	814.59	2418	4
220	NANJEMOY-MATTAWOMAN	CHAR	0902004372	WELCOME	0053	0046	661.991	2390	4
221	NANJEMOY-MATTAWOMAN	CHAR	0902005263	LA PLATA	0041	0024	537.55	2391	4
222	NANJEMOY-MATTAWOMAN	CHAR	0902001004	PORT TOBACCO	0042	0058	441.26	2380	4
223	NANJEMOY-MATTAWOMAN	CHAR	0902000202	LA PLATA	0031	0067	439.85	2376	4
224	NANJEMOY-MATTAWOMAN	CHAR	0901014854	WELCOME	0053	0069	394.8	2416	4
225	NANJEMOY-MATTAWOMAN	CHAR	0901008137	LA PLATA	0032	0032	360	2543	4
226	NANJEMOY-MATTAWOMAN	PRIN	17050298810	WALDORF	0153	0059	355.05	2295	4
227	NANJEMOY-MATTAWOMAN	CHAR	0902003589	WELCOME	0053	0040	330.165	2387	4
228	NANJEMOY-MATTAWOMAN	PRIN	17111156447	BRANDYWINE	0164	0008	329.46	1211	4
229	NANJEMOY-MATTAWOMAN	PRIN	17052837532	WALDORF	0152		275.84	1083	4
230	NANJEMOY-MATTAWOMAN	CHAR	0901013203	WELCOME	0053	0051	271.52	2415	4
231	NANJEMOY-MATTAWOMAN	CHAR	0902010119	WELCOME	0052	0169	255.4	2393	4
232	NANJEMOY-MATTAWOMAN	CHAR	0910009049	INDIAN HEAD	0030	0044	254.78	546	4
233	NANJEMOY-MATTAWOMAN	CHAR	0902001527	WELCOME	0053	0012	232.15	2381	4
234	NANJEMOY-MATTAWOMAN	CHAR	0907042388	BRYANS ROAD	0005	0448	226.64	2360	4
235	NANJEMOY-MATTAWOMAN	CHAR	0906051804	POMFRET	0022	0171	215.75	357	4
236	NANJEMOY-MATTAWOMAN	CHAR	0910013208	LA PLATA	0030	0101	215	2409	4
237	NANJEMOY-MATTAWOMAN	PRIN	17050296046	ACCOKEEK	0150	0097	214	2366	4

	A	B	C	D	E	F	G	H	I
1	UNIT	COUNTY	ACCT ID	CITY	MAP	PARCEL	SDAT ACRES	MAP NUMBER	TIER
238	NANJEMOY-MATTAWOMAN	CHAR	0902003694	LA PLATA	0042	0003	200.14	55	4
239	NANJEMOY-MATTAWOMAN	CHAR	0902004216	LA PLATA	0031	0025	198.71	58	4
240	NANJEMOY-MATTAWOMAN	CHAR	0902003899	LA PLATA	0031	0114	190.12	57	4
241	NANJEMOY-MATTAWOMAN	CHAR	0901016369	WELCOME	0054	0083	187.48	10	4
242	NANJEMOY-MATTAWOMAN	CHAR	0902001802	LA PLATA	0030	0124	183	2382	4
243	NANJEMOY-MATTAWOMAN	CHAR	0902000245	LA PLATA	0042	0057	181.9	2377	4
244	NANJEMOY-MATTAWOMAN	CHAR	0902005921	PORT TOBACCO	0042	0198	179.26	72	4
245	NANJEMOY-MATTAWOMAN	CHAR	0910006147	INDIAN HEAD	0041	0043	179.2	2541	4
246	NANJEMOY-MATTAWOMAN	CHAR	0902005646	WELCOME	0053	0036	176.61	70	4
247	NANJEMOY-MATTAWOMAN	CHAR	0902002825	LA PLATA	0041	0031	171.5	2609	4
248	NANJEMOY-MATTAWOMAN	CHAR	0902005549	LA PLATA	0041	0030	166.24	69	4
249	NANJEMOY-MATTAWOMAN	CHAR	0901010956	LA PLATA	0032	0104	162.1	2545	4
250	NANJEMOY-MATTAWOMAN	CHAR	0910006163	INDIAN HEAD	0021	0107	160.37	537	4
251	NANJEMOY-MATTAWOMAN	CHAR	0902000334	LA PLATA	0041	0059	158.5	23	4
252	NANJEMOY-MATTAWOMAN	CHAR	0906086233	WHITE PLAINS	0013	0178	157.421	2289	4
253	NANJEMOY-MATTAWOMAN	CHAR	0902001136	LA PLATA	0042	0029	156.75	31	4
254	NANJEMOY-MATTAWOMAN	CHAR	0902000709	WELCOME	0062	0010	151.2	2379	4
255	NANJEMOY-MATTAWOMAN	CHAR	0910013518	LA PLATA	0021	0097	148.57	557	4
256	NANJEMOY-MATTAWOMAN	CHAR	0910000149	INDIAN HEAD	0030	0152	140.75	519	4
257	NANJEMOY-MATTAWOMAN	CHAR	0910009332	LA PLATA	0041	0062	140	2406	4
258	NANJEMOY-MATTAWOMAN	CHAR	0910009634	INDIAN HEAD	0031	0103	139.94	550	4
259	NANJEMOY-MATTAWOMAN	PRIN	17050323626	ACCOKEEK	0162	0050	139.28	1077	4
260	NANJEMOY-MATTAWOMAN	CHAR	0902005433	PORT TOBACCO	0042	0040	138	66	4
261	NANJEMOY-MATTAWOMAN	CHAR	0902000695	WELCOME	0062	0011	135.926	2378	4
262	NANJEMOY-MATTAWOMAN	PRIN	17111152032	BRANDYWINE	0164	0010	131.4	1207	4
263	NANJEMOY-MATTAWOMAN	CHAR	0902002698	LA PLATA	0042	0190	129.84	44	4
264	NANJEMOY-MATTAWOMAN	CHAR	0906059627	WALDORF	0006	0001	126.63	2288	4
265	NANJEMOY-MATTAWOMAN	PRIN	17050308007	WALDORF	0163	0008	123.55	2296	4
266	NANJEMOY-MATTAWOMAN	CHAR	0902003341	LA PLATA	0041	0029	120.91	50	4
267	NANJEMOY-MATTAWOMAN	CHAR	0902000822	PORT TOBACCO	0042	0001	120.4	27	4
268	NANJEMOY-MATTAWOMAN	CHAR	0902357937	LA PLATA	0052	0215	119.7	103	4
269	NANJEMOY-MATTAWOMAN	PRIN	17050298752	WALDORF	0163	0036	115.4	1072	4
270	NANJEMOY-MATTAWOMAN	CHAR	0910017246	INDIAN HEAD	0031	0247	111.07	568	4
271	NANJEMOY-MATTAWOMAN	CHAR	0902003813	WELCOME	0042	0189	110.89	2388	4
272	NANJEMOY-MATTAWOMAN	CHAR	0903016668	INDIAN HEAD	0040	0100	109.97	2507	4
273	NANJEMOY-MATTAWOMAN	CHAR	0907076096	BRYANS ROAD	0005	0059	108.078	2364	4
274	NANJEMOY-MATTAWOMAN	CHAR	0902006626	LA PLATA	0042	0160	108.06	76	4
275	NANJEMOY-MATTAWOMAN	PRIN	17050268300	ACCOKEEK	0160	0050	104.42	1069	4
276	NANJEMOY-MATTAWOMAN	CHAR	0902004941	LA PLATA	0031	0062	104	65	4
277	NANJEMOY-MATTAWOMAN	CHAR	0902005301	LA PLATA	0042	0005	103.72	2392	4
278	NANJEMOY-MATTAWOMAN	CHAR	0902013932	PORT TOBACCO	0042	0313	102.449	2547	4
279	NANJEMOY-MATTAWOMAN	CHAR	0910001943	LA PLATA	0031	0026	101.97	526	4
280	NANJEMOY-MATTAWOMAN	CHAR	0910006449	INDIAN HEAD	0020	0060	100.8	2404	4
281	NANJEMOY-MATTAWOMAN	CHAR	0907078757	LA PLATA	0013	0254	92.91	419	4
282	NANJEMOY-MATTAWOMAN	CHAR	0907006373	LA PLATA	0013	0054	88.05	2343	4
283	NANJEMOY-MATTAWOMAN	CHAR	0906022359	WHITE PLAINS	0013	0006	87.165	2329	4
284	NANJEMOY-MATTAWOMAN	CHAR	0910003059	INDIAN HEAD	0029	0002	85.71	2510	4
285	NANJEMOY-MATTAWOMAN	CHAR	0903003035	INDIAN HEAD	0052	0044	81.48	2527	4
286	NANJEMOY-MATTAWOMAN	CHAR	0907023146	LA PLATA	0021	0033	75.94	2352	4
287	NANJEMOY-MATTAWOMAN	CHAR	0907042701	LA PLATA	0021	0173	75.41	2362	4
288	NANJEMOY-MATTAWOMAN	CHAR	0907013531	LA PLATA	0021	0017	75.4	2328	4
289	NANJEMOY-MATTAWOMAN	CHAR	0907042698	LA PLATA	0021	0172	75.4	2361	4
290	NANJEMOY-MATTAWOMAN	CHAR	0907028474	LA PLATA	0012	0400	72.84	399	4
291	NANJEMOY-MATTAWOMAN	CHAR	0907016786	BRYANS ROAD	0006	0049	72.06	384	4
292	NANJEMOY-MATTAWOMAN	CHAR	0903006166	INDIAN HEAD	0041	0173	70	2532	4
293	NANJEMOY-MATTAWOMAN	CHAR	0907014961	LA PLATA	0021	0061	69.73	2349	4
294	NANJEMOY-MATTAWOMAN	CHAR	0903002268	NANJEMOY	0052	0145	65.65	2526	4
295	NANJEMOY-MATTAWOMAN	CHAR	0906051596	WALDORF	0006	0069	62	2336	4
296	NANJEMOY-MATTAWOMAN	PRIN	17050316109	WALDORF	0163	0038	61.381	2297	4

	A	B	C	D	E	F	G	H	I
1	UNIT	COUNTY	ACCT ID	CITY	MAP	PARCEL	SDAT ACRES	MAP NUMBER	TIER
297	NANJEMOY-MATTAWOMAN	CHAR	0906182313	WHITE PLAINS	0013	0213	57.74	2339	4
298	NANJEMOY-MATTAWOMAN	CHAR	0907008864	LA PLATA	0013	0055	55.63	378	4
299	NANJEMOY-MATTAWOMAN	CHAR	0907007388	LA PLATA	0022	0211	55.09	2344	4
300	NANJEMOY-MATTAWOMAN	CHAR	0903006875	NANJEMOY	0062	0003	53.5	137	4
301	NANJEMOY-MATTAWOMAN	CHAR	0910356165	INDIAN HEAD	0030	0084	53.021	571	4
302	NANJEMOY-MATTAWOMAN	CHAR	0907074816	LA PLATA	0032	0235	48.25	418	4
303	NANJEMOY-MATTAWOMAN	CHAR	0906309011	LA PLATA	0022	0297	45.08	371	4
304	NANJEMOY-MATTAWOMAN	CHAR	0907036841	LA PLATA	0022	0039	45	411	4
305	NANJEMOY-MATTAWOMAN	CHAR	0910012589	INDIAN HEAD	0030	0339	45	555	4
306	NANJEMOY-MATTAWOMAN	CHAR	0907018088	INDIAN HEAD	0012	0063	44.86	386	4
307	NANJEMOY-MATTAWOMAN	CHAR	0906053955	WHITE PLAINS	0014	0093	43.6	360	4
308	NANJEMOY-MATTAWOMAN	CHAR	0906288693	LA PLATA	0022	0296	43.59	2342	4
309	NANJEMOY-MATTAWOMAN	CHAR	0910003504	INDIAN HEAD	0029	0033	42.62	2512	4
310	NANJEMOY-MATTAWOMAN	CHAR	0907067577	LA PLATA	0022	0286	42.04	2363	4
311	NANJEMOY-MATTAWOMAN	CHAR	0910004985	INDIAN HEAD	0029	0156	41.909	533	4
312	NANJEMOY-MATTAWOMAN	CHAR	0907029209	LA PLATA	0021	0136	41.08	2353	4
313	NANJEMOY-MATTAWOMAN	CHAR	0910008751	INDIAN HEAD	0029	0026	40.87	545	4
314	NANJEMOY-MATTAWOMAN	CHAR	0903019241	NANJEMOY	0062	0001	40.58	195	4
315	NANJEMOY-MATTAWOMAN	CHAR	0907033931	BRYANS ROAD	0013	0049	40.25	406	4
316	NANJEMOY-MATTAWOMAN	CHAR	0907081812	INDIAN HEAD	0012	0068	39.92	420	4
317	NANJEMOY-MATTAWOMAN	CHAR	0903018792	NANJEMOY	0051	0233	39.8	192	4
318	NANJEMOY-MATTAWOMAN	CHAR	0902001497	NANJEMOY	0052	0026	39.78	2519	4
319	NANJEMOY-MATTAWOMAN	CHAR	0903020363	INDIAN HEAD	0040	0143	39.12	2508	4
320	NANJEMOY-MATTAWOMAN	CHAR	0907028113	LA PLATA	0032	0020	37.81	397	4
321	NANJEMOY-MATTAWOMAN	CHAR	0903024962	NANJEMOY	0070	0003	37.42	210	4
322	NANJEMOY-MATTAWOMAN	CHAR	0906191886	WHITE PLAINS	0013	0218	36.43	2577	4
323	NANJEMOY-MATTAWOMAN	CHAR	0906099378	LA PLATA	0022	0231	36.09	2338	4
324	NANJEMOY-MATTAWOMAN	CHAR	0910010357	INDIAN HEAD	0029	0050	35.44	2516	4
325	NANJEMOY-MATTAWOMAN	CHAR	0907038178	LA PLATA	0032	0139	34.17	412	4
326	NANJEMOY-MATTAWOMAN	CHAR	0903002187	NANJEMOY	0052	0140	33.43	2525	4
327	NANJEMOY-MATTAWOMAN	CHAR	0910004942	INDIAN HEAD	0029	0178	32.35	2513	4
328	NANJEMOY-MATTAWOMAN	CHAR	0907021402	BRYANS ROAD	0006	0066	31.83	390	4
329	NANJEMOY-MATTAWOMAN	CHAR	0910012287	INDIAN HEAD	0029	0155	30.14	2517	4
330	NANJEMOY-MATTAWOMAN	CHAR	0903026132	NANJEMOY	0077	0102	30	212	4
331	NANJEMOY-MATTAWOMAN	CHAR	0907018258	LA PLATA	0012	0243	29.84	387	4
332	NANJEMOY-MATTAWOMAN	CHAR	0907016832	INDIAN HEAD	0012	0160	29	385	4
333	NANJEMOY-MATTAWOMAN	CHAR	0906191916	WHITE PLAINS	0013	0218	28.66	2578	4
334	NANJEMOY-MATTAWOMAN	CHAR	0910005922	INDIAN HEAD	0030	0338	28.59	536	4
335	NANJEMOY-MATTAWOMAN	CHAR	0903011666	INDIAN HEAD	0041	0102	28.15	2535	4
336	NANJEMOY-MATTAWOMAN	CHAR	0903022404	INDIAN HEAD	0041	0082	27.48	2540	4
337	NANJEMOY-MATTAWOMAN	CHAR	0907355807	BRYANS ROAD	0012	0437	27.342	421	4
338	NANJEMOY-MATTAWOMAN	CHAR	0906240089	WALDORF	0006	0234	25.63	2341	4
339	NANJEMOY-MATTAWOMAN	CHAR	0907033443	INDIAN HEAD	0012	0110	25.5	404	4
340	NANJEMOY-MATTAWOMAN	CHAR	0910015634	INDIAN HEAD	0041	0100	25.2	560	4
341	NANJEMOY-MATTAWOMAN	CHAR	0907032137	LA PLATA	0021	0033A	25.14	403	4
342	NANJEMOY-MATTAWOMAN	CHAR	0903016021	NANJEMOY	0052	0069	25	186	4
343	NANJEMOY-MATTAWOMAN	CHAR	0906052266	WHITE PLAINS	0013	0141	25	358	4
344	NANJEMOY-MATTAWOMAN	CHAR	0907007361	LA PLATA	0022	0199	25	376	4
345	NANJEMOY-MATTAWOMAN	CHAR	0906052061	WHITE PLAINS	0013	0163	25	2337	4
346	NANJEMOY-MATTAWOMAN	CHAR	0903019896	NANJEMOY	0052	0160	23.929	199	4
347	NANJEMOY-MATTAWOMAN	CHAR	0907042043	LA PLATA	0013	0173	23.6	2359	4
348	NANJEMOY-MATTAWOMAN	CHAR	0906191908	WHITE PLAINS	0013	0218	22.77	369	4
349	NANJEMOY-MATTAWOMAN	CHAR	0906029191	POMFRET	0013	0078	22.74	2331	4
350	NANJEMOY-MATTAWOMAN	CHAR	0906191894	WHITE PLAINS	0013	0218	21.59	368	4
351	NANJEMOY-MATTAWOMAN	CHAR	0907007515	LA PLATA	0022	0020	21.519	2345	4
352	NANJEMOY-MATTAWOMAN	CHAR	0910009812	INDIAN HEAD	0029	0088	21.4	551	4
353	NANJEMOY-MATTAWOMAN	CHAR	0903022374	INDIAN HEAD	0041	0082	21.39	2539	4
354	NANJEMOY-MATTAWOMAN	CHAR	0907019432	BRYANS ROAD	0013	0046	21.3	388	4
355	NANJEMOY-MATTAWOMAN	CHAR	0903022358	INDIAN HEAD	0041	0082	21.01	2538	4

	A	B	C	D	E	F	G	H	I
1	UNIT	COUNTY	ACCT ID	CITY	MAP	PARCEL	SDAT ACRES	MAP NUMBER	TIER
356	NANJEMOY-MATTAWOMAN	CHAR	0907011504	BRYANS ROAD	0006	0026	20.828	381	4
357	NANJEMOY-MATTAWOMAN	CHAR	0907024959	LA PLATA	0021	0023	20.58	2396	4
358	NANJEMOY-MATTAWOMAN	CHAR	0907029187	LA PLATA	0021	0015	20.53	402	4
359	NANJEMOY-MATTAWOMAN	CHAR	0907018231	INDIAN HEAD	0021	0004	20.32	2551	4
360	NANJEMOY-MATTAWOMAN	CHAR	0903022277	NANJEMOY	0061	0101	20.1	204	4
361	NANJEMOY-MATTAWOMAN	CHAR	0910007615	MARBURY	0020	0115	20.05	543	4
362	NANJEMOY-MATTAWOMAN	CHAR	0903000176	NANJEMOY	0052	0042	20	106	4
363	NANJEMOY-MATTAWOMAN	PRIN	17111150721	WALDORF	0153	0018	148.09	1205	3
364	NANJEMOY-MATTAWOMAN	PRIN	17111150507	BRANDYWINE	0165	0019	146.8	1203	3
365	NANJEMOY-MATTAWOMAN	CHAR	0906058558	POMFRET	0014	0089	142.11	362	3
366	NANJEMOY-MATTAWOMAN	PRIN	17050301572	WALDORF	0152	0040	124.32	1073	3
367	NANJEMOY-MATTAWOMAN	PRIN	17111170828	BRANDYWINE	0165	0006	119.98	1214	3
368	NANJEMOY-MATTAWOMAN	PRIN	17050341834	WALDORF	0153	0028	109.63	2371	3
369	NANJEMOY-MATTAWOMAN	CHAR	0910011582	INDIAN HEAD	0030	0190	106.12	552	3
370	NANJEMOY-MATTAWOMAN	CHAR	0910020867	LA PLATA	0031	0265	102.73	2414	3
371	NANJEMOY-MATTAWOMAN	CHAR	0906046657	WALDORF	0014	0025	101.83	353	3
372	NANJEMOY-MATTAWOMAN	CHAR	0907032285	BRYANS ROAD	0006	0177	100.38	2355	3
373	NANJEMOY-MATTAWOMAN	CHAR	0902002191	PORT TOBACCO	0042	0011	99.2	39	3
374	NANJEMOY-MATTAWOMAN	CHAR	0902003872	LA PLATA	0041	0020	99.06	2389	3
375	NANJEMOY-MATTAWOMAN	PRIN	17050413203	WALDORF	0152	0090	98.39	2299	3
376	NANJEMOY-MATTAWOMAN	CHAR	0902003708	PORT TOBACCO	0042	0033	97.8	56	3
377	NANJEMOY-MATTAWOMAN	CHAR	0910013216	LA PLATA	0041	0044	97.2	2410	3
378	NANJEMOY-MATTAWOMAN	CHAR	0902001071	WELCOME	0062	0016	95.83	2417	3
379	NANJEMOY-MATTAWOMAN	CHAR	0910002303	INDIAN HEAD	0021	0157	95	527	3
380	NANJEMOY-MATTAWOMAN	CHAR	0910003016	LA PLATA	0031	0033	93.354	2402	3
381	NANJEMOY-MATTAWOMAN	CHAR	0910000815	LA PLATA	0031	0044	92.93	521	3
382	NANJEMOY-MATTAWOMAN	PRIN	17111150861	BRANDYWINE	0165	0004	90	1206	3
383	NANJEMOY-MATTAWOMAN	CHAR	0902002507	LA PLATA	0031	0225	88.51	42	3
384	NANJEMOY-MATTAWOMAN	CHAR	0902003651	WELCOME	0053	0047	88.5	53	3
385	NANJEMOY-MATTAWOMAN	CHAR	0902004909	WELCOME	0053	0113	83.83	63	3
386	NANJEMOY-MATTAWOMAN	CHAR	0906029434	WALDORF	0006	0007	83.67	343	3
387	NANJEMOY-MATTAWOMAN	CHAR	0907039727	BRYANS ROAD	0001	0158	83.17	2580	3
388	NANJEMOY-MATTAWOMAN	CHAR	0907034717	BRYANS ROAD	0001	0153	82.83	408	3
389	NANJEMOY-MATTAWOMAN	CHAR	0907028512	BRYANS ROAD	0005	0052	82.33	400	3
390	NANJEMOY-MATTAWOMAN	CHAR	0902003686	WELCOME	0053	0037	82.1	54	3
391	NANJEMOY-MATTAWOMAN	CHAR	0907022239	BRYANS ROAD	0001	0104	81.4	2351	3
392	NANJEMOY-MATTAWOMAN	PRIN	17111191709	BRANDYWINE	0164	0007	80.91	1231	3
393	NANJEMOY-MATTAWOMAN	CHAR	0902001691	WELCOME	0053	0068	79.83	36	3
394	NANJEMOY-MATTAWOMAN	CHAR	0902005964	LA PLATA	0032	0165	78.51	74	3
395	NANJEMOY-MATTAWOMAN	CHAR	0902003163	LA PLATA	0041	0092	77.24	2385	3
396	NANJEMOY-MATTAWOMAN	CHAR	0910007356	INDIAN HEAD	0030	0219	76.84	542	3
397	NANJEMOY-MATTAWOMAN	CHAR	0910003083	INDIAN HEAD	0021	0038	74.34	2403	3
398	NANJEMOY-MATTAWOMAN	CHAR	0902006863	NANJEMOY	0052	0036	72.32	2521	3
399	NANJEMOY-MATTAWOMAN	PRIN	17050284943	ACCOKEEK	0160	0001	71.59	2365	3
400	NANJEMOY-MATTAWOMAN	CHAR	0901013181	WELCOME	0053	0002	71.09	8	3
401	NANJEMOY-MATTAWOMAN	PRIN	17050320861	WALDORF	0162	0051	70.77	1074	3
402	NANJEMOY-MATTAWOMAN	CHAR	0910001714	INDIAN HEAD	0020	0281	69.17	2400	3
403	NANJEMOY-MATTAWOMAN	CHAR	0907020732	BRYANS ROAD	0005	0035	67.48	2350	3
404	NANJEMOY-MATTAWOMAN	PRIN	17053020773	WALDORF	0162		66.62	1085	3
405	NANJEMOY-MATTAWOMAN	PRIN	17050316125	WALDORF	0163	0041	65.379	2298	3
406	NANJEMOY-MATTAWOMAN	CHAR	0902001926	PORT TOBACCO	0042	0090	64.76	38	3
407	NANJEMOY-MATTAWOMAN	PRIN	17111133958	WALDORF	0164	0006	63.87	1195	3
408	NANJEMOY-MATTAWOMAN	CHAR	0906033318	POMFRET	0014	0008	63.25	2608	3
409	NANJEMOY-MATTAWOMAN	CHAR	0901023136	PORT TOBACCO	0043	0001	62.39	14	3
410	NANJEMOY-MATTAWOMAN	PRIN	17053595782	ACCOKEEK	0170	0085	61.85	2374	3
411	NANJEMOY-MATTAWOMAN	CHAR	0902012669	LA PLATA	0042	0294	61.35	95	3
412	NANJEMOY-MATTAWOMAN	CHAR	0907011199	LA PLATA	0032	0089	60.38	380	3
413	NANJEMOY-MATTAWOMAN	CHAR	0910001463	INDIAN HEAD	0031	0043	58	2399	3
414	NANJEMOY-MATTAWOMAN	CHAR	0902002299	PORT TOBACCO	0042	0076	57.5	40	3

	A	B	C	D	E	F	G	H	I
1	UNIT	COUNTY	ACCT ID	CITY	MAP	PARCEL	SDAT ACRES	MAP NUMBER	TIER
415	NANJEMOY-MATTAWOMAN	CHAR	0910004373	LA PLATA	0031	0271	57.445	532	3
416	NANJEMOY-MATTAWOMAN	CHAR	0902011867	LA PLATA	0031	0259	56.54	94	3
417	NANJEMOY-MATTAWOMAN	CHAR	0902001144	LA PLATA	0031		54.71	2576	3
418	NANJEMOY-MATTAWOMAN	CHAR	0907024525	BRYANS ROAD	0001	0103	53.59	391	3
419	NANJEMOY-MATTAWOMAN	CHAR	0902003619	FAIRFAX	0053	0043	53	52	3
420	NANJEMOY-MATTAWOMAN	CHAR	0902006677	WELCOME	0041	0152	52.36	77	3
421	NANJEMOY-MATTAWOMAN	CHAR	0902004429	PORT TOBACCO	0052	0037	52.25	2610	3
422	NANJEMOY-MATTAWOMAN	CHAR	0907007701	BRYANS ROAD	0005	0005	52.11	2346	3
423	NANJEMOY-MATTAWOMAN	CHAR	0910009383	MARBURY	0020	0015	50.438	549	3
424	NANJEMOY-MATTAWOMAN	CHAR	0902001543	LA PLATA	0042	0188	50	33	3
425	NANJEMOY-MATTAWOMAN	CHAR	0910000726	LA PLATA	0031	0196	50	520	3
426	NANJEMOY-MATTAWOMAN	CHAR	0910003105	INDIAN HEAD	0030	0084	50	530	3
427	NANJEMOY-MATTAWOMAN	CHAR	0902009803	LA PLATA	0031	0252	49.84	87	3
428	NANJEMOY-MATTAWOMAN	CHAR	0907024797	BRYANS ROAD	0005	0037	49.8	393	3
429	NANJEMOY-MATTAWOMAN	CHAR	0902001063	WELCOME	0062	0013	49.32	30	3
430	NANJEMOY-MATTAWOMAN	CHAR	0910002281	LA PLATA	0021	0082	48.441	2401	3
431	NANJEMOY-MATTAWOMAN	CHAR	0902001667	WELCOME	0053	0048	48.11	35	3
432	NANJEMOY-MATTAWOMAN	CHAR	0902000962	LA PLATA	0052	0029	46.89	28	3
433	NANJEMOY-MATTAWOMAN	CHAR	0907035101	BRYANS ROAD	0001	0105	44.62	2357	3
434	NANJEMOY-MATTAWOMAN	CHAR	0910002885	INDIAN HEAD	0030	0247	44.23	529	3
435	NANJEMOY-MATTAWOMAN	CHAR	0902004399	LA PLATA	0052	0203	43.5	60	3
436	NANJEMOY-MATTAWOMAN	CHAR	0910019532	LA PLATA	0031	0258	43.41	2413	3
437	NANJEMOY-MATTAWOMAN	CHAR	0907028121	LA PLATA	0032	0021	43.277	398	3
438	NANJEMOY-MATTAWOMAN	CHAR	0910007003	INDIAN HEAD	0021	0100	42.82	540	3
439	NANJEMOY-MATTAWOMAN	CHAR	0902001055	WELCOME	0053	0050	42.6	29	3
440	NANJEMOY-MATTAWOMAN	CHAR	0902000563	LA PLATA	0042	0022	41.58	25	3
441	NANJEMOY-MATTAWOMAN	PRIN	17050336339	ACCOKEEK	0160	0052	41.07	1078	3
442	NANJEMOY-MATTAWOMAN	CHAR	0902002876	LA PLATA	0031	0200	41	47	3
443	NANJEMOY-MATTAWOMAN	CHAR	0902006308	LA PLATA	0042	0045	41	75	3
444	NANJEMOY-MATTAWOMAN	CHAR	0910000157	MARBURY	0020	0119	40.76	2397	3
445	NANJEMOY-MATTAWOMAN	CHAR	0902012871	WELCOME	0062	0027	40.28	96	3
446	NANJEMOY-MATTAWOMAN	CHAR	0907036035	BRYANS ROAD	0001	0102	40	409	3
447	NANJEMOY-MATTAWOMAN	CHAR	0906041701	WALDORF	0006	0006	39.91	2335	3
448	NANJEMOY-MATTAWOMAN	CHAR	0902005522	LA PLATA	0031	0065	39.483	68	3
449	NANJEMOY-MATTAWOMAN	CHAR	0910008131	LA PLATA	0021	0098	39.272	544	3
450	NANJEMOY-MATTAWOMAN	CHAR	0902003236	LA PLATA	0042	0032	39.19	48	3
451	NANJEMOY-MATTAWOMAN	CHAR	0901008021	WELCOME	0054	0019	38.5	1	3
452	NANJEMOY-MATTAWOMAN	CHAR	0906043437	POMFRET	0022	0014	38	351	3
453	NANJEMOY-MATTAWOMAN	CHAR	0902001578	LA PLATA	0041	0095	36.5	34	3
454	NANJEMOY-MATTAWOMAN	CHAR	0906030971	WALDORF	0006	0208	36.5	344	3
455	NANJEMOY-MATTAWOMAN	CHAR	0902011638	LA PLATA	0053	0005	36.219	92	3
456	NANJEMOY-MATTAWOMAN	CHAR	0902008548	LA PLATA	0042	0222	36	82	3
457	NANJEMOY-MATTAWOMAN	CHAR	0902003511	WELCOME	0053	0065	35.36	2386	3
458	NANJEMOY-MATTAWOMAN	CHAR	0902013576	LA PLATA	0052	0212	35.35	102	3
459	NANJEMOY-MATTAWOMAN	CHAR	0910006554	LA PLATA	0021	0072	35.2	2405	3
460	NANJEMOY-MATTAWOMAN	CHAR	0907010303	BRYANS ROAD	0001	0154	35.03	379	3
461	NANJEMOY-MATTAWOMAN	CHAR	0902011646	WELCOME	0053	0005	34.77	2395	3
462	NANJEMOY-MATTAWOMAN	PRIN	17111156116	WALDORF	0164	0032	34.38	2315	3
463	NANJEMOY-MATTAWOMAN	CHAR	0910017548	MARBURY	0020	0388	34.22	569	3
464	NANJEMOY-MATTAWOMAN	CHAR	0902012863	WELCOME	0061	0141	34.13	2546	3
465	NANJEMOY-MATTAWOMAN	CHAR	0902002663	WELCOME	0053	0011	34.01	2384	3
466	NANJEMOY-MATTAWOMAN	CHAR	0902013339	WELCOME	0053	0187	33.693	99	3
467	NANJEMOY-MATTAWOMAN	CHAR	0910016703	INDIAN HEAD	0041	0112	33.33	562	3
468	NANJEMOY-MATTAWOMAN	CHAR	0907036353	POMFRET	0022	0042	33.184	410	3
469	NANJEMOY-MATTAWOMAN	CHAR	0907043015	BRYANS ROAD	0005	0459	33.04	415	3
470	NANJEMOY-MATTAWOMAN	CHAR	0906032117	WALDORF	0013	0138	33	2333	3
471	NANJEMOY-MATTAWOMAN	CHAR	0902007037	WELCOME	0053	0001	32.87	79	3
472	NANJEMOY-MATTAWOMAN	CHAR	0910005477	MARBURY	0020	0220	32.71	534	3
473	NANJEMOY-MATTAWOMAN	CHAR	0910007011	INDIAN HEAD	0030	0085	32.36	2557	3

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1	UNIT	COUNTY	ACCT ID	CITY	MAP	PARCEL	SDAT ACRES	MAP NUMBER	TIER
474	NANJEMOY-MATTAWOMAN	CHAR	0907008775	BRYANS ROAD	0005	0039	32	377	3
475	NANJEMOY-MATTAWOMAN	PRIN	17050323410	ACCOKEEK	0160	0044	32	1076	3
476	NANJEMOY-MATTAWOMAN	CHAR	0910016894	LA PLATA	0031	0239	31.52	564	3
477	NANJEMOY-MATTAWOMAN	CHAR	0906357997	POMFRET	0022	0301	31.29	374	3
478	NANJEMOY-MATTAWOMAN	CHAR	0906033296	POMFRET	0014	0134	31.13	346	3
479	NANJEMOY-MATTAWOMAN	CHAR	0902013371	WELCOME	0053	0001	31.05	100	3
480	NANJEMOY-MATTAWOMAN	CHAR	0902004453	WELCOME	0042	0053	30.74	61	3
481	NANJEMOY-MATTAWOMAN	CHAR	0906061249	WALDORF	0007	0302	30.728	364	3
482	NANJEMOY-MATTAWOMAN	CHAR	0910016835	INDIAN HEAD	0030	0130	30.61	2412	3
483	NANJEMOY-MATTAWOMAN	CHAR	0910002451	INDIAN HEAD	0021	0169	30	528	3
484	NANJEMOY-MATTAWOMAN	CHAR	0910003415	LA PLATA	0041	0045	30	531	3
485	NANJEMOY-MATTAWOMAN	CHAR	0906312837	WALDORF	0006	0002	29.96	2588	3
486	NANJEMOY-MATTAWOMAN	CHAR	0907033222	BRYANS ROAD	0005	0361	29.64	2356	3
487	NANJEMOY-MATTAWOMAN	CHAR	0906049974	POMFRET	0023	0310	29.205	356	3
488	NANJEMOY-MATTAWOMAN	CHAR	0902008939	WELCOME	0053	0157	29.05	83	3
489	NANJEMOY-MATTAWOMAN	CHAR	0902010089	INDIAN HEAD	0041	0111	28.4	88	3
490	NANJEMOY-MATTAWOMAN	CHAR	0902001888	LA PLATA	0041	0065	28	37	3
491	NANJEMOY-MATTAWOMAN	CHAR	0907034199	LA PLATA	0022	0055	27.86	407	3
492	NANJEMOY-MATTAWOMAN	CHAR	0902000806	LA PLATA	0042	0004	27.58	26	3
493	NANJEMOY-MATTAWOMAN	CHAR	0907048068	BRYANS ROAD	0001	0262	27.44	417	3
494	NANJEMOY-MATTAWOMAN	CHAR	0906060943	POMFRET	0022	0001	27.355	363	3
495	NANJEMOY-MATTAWOMAN	CHAR	0910010772	LA PLATA	0021	0043	27.18	2408	3
496	NANJEMOY-MATTAWOMAN	CHAR	0910009715	MARBURY	0020	0066	27.1	2407	3
497	NANJEMOY-MATTAWOMAN	CHAR	0902002728	LA PLATA	0032	0114	27.08	46	3
498	NANJEMOY-MATTAWOMAN	CHAR	0902013193	WELCOME	0053	0001	27.06	98	3
499	NANJEMOY-MATTAWOMAN	CHAR	0906025307	POMFRET	0022	0208	26.98	339	3
500	NANJEMOY-MATTAWOMAN	CHAR	0902010097	LA PLATA	0041	0134	26.93	89	3
501	NANJEMOY-MATTAWOMAN	CHAR	0902005948	LA PLATA	0032	0117	26.44	73	3
502	NANJEMOY-MATTAWOMAN	CHAR	0910001455	INDIAN HEAD	0031	0155	26.29	2398	3
503	NANJEMOY-MATTAWOMAN	CHAR	0907009364	BRYANS ROAD	0001	0139	26	2347	3
504	NANJEMOY-MATTAWOMAN	CHAR	0910017211	INDIAN HEAD	0031	0247	25.971	567	3
505	NANJEMOY-MATTAWOMAN	CHAR	0902013398	WELCOME	0053	0001	25.48	101	3
506	NANJEMOY-MATTAWOMAN	CHAR	0910014859	LA PLATA	0030	0056	25.39	558	3
507	NANJEMOY-MATTAWOMAN	CHAR	0907020821	LA PLATA	0012	0195	25.37	389	3
508	NANJEMOY-MATTAWOMAN	PRIN	17050293530	WALDORF	0162		25.3	1071	3
509	NANJEMOY-MATTAWOMAN	CHAR	0902004364	LA PLATA	0052	0032	25	59	3
510	NANJEMOY-MATTAWOMAN	CHAR	0902009021	WELCOME	0042	0230	25	85	3
511	NANJEMOY-MATTAWOMAN	CHAR	0907027222	BRYANS ROAD	0005	0352	25	394	3
512	NANJEMOY-MATTAWOMAN	CHAR	0902010321	PORT TOBACCO	0042	0263	24.71	90	3
513	NANJEMOY-MATTAWOMAN	CHAR	0902004925	PORT TOBACCO	0042	0098	24.316	64	3
514	NANJEMOY-MATTAWOMAN	CHAR	0902005468	LA PLATA	0031	0057	24.22	67	3
515	NANJEMOY-MATTAWOMAN	CHAR	0907027273	BRYANS ROAD	0005	0429	23.68	396	3
516	NANJEMOY-MATTAWOMAN	CHAR	0910019516	MARBURY	0020	0212	23.68	570	3
517	NANJEMOY-MATTAWOMAN	CHAR	0910016568	LA PLATA	0031	0239	23.56	561	3
518	NANJEMOY-MATTAWOMAN	CHAR	0910000912	LA PLATA	0021	0104	23.5	523	3
519	NANJEMOY-MATTAWOMAN	CHAR	0910017203	INDIAN HEAD	0031	0247	23.49	566	3
520	NANJEMOY-MATTAWOMAN	CHAR	0910009138	LA PLATA	0021	0046	23.47	548	3
521	NANJEMOY-MATTAWOMAN	PRIN	17050294686	WALDORF	0163	0040	23.38	2294	3
522	NANJEMOY-MATTAWOMAN	CHAR	0906306039	POMFRET	0022	0302	23.367	2579	3
523	NANJEMOY-MATTAWOMAN	CHAR	0907031327	BRYANS ROAD	0001	0022	23	2354	3
524	NANJEMOY-MATTAWOMAN	CHAR	0907043007	BRYANS ROAD	0005	0459	22.7	414	3
525	NANJEMOY-MATTAWOMAN	CHAR	0910001595	INDIAN HEAD	0020	0284	22.69	524	3
526	NANJEMOY-MATTAWOMAN	CHAR	0910000904	LA PLATA	0021	0105	22.57	522	3
527	NANJEMOY-MATTAWOMAN	CHAR	0902013142	WELCOME	0053	0191	22.55	97	3
528	NANJEMOY-MATTAWOMAN	CHAR	0906312829	WALDORF	0006	0002	22.36	2587	3
529	NANJEMOY-MATTAWOMAN	CHAR	0902002531	LA PLATA	0031	0075	22.34	43	3
530	NANJEMOY-MATTAWOMAN	PRIN	17050320937	ACCOKEEK	0160	0024	22.1	2368	3
531	NANJEMOY-MATTAWOMAN	CHAR	0907042914	BRYANS ROAD	0005	0459	22.02	413	3
532	NANJEMOY-MATTAWOMAN	CHAR	0910013488	LA PLATA	0021	0144	21.984	556	3

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1	UNIT	COUNTY	ACCT ID	CITY	MAP	PARCEL	SDAT ACRES	MAP NUMBER	TIER
533	NANJEMOY-MATTAWOMAN	CHAR	0910013283	INDIAN HEAD	0030	0150	21.84	2518	3
534	NANJEMOY-MATTAWOMAN	CHAR	0902002469	WELCOME	0053	0049	21.76	41	3
535	NANJEMOY-MATTAWOMAN	CHAR	0903020169	INDIAN HEAD	0039	0003	21.65	201	3
536	NANJEMOY-MATTAWOMAN	CHAR	0907043023	BRYANS ROAD	0005	0459	21.02	416	3
537	NANJEMOY-MATTAWOMAN	CHAR	0910007283	INDIAN HEAD	0031	0158	21	541	3
538	NANJEMOY-MATTAWOMAN	CHAR	0907010443	BRYANS ROAD	0005	0496	21	2348	3
539	NANJEMOY-MATTAWOMAN	CHAR	0907036396	BRYANS ROAD	0005	0315	20.82	2358	3
540	NANJEMOY-MATTAWOMAN	PRIN	17050400101	ACCOKEEK	0160	0042	20.78	1081	3
541	NANJEMOY-MATTAWOMAN	PRIN	17050400119	ACCOKEEK	0160	0040	20.71	2373	3
542	NANJEMOY-MATTAWOMAN	CHAR	0902008319	WELCOME	0053	0139	20.63	81	3
543	NANJEMOY-MATTAWOMAN	CHAR	0910006511	LA PLATA	0030	0105	20.55	538	3
544	NANJEMOY-MATTAWOMAN	CHAR	0902010801	WELCOME	0053	0175	20.5	91	3
545	NANJEMOY-MATTAWOMAN	CHAR	0902011727	WELCOME	0053	0182	20.5	93	3
546	NANJEMOY-MATTAWOMAN	CHAR	0902006839	WELCOME	0053	0006	20.419	78	3
547	NANJEMOY-MATTAWOMAN	CHAR	0902002701	LA PLATA	0031	0224	20.37	45	3
548	NANJEMOY-MATTAWOMAN	CHAR	0910016592	LA PLATA	0031	0239	20.31	2411	3
549	NANJEMOY-MATTAWOMAN	PRIN	17050323402	ACCOKEEK	0160	0043	20.25	1075	3
550	NANJEMOY-MATTAWOMAN	PRIN	17052958957	ACCOKEEK	0161	0219	20.21	1084	3
551	NANJEMOY-MATTAWOMAN	CHAR	0907033516	BRYANS ROAD	0005	0386	20.09	405	3
552	NANJEMOY-MATTAWOMAN	CHAR	0902004658	WELCOME	0041	0060	20	62	3
553	NANJEMOY-MATTAWOMAN	CHAR	0902009226	WELCOME	0042	0236	20	86	3
554	NANJEMOY-MATTAWOMAN	CHAR	0907014465	BRYANS ROAD	0005	0029	20	383	3
555	NANJEMOY-MATTAWOMAN	CHAR	0907027249	BRYANS ROAD	0005	0483	20	395	3
556	NANJEMOY-MATTAWOMAN	CHAR	0902011204	WELCOME	0042	0277	20	2394	3
557	NANJEMOY-MATTAWOMAN	PRIN	17111136993	BRANDYWINE	0154	0081	386.42	2310	2
558	NANJEMOY-MATTAWOMAN	PRIN	17111189216	BRANDYWINE	0153	0019	303.75	1228	2
559	NANJEMOY-MATTAWOMAN	PRIN	17113215068	BRANDYWINE	0154		150.63	2327	2
560	NANJEMOY-MATTAWOMAN	CHAR	0906046681	WALDORF	0007	0268	104.46	354	2
561	NANJEMOY-MATTAWOMAN	CHAR	0902001861	LA PLATA	0052	0152	96	2383	2
562	NANJEMOY-MATTAWOMAN	PRIN	17111146885	BRANDYWINE	0166	0086	95.06	2312	2
563	NANJEMOY-MATTAWOMAN	CHAR	0906045235	WALDORF	0007	0267	91.19	2285	2
564	NANJEMOY-MATTAWOMAN	CHAR	0906022081	WALDORF	0007	0229	89.84	2282	2
565	NANJEMOY-MATTAWOMAN	CHAR	0910359433	INDIAN HEAD	0030	0415	83.714	572	2
566	NANJEMOY-MATTAWOMAN	PRIN	17050323097	ACCOKEEK	0160	0002	78.02	2370	2
567	NANJEMOY-MATTAWOMAN	CHAR	0910011809	INDIAN HEAD	0030	0179	77.35	553	2
568	NANJEMOY-MATTAWOMAN	PRIN	17111170927	BRANDYWINE	0156	0008	72.38	1215	2
569	NANJEMOY-MATTAWOMAN	PRIN	17111145887	BRANDYWINE	0146	0067	70.72	1199	2
570	NANJEMOY-MATTAWOMAN	PRIN	17050367847	WALDORF	0153	0038	70.08	1079	2
571	NANJEMOY-MATTAWOMAN	PRIN	17111178771	BRANDYWINE	0164	0002	67.5	2320	2
572	NANJEMOY-MATTAWOMAN	PRIN	17111133412	BRANDYWINE	0165	0044	59.94	1193	2
573	NANJEMOY-MATTAWOMAN	PRIN	17111136381	BRANDYWINE	0156	0092	59.1	2309	2
574	NANJEMOY-MATTAWOMAN	CHAR	0906030165	WALDORF	0014	0002	59.02	2284	2
575	NANJEMOY-MATTAWOMAN	CHAR	0906351289	WHITE PLAINS	0013	0175	55.492	373	2
576	NANJEMOY-MATTAWOMAN	CHAR	0906047807	WALDORF	0013	0176	55.49	2287	2
577	NANJEMOY-MATTAWOMAN	CHAR	0906187919	WALDORF	0014	0267	55.019	2291	2
578	NANJEMOY-MATTAWOMAN	PRIN	17111146406	BRANDYWINE	0165	0002	52.57	1200	2
579	NANJEMOY-MATTAWOMAN	PRIN	17111160720	BRANDYWINE	0165	0009	52	1212	2
580	NANJEMOY-MATTAWOMAN	PRIN	17111152362	BRANDYWINE	0165	0012	50.78	2314	2
581	NANJEMOY-MATTAWOMAN	CHAR	0906053548	WHITE PLAINS	0014	0127	49.12	359	2
582	NANJEMOY-MATTAWOMAN	PRIN	17111160100	BRANDYWINE	0165	0014	45.99	2316	2
583	NANJEMOY-MATTAWOMAN	CHAR	0906032087	WALDORF	0014	0055	44.87	345	2
584	NANJEMOY-MATTAWOMAN	CHAR	0906112684	WALDORF	0014	0210	44.29	366	2
585	NANJEMOY-MATTAWOMAN	CHAR	0901010387	PORT TOBACCO	0043	0041	43.98	2544	2
586	NANJEMOY-MATTAWOMAN	CHAR	0906116396	WALDORF	0006	0058	42.37	367	2
587	NANJEMOY-MATTAWOMAN	PRIN	17111182807	BRANDYWINE	0165	0038	40.33	1223	2
588	NANJEMOY-MATTAWOMAN	PRIN	17111182641	BRANDYWINE	0165	0008	39.9	1222	2
589	NANJEMOY-MATTAWOMAN	PRIN	17050405209	ACCOKEEK	0152	0085	39.04	1082	2
590	NANJEMOY-MATTAWOMAN	CHAR	0902005654	WELCOME	0053	0018	36.71	71	2
591	NANJEMOY-MATTAWOMAN	PRIN	17111156249	BRANDYWINE	0156	0050	35.51	1210	2

	A	B	C	D	E	F	G	H	I
1	UNIT	COUNTY	ACCT ID	CITY	MAP	PARCEL	SDAT ACRES	MAP NUMBER	TIER
592	NANJEMOY-MATTAWOMAN	PRIN	17111146422	BRANDYWINE	0165	0007	35.45	1201	2
593	NANJEMOY-MATTAWOMAN	PRIN	17111188713	WALDORF	0164	0027	34.38	1226	2
594	NANJEMOY-MATTAWOMAN	PRIN	17050281899	ACCOKEEK	0160	0007	33.65	1070	2
595	NANJEMOY-MATTAWOMAN	CHAR	0910012384	MARBURY	0020	0023	33.55	554	2
596	NANJEMOY-MATTAWOMAN	CHAR	0906056075	WALDORF	0006	0019	33.5	361	2
597	NANJEMOY-MATTAWOMAN	CHAR	0910009111	MARBURY	0030	0223	33.46	547	2
598	NANJEMOY-MATTAWOMAN	PRIN	17111138437	BRANDYWINE	0146	0100	32.26	1198	2
599	NANJEMOY-MATTAWOMAN	CHAR	0906046711	WALDORF	0014	0068	30.79	2286	2
600	NANJEMOY-MATTAWOMAN	CHAR	0910015014	INDIAN HEAD	0030	0333	30.47	559	2
601	NANJEMOY-MATTAWOMAN	CHAR	0906027466	WALDORF	0006	0088	30	341	2
602	NANJEMOY-MATTAWOMAN	CHAR	0910001854	INDIAN HEAD	0030	0213	30	525	2
603	NANJEMOY-MATTAWOMAN	PRIN	17111133313	BRANDYWINE	0165	0010	28.63	1192	2
604	NANJEMOY-MATTAWOMAN	CHAR	0906042066	WALDORF	0014	0072	27.7	350	2
605	NANJEMOY-MATTAWOMAN	PRIN	17111136662	BRANDYWINE	0165	0021	26.76	1197	2
606	NANJEMOY-MATTAWOMAN	CHAR	0910006678	INDIAN HEAD	0029	0020	26.65	539	2
607	NANJEMOY-MATTAWOMAN	CHAR	0906104681	WALDORF	0006	0010	26.57	365	2
608	NANJEMOY-MATTAWOMAN	CHAR	0906183697	WALDORF	0006	0237	26.18	2290	2
609	NANJEMOY-MATTAWOMAN	CHAR	0902003481	WELCOME	0053	0025	26	51	2
610	NANJEMOY-MATTAWOMAN	CHAR	0910016975	INDIAN HEAD	0030	0352	25.78	565	2
611	NANJEMOY-MATTAWOMAN	CHAR	0906201903	WHITE PLAINS	0014	0280	25.42	370	2
612	NANJEMOY-MATTAWOMAN	CHAR	0906042031	WALDORF	0014	0032	25	348	2
613	NANJEMOY-MATTAWOMAN	CHAR	0910016797	INDIAN HEAD	0030	0351	24.93	563	2
614	NANJEMOY-MATTAWOMAN	CHAR	0903018873	INDIAN HEAD	0029	0157	24.8	193	2
615	NANJEMOY-MATTAWOMAN	CHAR	0902008181	WELCOME	0053	0139	23.41	80	2
616	NANJEMOY-MATTAWOMAN	PRIN	17111134261	BRANDYWINE	0154	0011	23.25	2308	2
617	NANJEMOY-MATTAWOMAN	PRIN	17050386821	ACCOKEEK	0160	0003	22.93	1080	2
618	NANJEMOY-MATTAWOMAN	CHAR	0901017667	PORT TOBACCO	0043	0045	22.83	11	2
619	NANJEMOY-MATTAWOMAN	PRIN	17113313947	BRANDYWINE	0156	0146	22.77	1232	2
620	NANJEMOY-MATTAWOMAN	CHAR	0906042058	WHITE PLAINS	0014	0033	22.25	349	2
621	NANJEMOY-MATTAWOMAN	PRIN	17111182856	BRANDYWINE	0165	0042	21.91	1224	2
622	NANJEMOY-MATTAWOMAN	CHAR	0906028187	WALDORF	0007	0130	21.11	2283	2
623	NANJEMOY-MATTAWOMAN	CHAR	0902001349	WELCOME	0053	0125	21.1	32	2
624	NANJEMOY-MATTAWOMAN	PRIN	17050309419	ACCOKEEK	0160	0006	21	2367	2
625	NANJEMOY-MATTAWOMAN	PRIN	17111176999	BRANDYWINE	0166	0103	20.41	1217	2
626	NANJEMOY-MATTAWOMAN	CHAR	0902000377	LA PLATA	0052	0043	20.15	24	2
627	NANJEMOY-MATTAWOMAN	CHAR	0902008971	PORT TOBACCO	0043	0212	20.14	84	2
628	NANJEMOY-MATTAWOMAN	CHAR	0902003287	LA PLATA	0042	0037	20	49	2
629	NANJEMOY-MATTAWOMAN	CHAR	0910005493	MARBURY	0020	0041	20	535	2
630	NANJEMOY-MATTAWOMAN	PRIN	17111180801	BRANDYWINE	0154	0023	69.64	2321	1
631	NANJEMOY-MATTAWOMAN	PRIN	17111133222	BRANDYWINE	0156	0009	62.43	2375	1
632	NANJEMOY-MATTAWOMAN	PRIN	17111190164	BRANDYWINE	0153	0017	61.64	2326	1
633	NANJEMOY-MATTAWOMAN	PRIN	17111161330	WALDORF	0163	0045	48.22	1213	1
634	NANJEMOY-MATTAWOMAN	PRIN	17111178763	WALDORF	0164	0001	43.37	2319	1
635	NANJEMOY-MATTAWOMAN	PRIN	17111181114	WALDORF	0153	0024	42	1221	1
636	NANJEMOY-MATTAWOMAN	CHAR	0906351042	WALDORF	0013	0110	41.502	372	1
637	NANJEMOY-MATTAWOMAN	PRIN	17111154517	WALDORF	0163	0001	35.81	1208	1
638	NANJEMOY-MATTAWOMAN	CHAR	0906046223	WALDORF	0007	0009A	35.29	352	1
639	NANJEMOY-MATTAWOMAN	PRIN	17111150556	BRANDYWINE	0153	0078	33.54	1204	1
640	NANJEMOY-MATTAWOMAN	PRIN	17111180751	BRANDYWINE	0145	0194	32.93	1220	1
641	NANJEMOY-MATTAWOMAN	PRIN	17111174713	BRANDYWINE	0145	0012	27.66	1216	1
642	NANJEMOY-MATTAWOMAN	CHAR	0906185983	WHITE PLAINS	0013	0215	27.61	2340	1
643	NANJEMOY-MATTAWOMAN	PRIN	17111183136	BRANDYWINE	0153	0023	26.89	1225	1
644	NANJEMOY-MATTAWOMAN	PRIN	17050321745	BRANDYWINE	0153	0063	26.28	2369	1
645	NANJEMOY-MATTAWOMAN	PRIN	17111178748	WALDORF	0164	0026	24.13	2318	1
646	NANJEMOY-MATTAWOMAN	PRIN	17111133628	BRANDYWINE	0145	0052	55.69	1194	0
647	NANJEMOY-MATTAWOMAN	PRIN	17111170844	BRANDYWINE	0145	0011	43.16	2581	0
648	NANJEMOY-MATTAWOMAN	PRIN	17111189158	BRANDYWINE	0153	0007	40.47	1227	0
649	NANJEMOY-MATTAWOMAN	PRIN	17111177757	BRANDYWINE	0145	0100	29.29	1218	0
650	NANJEMOY-MATTAWOMAN	PRIN	17111182377	BRANDYWINE	0154	0021	23.54	2324	0

	A	B	C	D	E	F	G	H	I
1	UNIT	COUNTY	ACCT ID	CITY	MAP	PARCEL	SDAT ACRES	MAP NUMBER	TIER
651	NANJEMOY-MATTAWOMAN	PRIN	17111179001	BRANDYWINE	0154	0079	20.11	1219	0

Zekiah Swamp-Wicomico Unit - Tiered Parcels (Tier 0 = Lowest Value/Priority; Tier 6 = Highest Value/Priority)

UNIT	COUNTY	ACCT ID	CITY	MAP	PARCEL	SDAT ACRES	MAP NUMBER	TIER
ZEKIAH SWAMP-WICOMICO	CHAR	0904002814	NEWBURG	0073	0031	201.32	2132	6
ZEKIAH SWAMP-WICOMICO	CHAR	0905009766	NEWBURG	0079	0005	168	263	6
ZEKIAH SWAMP-WICOMICO	CHAR	0905010497	NEWBURG	0080	0027	163.86	2163	6
ZEKIAH SWAMP-WICOMICO	CHAR	0905007534	NEWBURG	0080	0003	110	255	6
ZEKIAH SWAMP-WICOMICO	CHAR	0905026857	NEWBURG	0081	0001	583.6	2122	5
ZEKIAH SWAMP-WICOMICO	CHAR	0905009022	NEWBURG	0087	0014	439.31	2091	5
ZEKIAH SWAMP-WICOMICO	CHAR	0905014646	NEWBURG	0083	0034	362	285	5
ZEKIAH SWAMP-WICOMICO	CHAR	0908014663	LA PLATA	0045	0003	350.903	440	5
ZEKIAH SWAMP-WICOMICO	CHAR	0904007204	NEWBURG	0073	0012	339.386	227	5
ZEKIAH SWAMP-WICOMICO	CHAR	0901015214	LA PLATA	0055	0081	317.82	2182	5
ZEKIAH SWAMP-WICOMICO	CHAR	0908014698	LA PLATA	0045	0016	311.238	442	5
ZEKIAH SWAMP-WICOMICO	CHAR	0905029805	NEWBURG	0079	0152	307.84	315	5
ZEKIAH SWAMP-WICOMICO	CHAR	0904013468	LA PLATA	0065	0084	291.86	2149	5
ZEKIAH SWAMP-WICOMICO	CHAR	0901008781	LA PLATA	0044	0089	290.488	2173	5
ZEKIAH SWAMP-WICOMICO	CHAR	0904008685	FAULKNER	0064	0043	276.84	2144	5
ZEKIAH SWAMP-WICOMICO	CHAR	0901016148	LA PLATA	0056	0099	239.21	2183	5
ZEKIAH SWAMP-WICOMICO	CHAR	0905022495	NEWBURG	0083	0040	229.29	2099	5
ZEKIAH SWAMP-WICOMICO	CHAR	0905020433	NEWBURG	0082	0011	225	2119	5
ZEKIAH SWAMP-WICOMICO	CHAR	0908358913	LA PLATA	0045	0076	214.855	506	5
ZEKIAH SWAMP-WICOMICO	CHAR	0904003772	FAULKNER	0064	0060	209.79	2134	5
ZEKIAH SWAMP-WICOMICO	CHAR	0905014573	NEWBURG	0084	0002	208.418	284	5
ZEKIAH SWAMP-WICOMICO	CHAR	0904009886	LA PLATA	0056	0108	208.11	2201	5
ZEKIAH SWAMP-WICOMICO	CHAR	0905028752	NEWBURG	0079	0023	193.81	2168	5
ZEKIAH SWAMP-WICOMICO	CHAR	0901009079	LA PLATA	0045	0009	189.06	2174	5
ZEKIAH SWAMP-WICOMICO	CHAR	0905014387	NEWBURG	0079	0020	186.8	283	5
ZEKIAH SWAMP-WICOMICO	CHAR	0908064172	LA PLATA	0045	0015	167.59	2240	5
ZEKIAH SWAMP-WICOMICO	CHAR	0905020107	NEWBURG	0080	0013	167.1	2118	5
ZEKIAH SWAMP-WICOMICO	CHAR	0905022487	NEWBURG	0083	0039	164.3	298	5
ZEKIAH SWAMP-WICOMICO	CHAR	0905025834	NEWBURG	0083	0044	164.25	2101	5
ZEKIAH SWAMP-WICOMICO	CHAR	0908071438	LA PLATA	0045	0071	153.05	2241	5
ZEKIAH SWAMP-WICOMICO	CHAR	0904002482	LA PLATA	0065	0030	146.41	220	5
ZEKIAH SWAMP-WICOMICO	CHAR	0908357996	LA PLATA	0045	0075	143.443	505	5
ZEKIAH SWAMP-WICOMICO	CHAR	0905011426	NEWBURG	0086	0099	142.129	2095	5
ZEKIAH SWAMP-WICOMICO	CHAR	0905016436	NEWBURG	0086	0044	133.96	2098	5
ZEKIAH SWAMP-WICOMICO	CHAR	0905012341	NEWBURG	0079	0014	129.82	274	5
ZEKIAH SWAMP-WICOMICO	CHAR	0905029694	NEWBURG	0079	0149	129.51	314	5
ZEKIAH SWAMP-WICOMICO	CHAR	0905009588	NEWBURG	0086	0012	129.33	2092	5
ZEKIAH SWAMP-WICOMICO	CHAR	0904000609	LA PLATA	0065	0027	125.37	2191	5
ZEKIAH SWAMP-WICOMICO	CHAR	0904008359	NEWBURG	0073	0060	124.72	228	5
ZEKIAH SWAMP-WICOMICO	CHAR	0904010345	LA PLATA	0056	0111	120.09	2203	5
ZEKIAH SWAMP-WICOMICO	CHAR	0904014677	LA PLATA	0065	0100	118.216	2150	5
ZEKIAH SWAMP-WICOMICO	CHAR	0905355353	NEWBURG	0079	0127	107.144	336	5
ZEKIAH SWAMP-WICOMICO	CHAR	0908026521	LA PLATA	0056	0002	103.962	469	5
ZEKIAH SWAMP-WICOMICO	CHAR	0905010535	NEWBURG	0080	0033	100	266	5
ZEKIAH SWAMP-WICOMICO	CHAR	0905010365	NEWBURG	0080	0016	96.45	264	5
ZEKIAH SWAMP-WICOMICO	CHAR	0905011078	NEWBURG	0080	0044	75.66	271	5
ZEKIAH SWAMP-WICOMICO	CHAR	0904002865	CHARLOTTE HALL	0074	0017	528.766	2133	4
ZEKIAH SWAMP-WICOMICO	CHAR	0901013025	LA PLATA	0055	0186	503.35	2177	4
ZEKIAH SWAMP-WICOMICO	CHAR	0908014949	HUGHESVILLE	0045	0004	360	2218	4
ZEKIAH SWAMP-WICOMICO	CHAR	0908029202	BRYANTOWN	0035	0171	350.73	2229	4
ZEKIAH SWAMP-WICOMICO	CHAR	0904001621	FAULKNER	0064	0036	350.04	2129	4
ZEKIAH SWAMP-WICOMICO	CHAR	0901013718	LA PLATA	0044	0032	316.23	2179	4
ZEKIAH SWAMP-WICOMICO	CHAR	0904007603	CHARLOTTE HALL	0075	0031	305.98	2142	4
ZEKIAH SWAMP-WICOMICO	CHAR	0904002458	CHARLOTTE HALL	0074	0014	304.47	2131	4
ZEKIAH SWAMP-WICOMICO	CHAR	0908010919	LA PLATA	0034	0011	297.31	2213	4
ZEKIAH SWAMP-WICOMICO	CHAR	0908012563	WALDORF	0034	0024	278.83	2214	4
ZEKIAH SWAMP-WICOMICO	CHAR	0908019215	HUGHESVILLE	0046	0024	273.75	2221	4
ZEKIAH SWAMP-WICOMICO	CHAR	0904004728	CHARLOTTE HALL	0075	0015	257	2135	4
ZEKIAH SWAMP-WICOMICO	STMA	1904010094	MECHANICSVILLE	0016	0007	237.72	2171	4

UNIT	COUNTY	ACCT ID	CITY	MAP	PARCEL	SDAT ACRES	MAP NUMBER	TIER
ZEKIAH SWAMP-WICOMICO	CHAR	0908013586	WALDORF	0016	0119	186	2251	4
ZEKIAH SWAMP-WICOMICO	CHAR	0904004639	CHARLOTTE HALL	0075	0001	184.74	224	4
ZEKIAH SWAMP-WICOMICO	CHAR	0904002598	NEWBURG	0064	0059	172.71	222	4
ZEKIAH SWAMP-WICOMICO	CHAR	0901038265	LA PLATA	0055	0040	170.78	16	4
ZEKIAH SWAMP-WICOMICO	CHAR	0908013551	WALDORF	0016	0120	166	2250	4
ZEKIAH SWAMP-WICOMICO	CHAR	0905010802	NEWBURG	0086	0159	162	268	4
ZEKIAH SWAMP-WICOMICO	CHAR	0908025118	WALDORF	0016	0113	156	465	4
ZEKIAH SWAMP-WICOMICO	CHAR	0908018324	HUGHESVILLE	0046	0001	156	2220	4
ZEKIAH SWAMP-WICOMICO	CHAR	0908029962	LA PLATA	0045	0019	156	2590	4
ZEKIAH SWAMP-WICOMICO	CHAR	0908010749	HUGHESVILLE	0046	0025	154.93	433	4
ZEKIAH SWAMP-WICOMICO	CHAR	0908030235	BRYANTOWN	0035	0026	150.5	2232	4
ZEKIAH SWAMP-WICOMICO	CHAR	0908014671	LA PLATA	0045	0014	147.922	441	4
ZEKIAH SWAMP-WICOMICO	CHAR	0905011418	NEWBURG	0082	0022	146.75	2114	4
ZEKIAH SWAMP-WICOMICO	CHAR	0908020574	HUGHESVILLE	0046	0023	145.5	2223	4
ZEKIAH SWAMP-WICOMICO	CHAR	0904004221	LA PLATA	0056	0021	140.1	223	4
ZEKIAH SWAMP-WICOMICO	CHAR	0905008808	NEWBURG	0088	0004	140.08	259	4
ZEKIAH SWAMP-WICOMICO	CHAR	0908016895	WALDORF	0016	0013	138.748	449	4
ZEKIAH SWAMP-WICOMICO	CHAR	0904004752	NEWBURG	0073	0001	135	2584	4
ZEKIAH SWAMP-WICOMICO	CHAR	0908029849	HUGHESVILLE	0045	0005	134	473	4
ZEKIAH SWAMP-WICOMICO	CHAR	0901017152	LA PLATA	0055	0126	125.84	2184	4
ZEKIAH SWAMP-WICOMICO	CHAR	0908029997	LA PLATA	0045	0020	125.32	2231	4
ZEKIAH SWAMP-WICOMICO	CHAR	0905039045	NEWBURG	0089	0155	117.551	2107	4
ZEKIAH SWAMP-WICOMICO	CHAR	0905020425	NEWBURG	0086	0136	114.59	295	4
ZEKIAH SWAMP-WICOMICO	CHAR	0905025761	NEWBURG	0089	0016	113.81	302	4
ZEKIAH SWAMP-WICOMICO	CHAR	0905011329	NEWBURG	0083	0042	113.75	272	4
ZEKIAH SWAMP-WICOMICO	CHAR	0908018294	HUGHESVILLE	0046	0033	111.33	2219	4
ZEKIAH SWAMP-WICOMICO	CHAR	0904005767	CHARLOTTE HALL	0074	0015	109.93	2138	4
ZEKIAH SWAMP-WICOMICO	CHAR	0904004787	CHARLOTTE HALL	0075	0013	104.555	2136	4
ZEKIAH SWAMP-WICOMICO	CHAR	0904001117	LA PLATA	0065	0012	104.014	2192	4
ZEKIAH SWAMP-WICOMICO	CHAR	0905026431	NEWBURG	0088	0063	98.13	307	4
ZEKIAH SWAMP-WICOMICO	CHAR	0901012487	LA PLATA	0044	0118	98.13	2176	4
ZEKIAH SWAMP-WICOMICO	CHAR	0901023012	LA PLATA	0034	0062	96.84	2243	4
ZEKIAH SWAMP-WICOMICO	CHAR	0901008587	LA PLATA	0034	0089	96.03	2242	4
ZEKIAH SWAMP-WICOMICO	CHAR	0905020417	NEWBURG	0084	0006	95.08	294	4
ZEKIAH SWAMP-WICOMICO	CHAR	0904008367	LA PLATA	0065	0022	94.889	2198	4
ZEKIAH SWAMP-WICOMICO	CHAR	0908009945	LA PLATA	0045	0002	94.2	430	4
ZEKIAH SWAMP-WICOMICO	CHAR	0904001028	CHARLOTTE HALL	0075	0011	92.75	217	4
ZEKIAH SWAMP-WICOMICO	CHAR	0905025923	NEWBURG	0087	0022	90	2102	4
ZEKIAH SWAMP-WICOMICO	CHAR	0901018906	LA PLATA	0045	0013	83.92	12	4
ZEKIAH SWAMP-WICOMICO	CHAR	0904010434	FAULKNER	0073	0109	83.83	2146	4
ZEKIAH SWAMP-WICOMICO	CHAR	0905022401	NEWBURG	0089	0137	74.498	297	4
ZEKIAH SWAMP-WICOMICO	CHAR	0904008944	NEWBURG	0073	0114	73.22	2145	4
ZEKIAH SWAMP-WICOMICO	CHAR	0908030812	LA PLATA	0034	0077	71.592	2233	4
ZEKIAH SWAMP-WICOMICO	CHAR	0905357052	NEWBURG	0083	0055	71.325	337	4
ZEKIAH SWAMP-WICOMICO	CHAR	0905040841	NEWBURG	0080	0069	71	2170	4
ZEKIAH SWAMP-WICOMICO	CHAR	0908357887	LA PLATA	0045	0074	69.139	504	4
ZEKIAH SWAMP-WICOMICO	CHAR	0904009134	LA PLATA	0065	0071	67.68	2200	4
ZEKIAH SWAMP-WICOMICO	CHAR	0905026377	NEWBURG	0079	0127	65.807	305	4
ZEKIAH SWAMP-WICOMICO	CHAR	0905040906	NEWBURG	0083	0035	65	334	4
ZEKIAH SWAMP-WICOMICO	CHAR	0904012917	FAULKNER	0074	0137	64	2148	4
ZEKIAH SWAMP-WICOMICO	CHAR	0905037255	NEWBURG	0079	0170	62.85	321	4
ZEKIAH SWAMP-WICOMICO	CHAR	0901009087	LA PLATA	0044	0249	62.43	3	4
ZEKIAH SWAMP-WICOMICO	CHAR	0904000927	FAULKNER	0073	0016	61.607	2126	4
ZEKIAH SWAMP-WICOMICO	CHAR	0904352648	LA PLATA	0055	0261	61.3	2210	4
ZEKIAH SWAMP-WICOMICO	CHAR	0904356014	LA PLATA	0065	0170	54.332	253	4
ZEKIAH SWAMP-WICOMICO	CHAR	0905010446	NEWBURG	0086	0008	52.28	2093	4
ZEKIAH SWAMP-WICOMICO	CHAR	0904027124	NEWBURG	0073	0192	52.07	249	4
ZEKIAH SWAMP-WICOMICO	CHAR	0904014499	LA PLATA	0065	0093	47.9	2206	4
ZEKIAH SWAMP-WICOMICO	CHAR	0904016173	LA PLATA	0065	0116	47.9	2208	4

UNIT	COUNTY	ACCT ID	CITY	MAP	PARCEL	SDAT ACRES	MAP NUMBER	TIER
ZEKIAH SWAMP-WICOMICO	CHAR	0905029872	NEWBURG	0079	0156	44.54	2169	4
ZEKIAH SWAMP-WICOMICO	CHAR	0908020507	LA PLATA	0045	0030	43.4	459	4
ZEKIAH SWAMP-WICOMICO	CHAR	0905033195	NEWBURG	0086	0181	40	316	4
ZEKIAH SWAMP-WICOMICO	CHAR	0901008471	LA PLATA	0055	0198	38.48	2	4
ZEKIAH SWAMP-WICOMICO	CHAR	0905038766	NEWBURG	0079	0185	37.17	324	4
ZEKIAH SWAMP-WICOMICO	CHAR	0905015014	NEWBURG	0080	0037	37.006	2164	4
ZEKIAH SWAMP-WICOMICO	CHAR	0905027357	NEWBURG	0086	0047	37	309	4
ZEKIAH SWAMP-WICOMICO	CHAR	0905016266	NEWBURG	0087	0041	36	288	4
ZEKIAH SWAMP-WICOMICO	CHAR	0905039789	NEWBURG	0079	0190	36	331	4
ZEKIAH SWAMP-WICOMICO	CHAR	0904025148	FAULKNER	0073	0018	35.08	248	4
ZEKIAH SWAMP-WICOMICO	CHAR	0905025575	NEWBURG	0080	0004	34.84	301	4
ZEKIAH SWAMP-WICOMICO	CHAR	0905012643	NEWBURG	0083	0006	34.782	275	4
ZEKIAH SWAMP-WICOMICO	CHAR	0905009006	NEWBURG	0079	0001	32.572	260	4
ZEKIAH SWAMP-WICOMICO	CHAR	0908013861	BRYANTOWN	0035	0095	31.54	2217	4
ZEKIAH SWAMP-WICOMICO	CHAR	0905026393	NEWBURG	0089	0010	30.47	306	4
ZEKIAH SWAMP-WICOMICO	CHAR	0905026865	NEWBURG	0089	0001	30	308	4
ZEKIAH SWAMP-WICOMICO	CHAR	0905033209	NEWBURG	0086	0039	28	2103	4
ZEKIAH SWAMP-WICOMICO	CHAR	0904006127	NEWBURG	0073	0160	28	2139	4
ZEKIAH SWAMP-WICOMICO	CHAR	0904029429	NEWBURG	0073	0197	26.107	2160	4
ZEKIAH SWAMP-WICOMICO	CHAR	0905039266	NEWBURG	0087	0072	26.05	2109	4
ZEKIAH SWAMP-WICOMICO	CHAR	0905015022	NEWBURG	0080	0037	25.092	2165	4
ZEKIAH SWAMP-WICOMICO	CHAR	0905028221	NEWBURG	0079	0011	24.7	2167	4
ZEKIAH SWAMP-WICOMICO	CHAR	0908061203	LA PLATA	0034	0015	24.232	498	4
ZEKIAH SWAMP-WICOMICO	CHAR	0905025931	NEWBURG	0086	0061	23.75	303	4
ZEKIAH SWAMP-WICOMICO	CHAR	0901049976	LA PLATA	0044	0339	22.55	18	4
ZEKIAH SWAMP-WICOMICO	CHAR	0904357047	NEWBURG	0079	0001	21.254	2161	4
ZEKIAH SWAMP-WICOMICO	CHAR	0904358535	NEWBURG	0079	0001	20.753	2162	4
ZEKIAH SWAMP-WICOMICO	CHAR	0905038545	NEWBURG	0088	0001	20.65	2104	4
ZEKIAH SWAMP-WICOMICO	CHAR	0904024109	LA PLATA	0056	0198	20	2209	4
ZEKIAH SWAMP-WICOMICO	CHAR	0908029571	HUGHESVILLE	0046	0005	368.939	472	3
ZEKIAH SWAMP-WICOMICO	CHAR	0908022143	WALDORF	0017	0011	294.74	2262	3
ZEKIAH SWAMP-WICOMICO	CHAR	0909006621	WALDORF	0026	0007	223.07	2280	3
ZEKIAH SWAMP-WICOMICO	CHAR	0908012555	WALDORF	0024	0006	209.94	2248	3
ZEKIAH SWAMP-WICOMICO	PRIN	17111136621	BRANDYWINE	0157	0050	206.3	1196	3
ZEKIAH SWAMP-WICOMICO	CHAR	0908014507	WALDORF	0009	0050	203.64	439	3
ZEKIAH SWAMP-WICOMICO	CHAR	0908029512	HUGHESVILLE	0046	0012	197.259	471	3
ZEKIAH SWAMP-WICOMICO	CHAR	0908030006	LA PLATA	0056	0043	188.169	474	3
ZEKIAH SWAMP-WICOMICO	CHAR	0905040442	NEWBURG	0082	0101	186	2123	3
ZEKIAH SWAMP-WICOMICO	CHAR	0908008884	WALDORF	0016	0019	170.3	429	3
ZEKIAH SWAMP-WICOMICO	CHAR	0908021406	WALDORF	0024	0023	166.095	2261	3
ZEKIAH SWAMP-WICOMICO	CHAR	0908030847	WALDORF	0017	0003	162.21	2267	3
ZEKIAH SWAMP-WICOMICO	CHAR	0908007691	WALDORF	0025	0084	153.67	2245	3
ZEKIAH SWAMP-WICOMICO	CHAR	0908025983	WALDORF	0017	0097	152.965	2264	3
ZEKIAH SWAMP-WICOMICO	CHAR	0908012628	HUGHESVILLE	0046	0077	152.83	435	3
ZEKIAH SWAMP-WICOMICO	CHAR	0901025171	LA PLATA	0044	0079	148.98	2185	3
ZEKIAH SWAMP-WICOMICO	CHAR	0908025606	WALDORF	0009	0007	143	2293	3
ZEKIAH SWAMP-WICOMICO	CHAR	0905018978	NEWBURG	0082	0019	131.44	2117	3
ZEKIAH SWAMP-WICOMICO	CHAR	0908017611	WALDORF	0024	0022	124.3	2258	3
ZEKIAH SWAMP-WICOMICO	CHAR	0908013179	WALDORF	0016	0117	121.63	2249	3
ZEKIAH SWAMP-WICOMICO	CHAR	0906041183	WHITE PLAINS	0023	0269	119.21	347	3
ZEKIAH SWAMP-WICOMICO	CHAR	0908022194	WALDORF	0016	0061	117.757	460	3
ZEKIAH SWAMP-WICOMICO	CHAR	0908025991	WALDORF	0025	0050	117.4	468	3
ZEKIAH SWAMP-WICOMICO	CHAR	0908008078	WALDORF	0009	0009	117.18	426	3
ZEKIAH SWAMP-WICOMICO	CHAR	0908018502	WALDORF	0009	0019	116.54	454	3
ZEKIAH SWAMP-WICOMICO	CHAR	0908009597	WALDORF	0015	0007	116.256	2246	3
ZEKIAH SWAMP-WICOMICO	CHAR	0908023247	WALDORF	0010	0029	108.97	2292	3
ZEKIAH SWAMP-WICOMICO	CHAR	0908018022	WALDORF	0024	0014	107.385	2259	3
ZEKIAH SWAMP-WICOMICO	PRIN	17080828574	BRANDYWINE	0172	0002	104.49	2300	3
ZEKIAH SWAMP-WICOMICO	CHAR	0904010027	NEWBURG	0073	0001	100	234	3

UNIT	COUNTY	ACCT ID	CITY	MAP	PARCEL	SDAT ACRES	MAP NUMBER	TIER
ZEKIAH SWAMP-WICOMICO	CHAR	0905354690	NEWBURG	0083	0068	94	2124	3
ZEKIAH SWAMP-WICOMICO	CHAR	0908007667	WALDORF	0017	0206	90.43	424	3
ZEKIAH SWAMP-WICOMICO	CHAR	0904000935	FAULKNER	0073	0007	89.34	2127	3
ZEKIAH SWAMP-WICOMICO	CHAR	0908015589	WALDORF	0016	0216	86.76	2255	3
ZEKIAH SWAMP-WICOMICO	CHAR	0904005589	CHARLOTTE HALL	0074	0035	85.41	2137	3
ZEKIAH SWAMP-WICOMICO	CHAR	0908014485	WALDORF	0016	0011	84.75	438	3
ZEKIAH SWAMP-WICOMICO	CHAR	0904021886	FAULKNER	0073	0164	82.74	2154	3
ZEKIAH SWAMP-WICOMICO	CHAR	0908017115	WALDORF	0015	0518	81.73	2256	3
ZEKIAH SWAMP-WICOMICO	CHAR	0905024927	NEWBURG	0083	0005	81.23	2120	3
ZEKIAH SWAMP-WICOMICO	CHAR	0904002032	NEWBURG	0073	0002	79.819	219	3
ZEKIAH SWAMP-WICOMICO	CHAR	0908020035	BRYANTOWN	0035	0167	79.26	2222	3
ZEKIAH SWAMP-WICOMICO	CHAR	0904008529	LA PLATA	0065	0005	79	229	3
ZEKIAH SWAMP-WICOMICO	CHAR	0904014723	CHARLOTTE HALL	0074	0062	78.36	240	3
ZEKIAH SWAMP-WICOMICO	CHAR	0908025088	BRYANTOWN	0035	0070	76.4	2225	3
ZEKIAH SWAMP-WICOMICO	CHAR	0905013127	NEWBURG	0089	0100	75	279	3
ZEKIAH SWAMP-WICOMICO	CHAR	0904015703	CHARLOTTE HALL	0074	0008	74.22	2151	3
ZEKIAH SWAMP-WICOMICO	CHAR	0908018227	WALDORF	0025	0016	72.93	2554	3
ZEKIAH SWAMP-WICOMICO	CHAR	0908018448	WALDORF	0015	0157	70.125	452	3
ZEKIAH SWAMP-WICOMICO	CHAR	0901009613	LA PLATA	0033	0215	67.55	4	3
ZEKIAH SWAMP-WICOMICO	CHAR	0908039828	LA PLATA	0034	0079	64.53	2234	3
ZEKIAH SWAMP-WICOMICO	CHAR	0901013335	LA PLATA	0055	0160	64.11	9	3
ZEKIAH SWAMP-WICOMICO	CHAR	0905010888	NEWBURG	0089	0093	62.16	270	3
ZEKIAH SWAMP-WICOMICO	CHAR	0905013143	NEWBURG	0089	0019	61.92	280	3
ZEKIAH SWAMP-WICOMICO	CHAR	0908030324	HUGHESVILLE	0045	0017	60.87	476	3
ZEKIAH SWAMP-WICOMICO	CHAR	0908025096	WALDORF	0016	0114	59.9	464	3
ZEKIAH SWAMP-WICOMICO	CHAR	0905010551	NEWBURG	0086	0219	58.75	267	3
ZEKIAH SWAMP-WICOMICO	CHAR	0905022142	NEWBURG	0086	0029	58.552	296	3
ZEKIAH SWAMP-WICOMICO	CHAR	0908056412	HUGHESVILLE	0045	0028	56.96	2237	3
ZEKIAH SWAMP-WICOMICO	CHAR	0908015597	WALDORF	0016	0009	56.345	445	3
ZEKIAH SWAMP-WICOMICO	CHAR	0908028265	BRYANTOWN	0035	0027	55.5	2228	3
ZEKIAH SWAMP-WICOMICO	CHAR	0901013041	LA PLATA	0055	0039	54.11	7	3
ZEKIAH SWAMP-WICOMICO	CHAR	0908016283	LA PLATA	0034	0019	53.975	448	3
ZEKIAH SWAMP-WICOMICO	CHAR	0908062315	WALDORF	0016	0277	52.85	2276	3
ZEKIAH SWAMP-WICOMICO	CHAR	0901014749	BEL ALTON	0055	0063	49.24	2181	3
ZEKIAH SWAMP-WICOMICO	CHAR	0908026688	WALDORF	0024	0017	46.85	2265	3
ZEKIAH SWAMP-WICOMICO	CHAR	0905039843	NEWBURG	0089	0007	46.59	332	3
ZEKIAH SWAMP-WICOMICO	CHAR	0904007581	CHARLOTTE HALL	0075	0007	46.57	2141	3
ZEKIAH SWAMP-WICOMICO	CHAR	0905011272	NEWBURG	0083	0031	44.93	2112	3
ZEKIAH SWAMP-WICOMICO	CHAR	0905359981	NEWBURG	0086		44.554	2111	3
ZEKIAH SWAMP-WICOMICO	CHAR	0904016084	NEWBURG	0073	0136	43.49	244	3
ZEKIAH SWAMP-WICOMICO	CHAR	0904354559	BEL ALTON	0055	0008	41.327	2212	3
ZEKIAH SWAMP-WICOMICO	CHAR	0908024383	BRYANTOWN	0035	0190	41.06	2555	3
ZEKIAH SWAMP-WICOMICO	CHAR	0908013535	WALDORF	0016	0004	40.59	437	3
ZEKIAH SWAMP-WICOMICO	CHAR	0905358906	NEWBURG	0083	0008	40.543	2125	3
ZEKIAH SWAMP-WICOMICO	CHAR	0904005163	LA PLATA	0056	0003	39.49	2194	3
ZEKIAH SWAMP-WICOMICO	CHAR	0901359467	LA PLATA	0044	0390	38.76	2189	3
ZEKIAH SWAMP-WICOMICO	CHAR	0905015758	NEWBURG	0079	0114	38.63	2166	3
ZEKIAH SWAMP-WICOMICO	CHAR	0904005058	BEL ALTON	0055	0113	38.38	225	3
ZEKIAH SWAMP-WICOMICO	CHAR	0908032416	WALDORF	0034	0072	38.23	480	3
ZEKIAH SWAMP-WICOMICO	CHAR	0901024965	LA PLATA	0044	0221	38.23	2244	3
ZEKIAH SWAMP-WICOMICO	CHAR	0904022181	FAULKNER	0073	0014	38.06	2155	3
ZEKIAH SWAMP-WICOMICO	CHAR	0901046586	LA PLATA	0055	0212	36.326	2188	3
ZEKIAH SWAMP-WICOMICO	CHAR	0904012194	LA PLATA	0065	0080	36.19	2204	3
ZEKIAH SWAMP-WICOMICO	CHAR	0905039231	NEWBURG	0087	0072	36.1	2108	3
ZEKIAH SWAMP-WICOMICO	CHAR	0905007615	NEWBURG	0089	0012	36	256	3
ZEKIAH SWAMP-WICOMICO	CHAR	0904009932	LA PLATA	0065	0072	35.89	233	3
ZEKIAH SWAMP-WICOMICO	CHAR	0904354557	BEL ALTON	0055	0008	35.769	2211	3
ZEKIAH SWAMP-WICOMICO	CHAR	0905040035	NEWBURG	0086	0050	35.5	2110	3
ZEKIAH SWAMP-WICOMICO	CHAR	0901021575	LA PLATA	0044	0188	35.438	13	3

UNIT	COUNTY	ACCT ID	CITY	MAP	PARCEL	SDAT ACRES	MAP NUMBER	TIER
ZEKIAH SWAMP-WICOMICO	CHAR	0904359577	NEWBURG	0073	0207	34.972	254	3
ZEKIAH SWAMP-WICOMICO	CHAR	0908071306	LA PLATA	0056	0210	34.17	500	3
ZEKIAH SWAMP-WICOMICO	CHAR	0904008502	LA PLATA	0065	0054	33.79	2199	3
ZEKIAH SWAMP-WICOMICO	CHAR	0905013089	NEWBURG	0079	0034	33.05	278	3
ZEKIAH SWAMP-WICOMICO	CHAR	0905038596	NEWBURG	0087	0070	32.694	2105	3
ZEKIAH SWAMP-WICOMICO	CHAR	0904354828	LA PLATA	0074	0063	32.402	252	3
ZEKIAH SWAMP-WICOMICO	CHAR	0905017882	NEWBURG	0079	0183	32.23	292	3
ZEKIAH SWAMP-WICOMICO	CHAR	0908062994	WALDORF	0016	0274	32.02	2278	3
ZEKIAH SWAMP-WICOMICO	CHAR	0908062277	WALDORF	0016	0276	32.01	2275	3
ZEKIAH SWAMP-WICOMICO	CHAR	0904010485	FAULKNER	0074	0012	32	236	3
ZEKIAH SWAMP-WICOMICO	CHAR	0904014618	FAULKNER	0074	0011	32	239	3
ZEKIAH SWAMP-WICOMICO	CHAR	0904007344	FAULKNER	0073	0013	31.96	2140	3
ZEKIAH SWAMP-WICOMICO	CHAR	0904012208	LA PLATA	0065	0081	31.12	2205	3
ZEKIAH SWAMP-WICOMICO	CHAR	0908020868	WALDORF	0016	0033	31.06	2260	3
ZEKIAH SWAMP-WICOMICO	CHAR	0908043132	WALDORF	0016	0021	30.91	487	3
ZEKIAH SWAMP-WICOMICO	CHAR	0904001044	CHARLOTTE HALL	0074	0016	30.04	2128	3
ZEKIAH SWAMP-WICOMICO	CHAR	0905014824	NEWBURG	0083	0023	29.29	2115	3
ZEKIAH SWAMP-WICOMICO	CHAR	0905026199	NEWBURG	0083	0064	28.96	304	3
ZEKIAH SWAMP-WICOMICO	CHAR	0904021878	FAULKNER	0073	0163	28.45	245	3
ZEKIAH SWAMP-WICOMICO	CHAR	0904022238	FAULKNER	0073	0014	27.76	2156	3
ZEKIAH SWAMP-WICOMICO	CHAR	0905024455	NEWBURG	0089	0105	27.68	2100	3
ZEKIAH SWAMP-WICOMICO	CHAR	0905025346	NEWBURG	0083	0058	27.37	2121	3
ZEKIAH SWAMP-WICOMICO	CHAR	0908051445	WALDORF	0016	0233	27.32	490	3
ZEKIAH SWAMP-WICOMICO	CHAR	0904009959	LA PLATA	0065	0073	27.13	2202	3
ZEKIAH SWAMP-WICOMICO	CHAR	0905039541	NEWBURG	0080	0064	27	329	3
ZEKIAH SWAMP-WICOMICO	CHAR	0908056765	LA PLATA	0034	0074	26.93	2591	3
ZEKIAH SWAMP-WICOMICO	CHAR	0905033373	NEWBURG	0087	0068	26.59	317	3
ZEKIAH SWAMP-WICOMICO	CHAR	0908045925	WALDORF	0025	0135	26.58	2269	3
ZEKIAH SWAMP-WICOMICO	CHAR	0905028825	ROCK POINT	0089	0140	26.294	313	3
ZEKIAH SWAMP-WICOMICO	CHAR	0904015649	NEWBURG	0073	0130	26.26	243	3
ZEKIAH SWAMP-WICOMICO	CHAR	0901011413	LA PLATA	0044	0221	25.38	5	3
ZEKIAH SWAMP-WICOMICO	CHAR	0904016092	LA PLATA	0074	0083	25.316	2153	3
ZEKIAH SWAMP-WICOMICO	CHAR	0905014808	NEWBURG	0086	0002	25.14	286	3
ZEKIAH SWAMP-WICOMICO	CHAR	0905016649	NEWBURG	0079	0008	25	290	3
ZEKIAH SWAMP-WICOMICO	CHAR	0908056439	HUGHESVILLE	0045	0028	24.81	493	3
ZEKIAH SWAMP-WICOMICO	CHAR	0905039509	NEWBURG	0087	0070	24.61	2586	3
ZEKIAH SWAMP-WICOMICO	CHAR	0905037247	NEWBURG	0087	0068	24.47	320	3
ZEKIAH SWAMP-WICOMICO	CHAR	0904008545	LA PLATA	0065	0005	24.4	230	3
ZEKIAH SWAMP-WICOMICO	CHAR	0908025061	BRYANTOWN	0035	0104	24.368	2224	3
ZEKIAH SWAMP-WICOMICO	CHAR	0908031061	WALDORF	0016	0111	24.2	478	3
ZEKIAH SWAMP-WICOMICO	CHAR	0908056455	HUGHESVILLE	0045	0028	24.19	2239	3
ZEKIAH SWAMP-WICOMICO	CHAR	0904030885	BEL ALTON	0055	0254	24.11	250	3
ZEKIAH SWAMP-WICOMICO	CHAR	0905007771	NEWBURG	0086	0015	24.1	258	3
ZEKIAH SWAMP-WICOMICO	CHAR	0905018161	NEWBURG	0079	0111	24	293	3
ZEKIAH SWAMP-WICOMICO	CHAR	0904024427	CHARLOTTE HALL	0080	0065	23.83	2158	3
ZEKIAH SWAMP-WICOMICO	CHAR	0904024397	CHARLOTTE HALL	0080	0065	23.81	2157	3
ZEKIAH SWAMP-WICOMICO	CHAR	0905012929	NEWBURG	0089	0130	23.69	2097	3
ZEKIAH SWAMP-WICOMICO	STMA	1904011457	MECHANICSVILLE	0011	0061	23.22	1371	3
ZEKIAH SWAMP-WICOMICO	CHAR	0905024579	NEWBURG	0079	0049	23	299	3
ZEKIAH SWAMP-WICOMICO	CHAR	0905037832	NEWBURG	0084	0008	22.944	322	3
ZEKIAH SWAMP-WICOMICO	CHAR	0901035223	LA PLATA	0055	0191	22.82	15	3
ZEKIAH SWAMP-WICOMICO	CHAR	0904022114	CHARLOTTE HALL	0075	0047	22.78	2550	3
ZEKIAH SWAMP-WICOMICO	CHAR	0908033226	WALDORF	0025	0110	22.39	2268	3
ZEKIAH SWAMP-WICOMICO	CHAR	0905011345	NEWBURG	0086	0145	22.38	2094	3
ZEKIAH SWAMP-WICOMICO	CHAR	0905038537	NEWBURG	0079	0009	22.26	323	3
ZEKIAH SWAMP-WICOMICO	CHAR	0908056447	HUGHESVILLE	0045	0028	22.26	2238	3
ZEKIAH SWAMP-WICOMICO	CHAR	0905038618	NEWBURG	0087	0070	22.24	2106	3
ZEKIAH SWAMP-WICOMICO	CHAR	0908022305	WALDORF	0016	0123	22.22	461	3
ZEKIAH SWAMP-WICOMICO	CHAR	0905037123	NEWBURG	0086	0190	22.09	319	3

UNIT	COUNTY	ACCT ID	CITY	MAP	PARCEL	SDAT ACRES	MAP NUMBER	TIER
ZEKIAH SWAMP-WICOMICO	CHAR	0905012864	NEWBURG	0089	0005	22	276	3
ZEKIAH SWAMP-WICOMICO	CHAR	0905039274	NEWBURG	0087	0070	21.72	2585	3
ZEKIAH SWAMP-WICOMICO	CHAR	0905012082	NEWBURG	0088	0061	21.6	2096	3
ZEKIAH SWAMP-WICOMICO	CHAR	0904011481	NEWBURG	0073	0074	21.45	237	3
ZEKIAH SWAMP-WICOMICO	CHAR	0901056638	LA PLATA	0055	0221	21.18	20	3
ZEKIAH SWAMP-WICOMICO	CHAR	0908357305	WALDORF	0016	0290	20.848	503	3
ZEKIAH SWAMP-WICOMICO	CHAR	0905012953	NEWBURG	0089	0144	20.65	277	3
ZEKIAH SWAMP-WICOMICO	CHAR	0901089471	LA PLATA	0044	0042	20.61	22	3
ZEKIAH SWAMP-WICOMICO	CHAR	0905013771	NEWBURG	0086	0200	20.56	281	3
ZEKIAH SWAMP-WICOMICO	CHAR	0901042637	LA PLATA	0044	0293	20.53	17	3
ZEKIAH SWAMP-WICOMICO	CHAR	0904015282	NEWBURG	0073	0127	20.31	242	3
ZEKIAH SWAMP-WICOMICO	CHAR	0908057427	WALDORF	0016	0003	20.3	495	3
ZEKIAH SWAMP-WICOMICO	CHAR	0905052556	NEWBURG	0089	0162	20.29	335	3
ZEKIAH SWAMP-WICOMICO	CHAR	0901045989	LA PLATA	0055	0210	20.191	2187	3
ZEKIAH SWAMP-WICOMICO	CHAR	0905009014	NEWBURG	0080	0024	20.18	261	3
ZEKIAH SWAMP-WICOMICO	CHAR	0908041075	WALDORF	0016	0083	20.01	486	3
ZEKIAH SWAMP-WICOMICO	CHAR	0904015991	FAULKNER	0064	0173	20	2152	3
ZEKIAH SWAMP-WICOMICO	CHAR	0901013483	LA PLATA	0055	0037	20	2178	3
ZEKIAH SWAMP-WICOMICO	CHAR	0904004515	FAULKNER	0064	0109	97.81	2193	2
ZEKIAH SWAMP-WICOMICO	PRIN	17080844282	BRANDYWINE	0166	0051	93.25	1168	2
ZEKIAH SWAMP-WICOMICO	PRIN	17080828707	BRANDYWINE	0172	0005	91.08	2303	2
ZEKIAH SWAMP-WICOMICO	CHAR	0904001834	FAULKNER	0064	0114	90.54	2130	2
ZEKIAH SWAMP-WICOMICO	CHAR	0908023026	WALDORF	0025	0001	87.437	463	2
ZEKIAH SWAMP-WICOMICO	CHAR	0908351255	WALDORF	0025	0264	86.25	2279	2
ZEKIAH SWAMP-WICOMICO	CHAR	0904006933	BEL ALTON	0055	0132	84.7	2195	2
ZEKIAH SWAMP-WICOMICO	CHAR	0904029321	LA PLATA	0065	0163	83.09	2159	2
ZEKIAH SWAMP-WICOMICO	CHAR	0905011353	NEWBURG	0086	0003	81.84	2113	2
ZEKIAH SWAMP-WICOMICO	CHAR	0908030855	WALDORF	0017	0175	80.961	477	2
ZEKIAH SWAMP-WICOMICO	CHAR	0908014493	WALDORF	0016	0002	79.84	2252	2
ZEKIAH SWAMP-WICOMICO	CHAR	0908035091	WALDORF	0025	0115	78.19	483	2
ZEKIAH SWAMP-WICOMICO	CHAR	0908031088	WALDORF	0009	0047	76.8	479	2
ZEKIAH SWAMP-WICOMICO	PRIN	17080828699	BRANDYWINE	0167	0126	75.54	1126	2
ZEKIAH SWAMP-WICOMICO	CHAR	0908049955	WALDORF	0036	0331	75.08	2271	2
ZEKIAH SWAMP-WICOMICO	PRIN	17080840330	BRANDYWINE	0173	0017	74.5	1158	2
ZEKIAH SWAMP-WICOMICO	PRIN	17111177401	BRANDYWINE	0166	0005	73.42	2317	2
ZEKIAH SWAMP-WICOMICO	CHAR	0908015082	WALDORF	0017	0204	73.19	444	2
ZEKIAH SWAMP-WICOMICO	CHAR	0908040966	WALDORF	0009	0047	72.44	485	2
ZEKIAH SWAMP-WICOMICO	CHAR	0901008749	LA PLATA	0044	0074	72.41	2172	2
ZEKIAH SWAMP-WICOMICO	CHAR	0908013667	HUGHESVILLE	0036	0201	70.17	2216	2
ZEKIAH SWAMP-WICOMICO	CHAR	0901014293	LA PLATA	0044	0116	67.21	2180	2
ZEKIAH SWAMP-WICOMICO	CHAR	0904006984	BEL ALTON	0064	0011	67.21	2196	2
ZEKIAH SWAMP-WICOMICO	CHAR	0904023854	BEL ALTON	0064	0189	67	246	2
ZEKIAH SWAMP-WICOMICO	PRIN	17080830281	BRANDYWINE	0167	0207	66.46	1133	2
ZEKIAH SWAMP-WICOMICO	CHAR	0904008219	LA PLATA	0065	0123	66.19	2143	2
ZEKIAH SWAMP-WICOMICO	CHAR	0908041148	HUGHESVILLE	0035	0205	65.971	2235	2
ZEKIAH SWAMP-WICOMICO	CHAR	0908027692	HUGHESVILLE	0035	0018	65.21	2227	2
ZEKIAH SWAMP-WICOMICO	PRIN	17080828640	BRANDYWINE	0166	0081	64.71	2301	2
ZEKIAH SWAMP-WICOMICO	CHAR	0908008051	WALDORF	0017	0008	64	425	2
ZEKIAH SWAMP-WICOMICO	PRIN	17080828608	BRANDYWINE	0167	0063	62.88	1124	2
ZEKIAH SWAMP-WICOMICO	CHAR	0908050686	WALDORF	0009	0028	61.901	489	2
ZEKIAH SWAMP-WICOMICO	PRIN	17111146489	BRANDYWINE	0166	0056	61.54	2311	2
ZEKIAH SWAMP-WICOMICO	PRIN	17111149137	BRANDYWINE	0166	0054	60.65	2313	2
ZEKIAH SWAMP-WICOMICO	CHAR	0904024249	BEL ALTON	0055	0237	60.428	247	2
ZEKIAH SWAMP-WICOMICO	CHAR	0908007543	WALDORF	0016	0068	57.325	422	2
ZEKIAH SWAMP-WICOMICO	CHAR	0908095965	WALDORF	0009	0138	57.05	502	2
ZEKIAH SWAMP-WICOMICO	PRIN	17080828616	BRANDYWINE	0166	0061	56.84	1125	2
ZEKIAH SWAMP-WICOMICO	CHAR	0908018499	WALDORF	0009	0014	56.62	453	2
ZEKIAH SWAMP-WICOMICO	CHAR	0908024936	WALDORF	0017	0146	56.37	2263	2
ZEKIAH SWAMP-WICOMICO	CHAR	0908007489	WALDORF	0016	0131	56.15	2552	2

UNIT	COUNTY	ACCT ID	CITY	MAP	PARCEL	SDAT ACRES	MAP NUMBER	TIER
ZEKIAH SWAMP-WICOMICO	PRIN	17111181809	BRANDYWINE	0166	0055	54.89	2322	2
ZEKIAH SWAMP-WICOMICO	CHAR	0906023665	WHITE PLAINS	0023	0268	53.92	338	2
ZEKIAH SWAMP-WICOMICO	CHAR	0908010463	WALDORF	0017	0138	53	431	2
ZEKIAH SWAMP-WICOMICO	CHAR	0901039016	LA PLATA	0044	0316	52.58	2186	2
ZEKIAH SWAMP-WICOMICO	PRIN	17080828665	BRANDYWINE	0166	0004	51.12	2302	2
ZEKIAH SWAMP-WICOMICO	CHAR	0908027234	HUGHESVILLE	0035	0085	50.577	2226	2
ZEKIAH SWAMP-WICOMICO	PRIN	17080831016	BRANDYWINE	0166	0052	50.2	1134	2
ZEKIAH SWAMP-WICOMICO	CHAR	0908049297	HUGHESVILLE	0035	0229	49.8	2236	2
ZEKIAH SWAMP-WICOMICO	PRIN	17080845784	BRANDYWINE	0167	0067	49.17	1177	2
ZEKIAH SWAMP-WICOMICO	CHAR	0905039762	NEWBURG	0089	0158	48.45	330	2
ZEKIAH SWAMP-WICOMICO	CHAR	0908032998	BRYANTOWN	0035	0070	45.6	481	2
ZEKIAH SWAMP-WICOMICO	PRIN	17080831040	BRANDYWINE	0167	0009	45	1135	2
ZEKIAH SWAMP-WICOMICO	CHAR	0901012428	LA PLATA	0044	0051	44.93	2175	2
ZEKIAH SWAMP-WICOMICO	CHAR	0908020272	HUGHESVILLE	0035	0033	44.83	457	2
ZEKIAH SWAMP-WICOMICO	CHAR	0906027245	WHITE PLAINS	0023	0125	44.7	340	2
ZEKIAH SWAMP-WICOMICO	CHAR	0908051321	WALDORF	0025	0221	44.62	2272	2
ZEKIAH SWAMP-WICOMICO	CHAR	0909025634	WALDORF	0026	0204	44.33	2281	2
ZEKIAH SWAMP-WICOMICO	CHAR	0905007763	NEWBURG	0086	0004	43.8	257	2
ZEKIAH SWAMP-WICOMICO	CHAR	0901054228	BEL ALTON	0055	0190	42.38	19	2
ZEKIAH SWAMP-WICOMICO	CHAR	0908007624	WALDORF	0017	0012	42.2	423	2
ZEKIAH SWAMP-WICOMICO	CHAR	0904354555	BEL ALTON	0055	0008	41.671	251	2
ZEKIAH SWAMP-WICOMICO	CHAR	0904008901	FAULKNER	0064	0131	41.01	232	2
ZEKIAH SWAMP-WICOMICO	CHAR	0908014787	WALDORF	0026	0019	40.31	2253	2
ZEKIAH SWAMP-WICOMICO	CHAR	0908010153	WALDORF	0025	0021	38.94	2247	2
ZEKIAH SWAMP-WICOMICO	CHAR	0908011095	WALDORF	0016	0112	37.93	434	2
ZEKIAH SWAMP-WICOMICO	CHAR	0908030138	WALDORF	0017	0092	37.7	475	2
ZEKIAH SWAMP-WICOMICO	CHAR	0901011839	LA PLATA	0044	0202	36.45	6	2
ZEKIAH SWAMP-WICOMICO	PRIN	17111146851	BRANDYWINE	0165	0016	36.35	1202	2
ZEKIAH SWAMP-WICOMICO	CHAR	0905010829	NEWBURG	0083	0050	35	269	2
ZEKIAH SWAMP-WICOMICO	CHAR	0908033048	WALDORF	0024	0065	34.401	482	2
ZEKIAH SWAMP-WICOMICO	CHAR	0904000269	FAULKNER	0064	0127	34.39	2190	2
ZEKIAH SWAMP-WICOMICO	PRIN	17111191410	BRANDYWINE	0166	0150	34.13	1229	2
ZEKIAH SWAMP-WICOMICO	PRIN	17080843599	BRANDYWINE	0166	0048	34.06	1167	2
ZEKIAH SWAMP-WICOMICO	CHAR	0905025486	NEWBURG	0089	0024	34	300	2
ZEKIAH SWAMP-WICOMICO	CHAR	0908012997	HUGHESVILLE	0036	0002	34	2215	2
ZEKIAH SWAMP-WICOMICO	PRIN	17080844050	BRANDYWINE	0173	0070	33.76	2305	2
ZEKIAH SWAMP-WICOMICO	PRIN	17080841643	BRANDYWINE	0173	0072	33.67	2304	2
ZEKIAH SWAMP-WICOMICO	CHAR	0904006941	BEL ALTON	0055	0090	33.25	226	2
ZEKIAH SWAMP-WICOMICO	CHAR	0904012224	FAULKNER	0064	0136	33.06	2147	2
ZEKIAH SWAMP-WICOMICO	CHAR	0908011427	WALDORF	0016	0209	33.03	2553	2
ZEKIAH SWAMP-WICOMICO	CHAR	0908008442	WALDORF	0009	0013	32.832	428	2
ZEKIAH SWAMP-WICOMICO	CHAR	0908025975	WALDORF	0016	0137	32.54	467	2
ZEKIAH SWAMP-WICOMICO	PRIN	17080839555	BRANDYWINE	0167	0070	32.42	1156	2
ZEKIAH SWAMP-WICOMICO	CHAR	0905009707	NEWBURG	0086	0032	32.18	262	2
ZEKIAH SWAMP-WICOMICO	CHAR	0904001885	FAULKNER	0064	0110	32.05	2583	2
ZEKIAH SWAMP-WICOMICO	CHAR	0908071292	LA PLATA	0056	0209	31.11	499	2
ZEKIAH SWAMP-WICOMICO	PRIN	17083947728	BRANDYWINE	0167	0226	31	1183	2
ZEKIAH SWAMP-WICOMICO	PRIN	17080841940	BRANDYWINE	0166	0042	30.67	1162	2
ZEKIAH SWAMP-WICOMICO	CHAR	0905038812	NEWBURG	0083	0109	30.65	325	2
ZEKIAH SWAMP-WICOMICO	CHAR	0905015855	NEWBURG	0082	0028	30.53	2116	2
ZEKIAH SWAMP-WICOMICO	CHAR	0908022763	WALDORF	0017	0207	30.492	462	2
ZEKIAH SWAMP-WICOMICO	CHAR	0904000382	FAULKNER	0064	0165	29.975	215	2
ZEKIAH SWAMP-WICOMICO	PRIN	17080828590	BRANDYWINE	0166	0011	29.69	1123	2
ZEKIAH SWAMP-WICOMICO	CHAR	0905038855	NEWBURG	0083	0109	29.58	328	2
ZEKIAH SWAMP-WICOMICO	CHAR	0905027578	NEWBURG	0082	0079	29.18	311	2
ZEKIAH SWAMP-WICOMICO	CHAR	0905014174	NEWBURG	0082	0025	29.17	282	2
ZEKIAH SWAMP-WICOMICO	CHAR	0908018375	BRYANTOWN	0046	0038	29.03	451	2
ZEKIAH SWAMP-WICOMICO	CHAR	0908008434	WALDORF	0009	0087	28.14	427	2
ZEKIAH SWAMP-WICOMICO	CHAR	0905038847	NEWBURG	0083	0109	28.05	327	2

UNIT	COUNTY	ACCT ID	CITY	MAP	PARCEL	SDAT ACRES	MAP NUMBER	TIER
ZEKIAH SWAMP-WICOMICO	CHAR	0908056617	WALDORF	0026	0180	27.7	494	2
ZEKIAH SWAMP-WICOMICO	CHAR	0908025649	WALDORF	0009	0006	27.58	466	2
ZEKIAH SWAMP-WICOMICO	CHAR	0905036763	NEWBURG	0082	0091	27.46	318	2
ZEKIAH SWAMP-WICOMICO	CHAR	0901080385	LA PLATA	0044	0377	27.34	2582	2
ZEKIAH SWAMP-WICOMICO	CHAR	0904001842	BEL ALTON	0064	0054	27.01	218	2
ZEKIAH SWAMP-WICOMICO	CHAR	0905011744	NEWBURG	0086	0063	26.98	273	2
ZEKIAH SWAMP-WICOMICO	CHAR	0908051755	WALDORF	0025	0225	26.98	492	2
ZEKIAH SWAMP-WICOMICO	CHAR	0905016169	NEWBURG	0086	0001	26.95	287	2
ZEKIAH SWAMP-WICOMICO	CHAR	0908012784	WALDORF	0016	0005	26.72	436	2
ZEKIAH SWAMP-WICOMICO	CHAR	0908023476	HUGHESVILLE	0035	0118	26.531	2589	2
ZEKIAH SWAMP-WICOMICO	CHAR	0908010552	BRANDYWINE	0017	0340	26.12	432	2
ZEKIAH SWAMP-WICOMICO	CHAR	0904010426	FAULKNER	0073	0108	25.36	235	2
ZEKIAH SWAMP-WICOMICO	CHAR	0905027527	NEWBURG	0086	0031	25.26	310	2
ZEKIAH SWAMP-WICOMICO	CHAR	0905040825	NEWBURG	0086	0220	25.26	333	2
ZEKIAH SWAMP-WICOMICO	CHAR	0901080393	LA PLATA	0044	0378	25.15	21	2
ZEKIAH SWAMP-WICOMICO	CHAR	0905016541	NEWBURG	0082	0027	25	289	2
ZEKIAH SWAMP-WICOMICO	CHAR	0908020124	WALDORF	0025	0193	25	456	2
ZEKIAH SWAMP-WICOMICO	CHAR	0904015606	FAULKNER	0064	0170	25	2207	2
ZEKIAH SWAMP-WICOMICO	CHAR	0908029539	LA PLATA	0033	0011	24.77	2266	2
ZEKIAH SWAMP-WICOMICO	PRIN	17111181817	BRANDYWINE	0166	0063	24.68	2323	2
ZEKIAH SWAMP-WICOMICO	CHAR	0909008772	BRANDYWINE	0017	0042	24.6	513	2
ZEKIAH SWAMP-WICOMICO	CHAR	0908029334	LA PLATA	0033	0006	24.587	470	2
ZEKIAH SWAMP-WICOMICO	CHAR	0908048207	WALDORF	0025	0206	24.41	2270	2
ZEKIAH SWAMP-WICOMICO	CHAR	0905038839	NEWBURG	0083	0109	24.36	326	2
ZEKIAH SWAMP-WICOMICO	CHAR	0905010403	NEWBURG	0080		24	265	2
ZEKIAH SWAMP-WICOMICO	CHAR	0904008561	FAULKNER	0064	0105	23.94	231	2
ZEKIAH SWAMP-WICOMICO	CHAR	0908016135	WALDORF	0025	0195	23.71	447	2
ZEKIAH SWAMP-WICOMICO	CHAR	0908047057	WALDORF	0025	0138	23.71	488	2
ZEKIAH SWAMP-WICOMICO	CHAR	0908014795	WALDORF	0026	0103	23.49	443	2
ZEKIAH SWAMP-WICOMICO	CHAR	0908057974	WALDORF	0026	0190	23.295	2274	2
ZEKIAH SWAMP-WICOMICO	CHAR	0904007557	BEL ALTON	0055	0134	22.83	2197	2
ZEKIAH SWAMP-WICOMICO	CHAR	0905017246	NEWBURG	0086	0017	22.713	291	2
ZEKIAH SWAMP-WICOMICO	CHAR	0905027608	NEWBURG	0082	0078	22.67	312	2
ZEKIAH SWAMP-WICOMICO	CHAR	0904014014	CHARLOTTE HALL	0074	0093	22.47	238	2
ZEKIAH SWAMP-WICOMICO	CHAR	0908014817	WALDORF	0026	0064	22.37	2254	2
ZEKIAH SWAMP-WICOMICO	PRIN	17080830257	BRANDYWINE	0167	0049	22	1132	2
ZEKIAH SWAMP-WICOMICO	PRIN	17111187434	BRANDYWINE	0166	0100	21.87	2325	2
ZEKIAH SWAMP-WICOMICO	CHAR	0904002504	BEL ALTON	0064	0123	21.75	221	2
ZEKIAH SWAMP-WICOMICO	CHAR	0904000854	LA PLATA	0065	0017	21.45	216	2
ZEKIAH SWAMP-WICOMICO	CHAR	0904014758	FAULKNER	0064	0164	21.04	241	2
ZEKIAH SWAMP-WICOMICO	PRIN	17111191683	BRANDYWINE	0166	0138	20.98	1230	2
ZEKIAH SWAMP-WICOMICO	CHAR	0908062323	WALDORF	0025	0243	20.91	2277	2
ZEKIAH SWAMP-WICOMICO	PRIN	17080831313	BRANDYWINE	0167	0006	20.87	1139	2
ZEKIAH SWAMP-WICOMICO	PRIN	17111133776	BRANDYWINE	0156	0079	20.37	2307	2
ZEKIAH SWAMP-WICOMICO	CHAR	0908057354	WALDORF	0016	0003	20.06	2556	2
ZEKIAH SWAMP-WICOMICO	CHAR	0909025642	WALDORF	0026	0202	20.04	517	2
ZEKIAH SWAMP-WICOMICO	CHAR	0906049206	LA PLATA	0023	0216	20	355	2
ZEKIAH SWAMP-WICOMICO	PRIN	17083611530	BRANDYWINE	0173	0092	20	2306	2
ZEKIAH SWAMP-WICOMICO	CHAR	0908020345	WALDORF	0017	0007	74.32	458	1
ZEKIAH SWAMP-WICOMICO	CHAR	0908017182	WALDORF	0015	0005	59.457	2257	1
ZEKIAH SWAMP-WICOMICO	CHAR	0908095914	WALDORF	0009	0138	52.55	501	1
ZEKIAH SWAMP-WICOMICO	CHAR	0908058377	WALDORF	0016	0271	38.93	496	1
ZEKIAH SWAMP-WICOMICO	CHAR	0908039399	WALDORF	0025	0116	38.81	484	1
ZEKIAH SWAMP-WICOMICO	CHAR	0908029598	HUGHESVILLE	0035	0215	37.4	2230	1
ZEKIAH SWAMP-WICOMICO	CHAR	0908058954	WALDORF	0025	0237	31.45	497	1
ZEKIAH SWAMP-WICOMICO	CHAR	0908051488	WALDORF	0025	0223	31.36	491	1
ZEKIAH SWAMP-WICOMICO	CHAR	0908017026	WALDORF	0015	0004	30.356	450	1
ZEKIAH SWAMP-WICOMICO	CHAR	0908020094	WALDORF	0026	0056	28.279	455	1
ZEKIAH SWAMP-WICOMICO	PRIN	17111155670	BRANDYWINE	0166	0035	25.89	1209	1

UNIT	COUNTY	ACCT ID	CITY	MAP	PARCEL	SDAT ACRES	MAP NUMBER	TIER
ZEKIAH SWAMP-WICOMICO	CHAR	0908055602	WALDORF	0016	0262	21.41	2273	1
ZEKIAH SWAMP-WICOMICO	CHAR	0908015953	BRYANTOWN	0035	0147	20.46	446	1

McIntosh Run-St. Mary's Unit - Tiered Parcels (Tier 0 = Lowest Value/Priority; Tier 6 = Highest Value/Priority)

UNIT	COUNTY	ACCT ID	CITY	MAP	PARCEL	SDAT ACRES	MAP NUMBER	TIER
MCINTOSH RUN-ST MARY'S	STMA	1903005402	LEONARDTOWN	0032	0005	425.58	1273	6
MCINTOSH RUN-ST MARY'S	STMA	1903009912	LEONARDTOWN	0041	0094	293.68	1280	6
MCINTOSH RUN-ST MARY'S	STMA	1903027872	CALIFORNIA	0033	0028	219.51	1992	6
MCINTOSH RUN-ST MARY'S	STMA	1903024709	LEONARDTOWN	0041	0024	192	1320	6
MCINTOSH RUN-ST MARY'S	STMA	1903024059	HOLLYWOOD	0026	0034	186.03	1315	6
MCINTOSH RUN-ST MARY'S	STMA	1902000695	CALLAWAY	0050	0038	184.56	1974	6
MCINTOSH RUN-ST MARY'S	STMA	1902002027	GREAT MILLS	0058	0097	183	1976	6
MCINTOSH RUN-ST MARY'S	STMA	1903002284	LEONARDTOWN	0041	0027	178.96	1268	6
MCINTOSH RUN-ST MARY'S	STMA	1903000982	LEONARDTOWN	0049	0041	166.55	1984	6
MCINTOSH RUN-ST MARY'S	STMA	1903012751	LEONARDTOWN	0041	0109	162.3	1285	6
MCINTOSH RUN-ST MARY'S	STMA	1903037363	HOLLYWOOD	0025	0235	161.27	1345	6
MCINTOSH RUN-ST MARY'S	STMA	1903009491	LEONARDTOWN	0041	0083	144.28	1278	6
MCINTOSH RUN-ST MARY'S	STMA	1903013251	LEONARDTOWN	0041	0307	143.18	1989	6
MCINTOSH RUN-ST MARY'S	STMA	1908129592	LEONARDTOWN	0041	0125	140.939	2012	6
MCINTOSH RUN-ST MARY'S	STMA	1903017311	LEONARDTOWN	0032	0031	137	1300	6
MCINTOSH RUN-ST MARY'S	STMA	1903013235	LEONARDTOWN	0049	0265	115.5	1988	6
MCINTOSH RUN-ST MARY'S	STMA	1908034834	CALIFORNIA	0042	0033	114.16	2008	6
MCINTOSH RUN-ST MARY'S	STMA	1903003590	LEONARDTOWN	0033	0095	89	1986	6
MCINTOSH RUN-ST MARY'S	STMA	1908006628	CALIFORNIA	0050	0162	76.24	2005	6
MCINTOSH RUN-ST MARY'S	STMA	1906031811	MECHANICSVILLE	0019	0059	619.75	1462	5
MCINTOSH RUN-ST MARY'S	STMA	1906028497	MECHANICSVILLE	0020	0002	449	1447	5
MCINTOSH RUN-ST MARY'S	STMA	1906012329	HOLLYWOOD	0020	0090	343	1423	5
MCINTOSH RUN-ST MARY'S	STMA	1903028674	HOLLYWOOD	0033	0179	271.39	1330	5
MCINTOSH RUN-ST MARY'S	STMA	1906017762	MECHANICSVILLE	0014	0110	268.82	1430	5
MCINTOSH RUN-ST MARY'S	STMA	1903007227	LEONARDTOWN	0040	0020	247.355	1276	5
MCINTOSH RUN-ST MARY'S	STMA	1906020372	HOLLYWOOD	0026	0001	243.03	2033	5
MCINTOSH RUN-ST MARY'S	STMA	1906048021	HOLLYWOOD	0025	0073	224.14	1500	5
MCINTOSH RUN-ST MARY'S	STMA	1903034283	LEONARDTOWN	0025	0137	215.3	1338	5
MCINTOSH RUN-ST MARY'S	STMA	1902010356	LEONARDTOWN	0057	0043	182.48	1242	5
MCINTOSH RUN-ST MARY'S	STMA	1903022013	HOLLYWOOD	0033	0131	170.72	1309	5
MCINTOSH RUN-ST MARY'S	STMA	1903004775	MECHANICSVILLE	0025	0102	168.16	1271	5
MCINTOSH RUN-ST MARY'S	STMA	1903003302	LEONARDTOWN	0041	0051	162.2	1985	5
MCINTOSH RUN-ST MARY'S	STMA	1903016935	HOLLYWOOD	0033	0124	158.8	1296	5
MCINTOSH RUN-ST MARY'S	STMA	1902020688	GREAT MILLS	0051	0097	152.94	1253	5
MCINTOSH RUN-ST MARY'S	STMA	1903052257	LEONARDTOWN	0040	0215	151.85	1353	5
MCINTOSH RUN-ST MARY'S	STMA	1903018997	LEONARDTOWN	0033	0027	151.35	1305	5
MCINTOSH RUN-ST MARY'S	STMA	1906008879	HOLLYWOOD	0026	0085	146.65	1998	5
MCINTOSH RUN-ST MARY'S	STMA	1908005850	LEXINGTON PARK	0051	0070	144.22	1557	5
MCINTOSH RUN-ST MARY'S	STMA	1903017451	LEONARDTOWN	0033	0079	142	1304	5
MCINTOSH RUN-ST MARY'S	STMA	1906000347	HOLLYWOOD	0027	0922	137.71	1404	5
MCINTOSH RUN-ST MARY'S	STMA	1906030491	HOLLYWOOD	0026	0350	133.5	1456	5
MCINTOSH RUN-ST MARY'S	STMA	1906029698	MECHANICSVILLE	0020	0123	124.88	1452	5
MCINTOSH RUN-ST MARY'S	STMA	1906036007	MECHANICSVILLE	0019	0048	121.84	1484	5
MCINTOSH RUN-ST MARY'S	STMA	1906180086	MECHANICSVILLE	0020	0444	121.71	1553	5
MCINTOSH RUN-ST MARY'S	STMA	1906014569	HOLLYWOOD	0020	0029	120.32	1425	5
MCINTOSH RUN-ST MARY'S	STMA	1906050123	MECHANICSVILLE	0014	0294	114.88	2058	5
MCINTOSH RUN-ST MARY'S	STMA	1906033679	HOLLYWOOD	0025	0025	111.88	1473	5
MCINTOSH RUN-ST MARY'S	STMA	1903029239	LEONARDTOWN	0025	0071	109.18	1332	5
MCINTOSH RUN-ST MARY'S	STMA	1902019647	VALLEY LEE	0057	0081	107.17	1980	5
MCINTOSH RUN-ST MARY'S	STMA	1903009769	LEONARDTOWN	0033	0096	103.26	1987	5
MCINTOSH RUN-ST MARY'S	STMA	1906022219	HOLLYWOOD	0026	0006	96.92	1437	5
MCINTOSH RUN-ST MARY'S	STMA	1908030995	CALIFORNIA	0042	0054	96.13	2007	5
MCINTOSH RUN-ST MARY'S	STMA	1902001225	CALLAWAY	0050	0144	95.3	1975	5
MCINTOSH RUN-ST MARY'S	STMA	1908041865	CALIFORNIA	0050	0033	94.65	2009	5
MCINTOSH RUN-ST MARY'S	STMA	1906012310	HOLLYWOOD	0020	0090	94	1422	5
MCINTOSH RUN-ST MARY'S	STMA	1908006652	CALIFORNIA	0042	0025	92.9	2006	5
MCINTOSH RUN-ST MARY'S	STMA	1903018814	LEONARDTOWN	0032	0194	92.24	2023	5
MCINTOSH RUN-ST MARY'S	STMA	1906068618	HOLLYWOOD	0021	0064	91	2004	5
MCINTOSH RUN-ST MARY'S	STMA	1903008355	LEONARDTOWN	0033	0098	90.28	1277	5

UNIT	COUNTY	ACCT ID	CITY	MAP	PARCEL	SDAT ACRES	MAP NUMBER	TIER
MCINTOSH RUN-ST MARY'S	STMA	1906024319	HOLLYWOOD	0026	0269	87.53	1440	5
MCINTOSH RUN-ST MARY'S	STMA	1902009870	LEONARDTOWN	0050	0132	83.4	1978	5
MCINTOSH RUN-ST MARY'S	STMA	1908031940	CALIFORNIA	0042	0003	82.74	1560	5
MCINTOSH RUN-ST MARY'S	STMA	1902180696	CALIFORNIA	0050	0294	77.51	1981	5
MCINTOSH RUN-ST MARY'S	STMA	1903022307	LEONARDTOWN	0041	0046	70.61	1991	5
MCINTOSH RUN-ST MARY'S	STMA	1903017079	LEONARDTOWN	0032	0299	69.45	1299	5
MCINTOSH RUN-ST MARY'S	STMA	1903001830	LEONARDTOWN	0025	0220	66.78	1267	5
MCINTOSH RUN-ST MARY'S	STMA	1906020755	HOLLYWOOD	0020	0022	66.4	1436	5
MCINTOSH RUN-ST MARY'S	STMA	1903032841	HOLLYWOOD	0025	0189	62	2028	5
MCINTOSH RUN-ST MARY'S	STMA	1906014623	HOLLYWOOD	0020	0174	59.1	1426	5
MCINTOSH RUN-ST MARY'S	STMA	1903015521	LEONARDTOWN	0041	0174	58.58	1291	5
MCINTOSH RUN-ST MARY'S	STMA	1908041199	CALIFORNIA	0050	0034	54.14	1561	5
MCINTOSH RUN-ST MARY'S	STMA	1908102007	LEONARDTOWN	0041	0009	51.61	2011	5
MCINTOSH RUN-ST MARY'S	STMA	1903024555	CALIFORNIA	0041	0037	47.78	1319	5
MCINTOSH RUN-ST MARY'S	STMA	1903009920	LEONARDTOWN	0041	0256	47.64	1281	5
MCINTOSH RUN-ST MARY'S	STMA	1903003795	LEONARDTOWN	0041	0010	45	1270	5
MCINTOSH RUN-ST MARY'S	STMA	1906026842	HOLLYWOOD	0025	0019	42.03	1444	5
MCINTOSH RUN-ST MARY'S	STMA	1908137056	CALIFORNIA	0042	0240	38.88	2013	5
MCINTOSH RUN-ST MARY'S	STMA	1903053253	LEONARDTOWN	0041	0302	38.32	1993	5
MCINTOSH RUN-ST MARY'S	STMA	1906006108	HOLLYWOOD	0026	0121	33.9	1410	5
MCINTOSH RUN-ST MARY'S	STMA	1902015714	LEONARDTOWN	0049	0134	31.38	1979	5
MCINTOSH RUN-ST MARY'S	STMA	1902003783	CALLAWAY	0050	0090	30.49	1977	5
MCINTOSH RUN-ST MARY'S	STMA	1903029387	HOLLYWOOD	0025	0180	28.26	2574	5
MCINTOSH RUN-ST MARY'S	STMA	1903013472	CALIFORNIA	0042	0080	28.06	1289	5
MCINTOSH RUN-ST MARY'S	STMA	1903076075	LEONARDTOWN	0049	0283	27.5	1995	5
MCINTOSH RUN-ST MARY'S	STMA	1903024830	CALIFORNIA	0041	0042	27	1321	5
MCINTOSH RUN-ST MARY'S	STMA	1908139032	CALIFORNIA	0042	0241	25.22	2014	5
MCINTOSH RUN-ST MARY'S	STMA	1903022331	LEONARDTOWN	0041	0098	25.01	1310	5
MCINTOSH RUN-ST MARY'S	STMA	1908008604	CALIFORNIA	0050	0176	23.84	1559	5
MCINTOSH RUN-ST MARY'S	STMA	1902003724	CALLAWAY	0050	0012	23.82	1239	5
MCINTOSH RUN-ST MARY'S	STMA	1903073076	LEONARDTOWN	0041	0317	23.73	1994	5
MCINTOSH RUN-ST MARY'S	STMA	1903000494	LEONARDTOWN	0041	0044	23.39	1982	5
MCINTOSH RUN-ST MARY'S	STMA	1903028062	HOLLYWOOD	0025	0169	21.95	2026	5
MCINTOSH RUN-ST MARY'S	STMA	1908069301	CALIFORNIA	0042	0180	20.6	1562	5
MCINTOSH RUN-ST MARY'S	STMA	1906028896	MECHANICSVILLE	0019	0007	252.88	1449	4
MCINTOSH RUN-ST MARY'S	STMA	1903017427	LEONARDTOWN	0033	0022	200	2573	4
MCINTOSH RUN-ST MARY'S	STMA	1903026108	LEONARDTOWN	0025	0010	173.31	1326	4
MCINTOSH RUN-ST MARY'S	STMA	1903010244	CLEMENTS	0031	0062	163.69	2018	4
MCINTOSH RUN-ST MARY'S	STMA	1906029817	MECHANICSVILLE	0014	0083	127.8	1453	4
MCINTOSH RUN-ST MARY'S	STMA	1903017419	LEONARDTOWN	0033	0026	122	1302	4
MCINTOSH RUN-ST MARY'S	STMA	1906045944	MECHANICSVILLE	0014	0243	120.67	2055	4
MCINTOSH RUN-ST MARY'S	STMA	1906028578	MECHANICSVILLE	0019	0250	117.64	1448	4
MCINTOSH RUN-ST MARY'S	STMA	1903026086	LEONARDTOWN	0032	0001	116.77	2024	4
MCINTOSH RUN-ST MARY'S	STMA	1906000053	HOLLYWOOD	0034	0308	113.99	1996	4
MCINTOSH RUN-ST MARY'S	STMA	1903006913	LEONARDTOWN	0032	0053	111	2016	4
MCINTOSH RUN-ST MARY'S	STMA	1902016389	GREAT MILLS	0050	0341	110.08	1248	4
MCINTOSH RUN-ST MARY'S	STMA	1902040220	CALLAWAY	0057	0023	106.91	1260	4
MCINTOSH RUN-ST MARY'S	STMA	1903043940	HOLLYWOOD	0033	0265	106.76	1350	4
MCINTOSH RUN-ST MARY'S	STMA	1903007243	LEONARDTOWN	0031	0002	102.96	2017	4
MCINTOSH RUN-ST MARY'S	STMA	1903027023	LEONARDTOWN	0032	0353	101.11	1329	4
MCINTOSH RUN-ST MARY'S	STMA	1906048188	MECHANICSVILLE	0025	0069	100	1502	4
MCINTOSH RUN-ST MARY'S	STMA	1903010899	LEONARDTOWN	0032	0052	98	2020	4
MCINTOSH RUN-ST MARY'S	STMA	1903055663	LEONARDTOWN	0041	0304	96.02	1354	4
MCINTOSH RUN-ST MARY'S	STMA	1903074587	LEONARDTOWN	0033	0148	95	2031	4
MCINTOSH RUN-ST MARY'S	STMA	1903022250	HOLLYWOOD	0033	0024	87.57	1990	4
MCINTOSH RUN-ST MARY'S	STMA	1903016838	LEONARDTOWN	0033	0099	87.25	1295	4
MCINTOSH RUN-ST MARY'S	STMA	1906008275	HOLLYWOOD	0027	0435	86.77	1417	4
MCINTOSH RUN-ST MARY'S	STMA	1903073955	MECHANICSVILLE	0025	0249	80.04	1363	4

MCINTOSH RUN-ST MARY'S	STMA	1906003265	HOLLYWOOD	0027	0467	78.52	1409	4
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UNIT	COUNTY	ACCT ID	CITY	MAP	PARCEL	SDAT ACRES	MAP NUMBER	TIER
MCINTOSH RUN-ST MARY'S	STMA	1906026745	HOLLYWOOD	0026	0316	77	1443	4
MCINTOSH RUN-ST MARY'S	STMA	1906060005	MECHANICSVILLE	0019	0434	76.12	1526	4
MCINTOSH RUN-ST MARY'S	STMA	1908045755	HOLLYWOOD	0034	0482	75.551	2010	4
MCINTOSH RUN-ST MARY'S	STMA	1906001920	MECHANICSVILLE	0019	0008	74	1406	4
MCINTOSH RUN-ST MARY'S	STMA	1906035043	HOLLYWOOD	0027	0775	74	1477	4
MCINTOSH RUN-ST MARY'S	STMA	1903019268	HOLLYWOOD	0033	0090	73.77	1306	4
MCINTOSH RUN-ST MARY'S	STMA	1906041310	MECHANICSVILLE	0019	0354	73.46	1489	4
MCINTOSH RUN-ST MARY'S	STMA	1903060942	LEONARDTOWN	0025	0310	73.18	1358	4
MCINTOSH RUN-ST MARY'S	STMA	1903011577	HOLLYWOOD	0026	0035	70.64	1283	4
MCINTOSH RUN-ST MARY'S	STMA	1906033113	MECHANICSVILLE	0015	0041	68.29	1471	4
MCINTOSH RUN-ST MARY'S	STMA	1906008992	MECHANICSVILLE	0015	0038	66.6	1418	4
MCINTOSH RUN-ST MARY'S	STMA	1903087573	LEONARDTOWN	0032	0414	65.9	1367	4
MCINTOSH RUN-ST MARY'S	STMA	1903021882	HOLLYWOOD	0033	0217	63.29	1307	4
MCINTOSH RUN-ST MARY'S	STMA	1906041493	MECHANICSVILLE	0020	0169	61.86	1490	4
MCINTOSH RUN-ST MARY'S	STMA	1906032567	HOLLYWOOD	0020	0113	61.65	1467	4
MCINTOSH RUN-ST MARY'S	STMA	1906050654	MECHANICSVILLE	0019	0406	61.55	1505	4
MCINTOSH RUN-ST MARY'S	STMA	1903026140	LEONARDTOWN	0025	0013	61	1327	4
MCINTOSH RUN-ST MARY'S	STMA	1906015425	MECHANICSVILLE	0025	0001	61	1428	4
MCINTOSH RUN-ST MARY'S	STMA	1906064876	HOLLYWOOD	0020	0065	60	1531	4
MCINTOSH RUN-ST MARY'S	STMA	1906019617	HOLLYWOOD	0027	0198	58.64	1999	4
MCINTOSH RUN-ST MARY'S	STMA	1906000169	HOLLYWOOD	0034	0309	57.29	1402	4
MCINTOSH RUN-ST MARY'S	STMA	1906048161	MECHANICSVILLE	0019	0150	55.8	1501	4
MCINTOSH RUN-ST MARY'S	STMA	1906031765	MECHANICSVILLE	0015	0012	55.62	1461	4
MCINTOSH RUN-ST MARY'S	STMA	1906010695	MECHANICSVILLE	0014	0304	54	2050	4
MCINTOSH RUN-ST MARY'S	STMA	1903011747	LEONARDTOWN	0040	0097	53.2	1284	4
MCINTOSH RUN-ST MARY'S	STMA	1906063659	HOLLYWOOD	0027	0932	51.84	1528	4
MCINTOSH RUN-ST MARY'S	STMA	1903088731	LEONARDTOWN	0041	0297	48.49	1368	4
MCINTOSH RUN-ST MARY'S	STMA	1903069737	HOLLYWOOD	0033	0299	47.68	1361	4
MCINTOSH RUN-ST MARY'S	STMA	1906033695	MECHANICSVILLE	0019	0046	47.63	1474	4
MCINTOSH RUN-ST MARY'S	STMA	1906071759	HOLLYWOOD	0026	0121	46.04	1547	4
MCINTOSH RUN-ST MARY'S	STMA	1906177956	HOLLYWOOD	0026	0010	45.05	1549	4
MCINTOSH RUN-ST MARY'S	STMA	1906056296	HOLLYWOOD	0026	0417	43.73	1508	4
MCINTOSH RUN-ST MARY'S	STMA	1903087352	LEONARDTOWN	0032	0202	43.36	2032	4
MCINTOSH RUN-ST MARY'S	STMA	1903034739	LEONARDTOWN	0032	0655	42.31	2029	4
MCINTOSH RUN-ST MARY'S	STMA	1903017052	LEONARDTOWN	0032	0174	42.01	1298	4
MCINTOSH RUN-ST MARY'S	STMA	1906041302	MECHANICSVILLE	0019	0340	41.45	1488	4
MCINTOSH RUN-ST MARY'S	STMA	1906015158	MECHANICSVILLE	0015	0064	40.7	1427	4
MCINTOSH RUN-ST MARY'S	STMA	1906018742	HOLLYWOOD	0026	0182	39.15	2065	4
MCINTOSH RUN-ST MARY'S	STMA	1903036014	LEONARDTOWN	0041	0001	39	1343	4
MCINTOSH RUN-ST MARY'S	STMA	1902015269	CALLAWAY	0057	0018	38.76	1245	4
MCINTOSH RUN-ST MARY'S	STMA	1906057209	HOLLYWOOD	0020	0403	38.71	1515	4
MCINTOSH RUN-ST MARY'S	STMA	1903037932	HOLLYWOOD	0033	0246	38.54	1346	4
MCINTOSH RUN-ST MARY'S	STMA	1903072541	HOLLYWOOD	0033	0301	37.21	1362	4
MCINTOSH RUN-ST MARY'S	STMA	1906071317	HOLLYWOOD	0020	0057	37.18	1543	4
MCINTOSH RUN-ST MARY'S	STMA	1906179973	HOLLYWOOD	0026	0121	36.85	1552	4
MCINTOSH RUN-ST MARY'S	STMA	1903042693	LEONARDTOWN	0032	0310	36.84	1349	4
MCINTOSH RUN-ST MARY'S	STMA	1906032141	MECHANICSVILLE	0020	0017	36.8	1463	4
MCINTOSH RUN-ST MARY'S	STMA	1906180605	HOLLYWOOD	0027	0883	36.653	1554	4
MCINTOSH RUN-ST MARY'S	STMA	1906062849	HOLLYWOOD	0026	0417	36.06	1527	4
MCINTOSH RUN-ST MARY'S	STMA	1903034747	LEONARDTOWN	0032	0095	35.73	1340	4
MCINTOSH RUN-ST MARY'S	STMA	1906177681	HOLLYWOOD	0027	0467	35.73	1548	4
MCINTOSH RUN-ST MARY'S	STMA	1903023133	LEONARDTOWN	0032	0061	35.65	1313	4
MCINTOSH RUN-ST MARY'S	STMA	1903021890	HOLLYWOOD	0026	0036	35	1308	4
MCINTOSH RUN-ST MARY'S	STMA	1903069710	HOLLYWOOD	0033	0299	33.11	1360	4
MCINTOSH RUN-ST MARY'S	STMA	1902037750	CALLAWAY	0050	0360	33	1259	4
MCINTOSH RUN-ST MARY'S	STMA	1906019412	HOLLYWOOD	0026	0171	32.68	1432	4

MCINTOSH RUN-ST MARY'S	STMA	1906003079	HOLLYWOOD	0020	0234	32.49	1408	4
MCINTOSH RUN-ST MARY'S	STMA	1906026869	HOLLYWOOD	0026	0318	31.01	1445	4
MCINTOSH RUN-ST MARY'S	STMA	1906050611	MECHANICSVILLE	0014	0084	30.6	2060	4

UNIT	COUNTY	ACCT ID	CITY	MAP	PARCEL	SDAT ACRES	MAP NUMBER	TIER
MCINTOSH RUN-ST MARY'S	STMA	1903013626	LEONARDTOWN	0032	0192	29.89	1290	4
MCINTOSH RUN-ST MARY'S	STMA	1906028926	MECHANICSVILLE	0025	0111	29.86	1450	4
MCINTOSH RUN-ST MARY'S	STMA	1908006687	CALIFORNIA	0042	0032	29.83	1558	4
MCINTOSH RUN-ST MARY'S	STMA	1906022324	HOLLYWOOD	0020	0033	29.469	1438	4
MCINTOSH RUN-ST MARY'S	STMA	1906046843	MECHANICSVILLE	0014	0270	29.32	1499	4
MCINTOSH RUN-ST MARY'S	STMA	1906050603	MECHANICSVILLE	0014	0084	29.32	2059	4
MCINTOSH RUN-ST MARY'S	STMA	1906065597	HOLLYWOOD	0026	0471	29.14	1534	4
MCINTOSH RUN-ST MARY'S	STMA	1903075281	HOLLYWOOD	0033	0303	28.54	1364	4
MCINTOSH RUN-ST MARY'S	STMA	1906030408	HOLLYWOOD	0026	0476	28.46	1455	4
MCINTOSH RUN-ST MARY'S	STMA	1906007600	HOLLYWOOD	0025	0079	27.7	1413	4
MCINTOSH RUN-ST MARY'S	STMA	1906028934	MECHANICSVILLE	0025	0017	27.47	1451	4
MCINTOSH RUN-ST MARY'S	STMA	1906007775	MECHANICSVILLE	0014	0022	27.4	1416	4
MCINTOSH RUN-ST MARY'S	STMA	1906056318	HOLLYWOOD	0026	0417	26.45	2066	4
MCINTOSH RUN-ST MARY'S	STMA	1906056601	MECHANICSVILLE	0015	0415	25.8	1513	4
MCINTOSH RUN-ST MARY'S	STMA	1906056571	MECHANICSVILLE	0015	0415	25.41	1511	4
MCINTOSH RUN-ST MARY'S	STMA	1903077128	LEONARDTOWN	0031	0316	25.32	1365	4
MCINTOSH RUN-ST MARY'S	STMA	1906006744	HOLLYWOOD	0027	0295	25	1411	4
MCINTOSH RUN-ST MARY'S	STMA	1906014291	HOLLYWOOD	0020	0034	25	1424	4
MCINTOSH RUN-ST MARY'S	STMA	1906071686	HOLLYWOOD	0020	0034	25	1544	4
MCINTOSH RUN-ST MARY'S	STMA	1906071694	HOLLYWOOD	0020	0034	25	1545	4
MCINTOSH RUN-ST MARY'S	STMA	1903032612	LEONARDTOWN	0032	0084	24.56	2027	4
MCINTOSH RUN-ST MARY'S	STMA	1906023797	HOLLYWOOD	0020	0016	24.2	1439	4
MCINTOSH RUN-ST MARY'S	STMA	1906017908	HOLLYWOOD	0020	0294	24	1431	4
MCINTOSH RUN-ST MARY'S	STMA	1906042252	HOLLYWOOD	0025	0182	23.75	1492	4
MCINTOSH RUN-ST MARY'S	STMA	1903058867	LEONARDTOWN	0025	0270	23.47	1357	4
MCINTOSH RUN-ST MARY'S	STMA	1906050581	MECHANICSVILLE	0014	0084	23.37	1504	4
MCINTOSH RUN-ST MARY'S	STMA	1903009521	HOLLYWOOD	0033	0093	23	1279	4
MCINTOSH RUN-ST MARY'S	STMA	1908117861	CALIFORNIA	0042	0030	22.73	1563	4
MCINTOSH RUN-ST MARY'S	STMA	1903015785	LEONARDTOWN	0041	0029	22.13	1292	4
MCINTOSH RUN-ST MARY'S	STMA	1906032540	HOLLYWOOD	0020	0118	22	1466	4
MCINTOSH RUN-ST MARY'S	STMA	1906066399	HOLLYWOOD	0020	0433	21.78	1536	4
MCINTOSH RUN-ST MARY'S	STMA	1906057489	HOLLYWOOD	0027	0904	21.67	1516	4
MCINTOSH RUN-ST MARY'S	STMA	1902027879	LEONARDTOWN	0050	0313	21.41	1255	4
MCINTOSH RUN-ST MARY'S	STMA	1903023362	CALIFORNIA	0041	0222	20.92	1314	4
MCINTOSH RUN-ST MARY'S	STMA	1906020593	HOLLYWOOD	0020	0432	20.76	1434	4
MCINTOSH RUN-ST MARY'S	STMA	1902015234	CALLAWAY	0050	0155	20.75	1244	4
MCINTOSH RUN-ST MARY'S	STMA	1906180916	HOLLYWOOD	0026	0121	20.69	1556	4
MCINTOSH RUN-ST MARY'S	STMA	1906065236	MECHANICSVILLE	0019	0046	20.17	1533	4
MCINTOSH RUN-ST MARY'S	STMA	1903035530	LEONARDTOWN	0032	0106	20	1341	4
MCINTOSH RUN-ST MARY'S	STMA	1903035549	HOLLYWOOD	0032	0106	20	1342	4
MCINTOSH RUN-ST MARY'S	STMA	1903026175	LEONARDTOWN	0024	0063	147.71	2025	3
MCINTOSH RUN-ST MARY'S	STMA	1903026655	LEONARDTOWN	0031	0015	147.27	1328	3
MCINTOSH RUN-ST MARY'S	STMA	1905004705	MECHANICSVILLE	0009	0045	136	1374	3
MCINTOSH RUN-ST MARY'S	STMA	1905008549	MECHANICSVILLE	0010	0007	100	2036	3
MCINTOSH RUN-ST MARY'S	STMA	1903016862	LEONARDTOWN	0033	0205	97.99	2022	3
MCINTOSH RUN-ST MARY'S	STMA	1906017541	MECHANICSVILLE	0015	0008	97.53	1429	3
MCINTOSH RUN-ST MARY'S	STMA	1902016397	GREAT MILLS	0050	0303	96.11	1249	3
MCINTOSH RUN-ST MARY'S	STMA	1902025841	GREAT MILLS	0058	0246	95.87	1254	3
MCINTOSH RUN-ST MARY'S	STMA	1903029182	LEONARDTOWN	0025	0022	95	1331	3
MCINTOSH RUN-ST MARY'S	STMA	1903025314	LEONARDTOWN	0025	0050	90.26	1323	3
MCINTOSH RUN-ST MARY'S	STMA	1906035981	MECHANICSVILLE	0019	0306	86.79	1483	3
MCINTOSH RUN-ST MARY'S	STMA	1903032566	LEONARDTOWN	0025	0115	82.14	1335	3
MCINTOSH RUN-ST MARY'S	STMA	1906057608	MECHANICSVILLE	0020	0001	82.05	1517	3
MCINTOSH RUN-ST MARY'S	STMA	1906031242	MECHANICSVILLE	0014	0001	78.8	2052	3

MCINTOSH RUN-ST MARY'S	STMA	1902000687	GREAT MILLS	0058	0079	78.7	1237	3
MCINTOSH RUN-ST MARY'S	STMA	1905009553	MECHANICSVILLE	0009	0057	77.94	2037	3
MCINTOSH RUN-ST MARY'S	STMA	1905062101	MECHANICSVILLE	0009	0372	76.62	2048	3
MCINTOSH RUN-ST MARY'S	STMA	1903010589	LOVEVILLE	0025	0042	74.8	1282	3
MCINTOSH RUN-ST MARY'S	STMA	1902042495	GREAT MILLS	0050	0199	74.316	1261	3

UNIT	COUNTY	ACCT ID	CITY	MAP	PARCEL	SDAT ACRES	MAP NUMBER	TIER
MCINTOSH RUN-ST MARY'S	STMA	1903004791	MECHANICSVILLE	0025	0105	73.78	1272	3
MCINTOSH RUN-ST MARY'S	STMA	1903001563	LEONARDTOWN	0031	0005	65.46	1266	3
MCINTOSH RUN-ST MARY'S	STMA	1903032876	MECHANICSVILLE	0025	0094	65.1	1336	3
MCINTOSH RUN-ST MARY'S	STMA	1903016498	LEONARDTOWN	0032	0202	64.13	2021	3
MCINTOSH RUN-ST MARY'S	STMA	1906034489	HOLLYWOOD	0027	0356	60.37	1475	3
MCINTOSH RUN-ST MARY'S	STMA	1903003728	LEONARDTOWN	0032	0184	58.81	2015	3
MCINTOSH RUN-ST MARY'S	STMA	1903022587	LEONARDTOWN	0032	0070	57.34	1311	3
MCINTOSH RUN-ST MARY'S	STMA	1905016649	MECHANICSVILLE	0010	0047	57.2	2042	3
MCINTOSH RUN-ST MARY'S	STMA	1906058205	HOLLYWOOD	0021	0159	55	2001	3
MCINTOSH RUN-ST MARY'S	STMA	1902003716	CALLAWAY	0050	0011	54.32	1238	3
MCINTOSH RUN-ST MARY'S	STMA	1906034519	HOLLYWOOD	0020	0015	54.17	1476	3
MCINTOSH RUN-ST MARY'S	STMA	1906058760	MECHANICSVILLE	0019	0082	50	1523	3
MCINTOSH RUN-ST MARY'S	STMA	1903022153	LEONARDTOWN	0019	0143	49.225	2062	3
MCINTOSH RUN-ST MARY'S	STMA	1903006530	LEONARDTOWN	0025	0049	48.94	1274	3
MCINTOSH RUN-ST MARY'S	STMA	1902036096	VALLEY LEE	0057	0378	48	1258	3
MCINTOSH RUN-ST MARY'S	STMA	1903024237	LEONARDTOWN	0025	0006	47.93	1316	3
MCINTOSH RUN-ST MARY'S	STMA	1903024245	LEONARDTOWN	0025	0058	46.53	1317	3
MCINTOSH RUN-ST MARY'S	STMA	1906009115	MECHANICSVILLE	0015	0029	45.9	1420	3
MCINTOSH RUN-ST MARY'S	STMA	1903017001	LEONARDTOWN	0032	0197	45.37	1297	3
MCINTOSH RUN-ST MARY'S	STMA	1902033178	GREAT MILLS	0058	0374	45	1257	3
MCINTOSH RUN-ST MARY'S	STMA	1903179113	LEONARDTOWN	0025	0095	44.43	1369	3
MCINTOSH RUN-ST MARY'S	STMA	1905009510	MECHANICSVILLE	0009	0135	42.46	1377	3
MCINTOSH RUN-ST MARY'S	STMA	1906067506	MECHANICSVILLE	0019	0307	42.38	1541	3
MCINTOSH RUN-ST MARY'S	STMA	1906030807	HOLLYWOOD	0027	0186	41.79	1460	3
MCINTOSH RUN-ST MARY'S	STMA	1903032884	LEONARDTOWN	0025	0095	41.52	1337	3
MCINTOSH RUN-ST MARY'S	STMA	1903036790	LEONARDTOWN	0025	0228	40.81	1344	3
MCINTOSH RUN-ST MARY'S	STMA	1906035337	HOLLYWOOD	0026	0119	40.47	1478	3
MCINTOSH RUN-ST MARY'S	STMA	1903016684	LEONARDTOWN	0033	0068	36.39	1293	3
MCINTOSH RUN-ST MARY'S	STMA	1903022641	LOVEVILLE	0025	0039	36	1312	3
MCINTOSH RUN-ST MARY'S	STMA	1903058093	LEONARDTOWN	0025	0157	35.87	1356	3
MCINTOSH RUN-ST MARY'S	STMA	1905039533	MECHANICSVILLE	0009	0207	35.66	1388	3
MCINTOSH RUN-ST MARY'S	STMA	1906058337	MECHANICSVILLE	0020	0001	35.6	1522	3
MCINTOSH RUN-ST MARY'S	STMA	1903084671	LEONARDTOWN	0024	0014	34.96	2575	3
MCINTOSH RUN-ST MARY'S	STMA	1906007643	MECHANICSVILLE	0019	0224	34.5	1415	3
MCINTOSH RUN-ST MARY'S	STMA	1902016745	CALLAWAY	0057	0024	34.44	1250	3
MCINTOSH RUN-ST MARY'S	STMA	1903013308	LEONARDTOWN	0019	0014	34.38	1288	3
MCINTOSH RUN-ST MARY'S	STMA	1903025845	LEONARDTOWN	0049	0012	34.11	1325	3
MCINTOSH RUN-ST MARY'S	STMA	1906032702	MECHANICSVILLE	0019	0214	33.66	1468	3
MCINTOSH RUN-ST MARY'S	STMA	1906066836	HOLLYWOOD	0027	0168	33.47	1539	3
MCINTOSH RUN-ST MARY'S	STMA	1906065007	MECHANICSVILLE	0019	0150	32.73	1532	3
MCINTOSH RUN-ST MARY'S	STMA	1906007635	MECHANICSVILLE	0019	0233	32.5	1414	3
MCINTOSH RUN-ST MARY'S	STMA	1903010600	LEONARDTOWN	0024	0062	32.08	2019	3
MCINTOSH RUN-ST MARY'S	STMA	1906000339	HOLLYWOOD	0027	0196	31.71	1403	3
MCINTOSH RUN-ST MARY'S	STMA	1906004458	MECHANICSVILLE	0014	0069	31.09	2049	3
MCINTOSH RUN-ST MARY'S	STMA	1906004857	MECHANICSVILLE	0019	0175	31.03	2064	3
MCINTOSH RUN-ST MARY'S	STMA	1903046931	LOVEVILLE	0025	0260	30.29	1351	3
MCINTOSH RUN-ST MARY'S	STMA	1903013146	HOLLYWOOD	0033	0152	30.26	1287	3
MCINTOSH RUN-ST MARY'S	STMA	1906046746	MECHANICSVILLE	0014	0260	29.87	1496	3
MCINTOSH RUN-ST MARY'S	STMA	1906033105	MECHANICSVILLE	0020	0437	29.2	1470	3
MCINTOSH RUN-ST MARY'S	STMA	1903034720	LEONARDTOWN	0025	0201	29.18	1339	3
MCINTOSH RUN-ST MARY'S	STMA	1903046915	LOVEVILLE	0025	0260	28.79	2030	3
MCINTOSH RUN-ST MARY'S	STMA	1906066267	MECHANICSVILLE	0019	0174	28.2	1535	3

MCINTOSH RUN-ST MARY'S	STMA	1903028887	LEONARDTOWN	0019	0142	28	2063	3
MCINTOSH RUN-ST MARY'S	STMA	1906030726	MECHANICSVILLE	0019	0307	27.61	1458	3
MCINTOSH RUN-ST MARY'S	STMA	1906025749	MECHANICSVILLE	0014	0021	27.25	1441	3
MCINTOSH RUN-ST MARY'S	STMA	1906066844	HOLLYWOOD	0027	0168	27.03	1540	3
MCINTOSH RUN-ST MARY'S	STMA	1906058574	HOLLYWOOD	0027	0915	26.61	2003	3
MCINTOSH RUN-ST MARY'S	STMA	1906037224	HOLLYWOOD	0026	0146	26.43	1485	3
MCINTOSH RUN-ST MARY'S	STMA	1903039633	LEONARDTOWN	0031	0080	26.01	1347	3

UNIT	COUNTY	ACCT ID	CITY	MAP	PARCEL	SDAT ACRES	MAP NUMBER	TIER
MCINTOSH RUN-ST MARY'S	STMA	1906045588	MECHANICSVILLE	0014	0241	25.78	2054	3
MCINTOSH RUN-ST MARY'S	STMA	1906030688	MECHANICSVILLE	0019	0042	25.47	1457	3
MCINTOSH RUN-ST MARY'S	STMA	1903000508	HOLLYWOOD	0026	0194	25.2	1983	3
MCINTOSH RUN-ST MARY'S	STMA	1906039219	MECHANICSVILLE	0019	0151	25.19	1486	3
MCINTOSH RUN-ST MARY'S	STMA	1906001696	MECHANICSVILLE	0019	0011	25.01	1405	3
MCINTOSH RUN-ST MARY'S	STMA	1906180691	MECHANICSVILLE	0019	0470	25	1555	3
MCINTOSH RUN-ST MARY'S	STMA	1902006065	CALLAWAY	0050	0085	24.84	1240	3
MCINTOSH RUN-ST MARY'S	STMA	1906179511	HOLLYWOOD	0020	0441	24.78	1551	3
MCINTOSH RUN-ST MARY'S	STMA	1906053335	HOLLYWOOD	0027	0889	24.48	1507	3
MCINTOSH RUN-ST MARY'S	STMA	1902012103	CALLAWAY	0057	0023	24.13	1243	3
MCINTOSH RUN-ST MARY'S	STMA	1906068383	MECHANICSVILLE	0014	0233	24.02	2061	3
MCINTOSH RUN-ST MARY'S	STMA	1906039235	MECHANICSVILLE	0019	0175	24.01	1487	3
MCINTOSH RUN-ST MARY'S	STMA	1906033075	HOLLYWOOD	0027	0634	23.98	1469	3
MCINTOSH RUN-ST MARY'S	STMA	1906064086	MECHANICSVILLE	0014	0348	23.87	1530	3
MCINTOSH RUN-ST MARY'S	STMA	1906059066	HOLLYWOOD	0026	0451	23.76	1524	3
MCINTOSH RUN-ST MARY'S	STMA	1906035957	MECHANICSVILLE	0019	0236	23.7	1481	3
MCINTOSH RUN-ST MARY'S	STMA	1906056598	MECHANICSVILLE	0015	0415	23.66	1512	3
MCINTOSH RUN-ST MARY'S	STMA	1903017443	LEONARDTOWN	0049	0050	23.44	1303	3
MCINTOSH RUN-ST MARY'S	STMA	1902015315	LEONARDTOWN	0050	0088	22.93	1246	3
MCINTOSH RUN-ST MARY'S	STMA	1906056563	MECHANICSVILLE	0015	0415	22.81	1510	3
MCINTOSH RUN-ST MARY'S	STMA	1906063675	MECHANICSVILLE	0019	0348	22.6	1529	3
MCINTOSH RUN-ST MARY'S	STMA	1906071708	HOLLYWOOD	0020	0034	22.47	1546	3
MCINTOSH RUN-ST MARY'S	STMA	1906042163	MECHANICSVILLE	0019	0348	22.13	1491	3
MCINTOSH RUN-ST MARY'S	STMA	1906002870	MECHANICSVILLE	0019	0122	22.02	1407	3
MCINTOSH RUN-ST MARY'S	STMA	1906035647	MECHANICSVILLE	0019	0348	21.99	1480	3
MCINTOSH RUN-ST MARY'S	STMA	1903042049	MECHANICSVILLE	0019	0228	21.9	1348	3
MCINTOSH RUN-ST MARY'S	STMA	1905041872	MECHANICSVILLE	0005	0082	21.67	2068	3
MCINTOSH RUN-ST MARY'S	STMA	1906020658	MECHANICSVILLE	0019	0082	21.51	1435	3
MCINTOSH RUN-ST MARY'S	STMA	1906035973	MECHANICSVILLE	0019	0047	21.5	1482	3
MCINTOSH RUN-ST MARY'S	STMA	1902030268	CALLAWAY	0057	0023	21.18	1256	3
MCINTOSH RUN-ST MARY'S	STMA	1903066215	LOVEVILLE	0024	0214	21.08	1359	3
MCINTOSH RUN-ST MARY'S	STMA	1906056768	MECHANICSVILLE	0019	0205	20.79	1514	3
MCINTOSH RUN-ST MARY'S	STMA	1906056539	MECHANICSVILLE	0015	0415	20.62	1509	3
MCINTOSH RUN-ST MARY'S	STMA	1905063043	MECHANICSVILLE	0009	0375	20.6	1399	3
MCINTOSH RUN-ST MARY'S	STMA	1906009093	MECHANICSVILLE	0020	0001	20.35	1419	3
MCINTOSH RUN-ST MARY'S	STMA	1906026931	MECHANICSVILLE	0019	0348	20.26	1446	3
MCINTOSH RUN-ST MARY'S	STMA	1906029841	MECHANICSVILLE	0019	0018	20.02	1454	3
MCINTOSH RUN-ST MARY'S	STMA	1906058523	HOLLYWOOD	0027	0915	20.02	2002	3
MCINTOSH RUN-ST MARY'S	STMA	1902015846	CALLAWAY	0050	0254	20	1247	3
MCINTOSH RUN-ST MARY'S	STMA	1903030695	HOLLYWOOD	0025	0192	20	1334	3
MCINTOSH RUN-ST MARY'S	STMA	1905043468	MECHANICSVILLE	0014	0042	180.82	2046	2
MCINTOSH RUN-ST MARY'S	STMA	1906028462	HOLLYWOOD	0021	0020	100.94	2000	2
MCINTOSH RUN-ST MARY'S	STMA	1906046223	MECHANICSVILLE	0014	0245	100	2056	2
MCINTOSH RUN-ST MARY'S	STMA	1905026911	MECHANICSVILLE	0013	0065	98.48	1382	2
MCINTOSH RUN-ST MARY'S	STMA	1905000289	MECHANICSVILLE	0009	0169	89.14	2034	2
MCINTOSH RUN-ST MARY'S	STMA	1903017397	LEONARDTOWN	0033	0177	83.21	1301	2
MCINTOSH RUN-ST MARY'S	STMA	1906031722	MECHANICSVILLE	0014	0080	81.73	2053	2
MCINTOSH RUN-ST MARY'S	STMA	1903024253	LEONARDTOWN	0025	0054	77.32	1318	2
MCINTOSH RUN-ST MARY'S	STMA	1903003116	LEONARDTOWN	0019	0135	66.64	1269	2
MCINTOSH RUN-ST MARY'S	STMA	1903013138	LOVEVILLE	0025	0092	63.3	1286	2

MCINTOSH RUN-ST MARY'S	STMA	1906020305	MECHANICSVILLE	0014	0052	58.58	2051	2
MCINTOSH RUN-ST MARY'S	STMA	1903179855	LEONARDTOWN	0041	0235	52.18	1370	2
MCINTOSH RUN-ST MARY'S	STMA	1905035201	MECHANICSVILLE	0009	0152	50.854	1384	2
MCINTOSH RUN-ST MARY'S	STMA	1905018919	MECHANICSVILLE	0009	0348	50.72	1379	2
MCINTOSH RUN-ST MARY'S	STMA	1903084574	HOLLYWOOD	0033	0208	50	1366	2
MCINTOSH RUN-ST MARY'S	STMA	1906046819	MECHANICSVILLE	0014	0267	48.1	2090	2
MCINTOSH RUN-ST MARY'S	STMA	1906053041	HOLLYWOOD	0026	0427	46.153	1506	2
MCINTOSH RUN-ST MARY'S	STMA	1903025179	LEONARDTOWN	0024	0011	42.5	1322	2
MCINTOSH RUN-ST MARY'S	STMA	1906066577	HOLLYWOOD	0021	0080	42.39	1537	2

UNIT	COUNTY	ACCT ID	CITY	MAP	PARCEL	SDAT ACRES	MAP NUMBER	TIER
MCINTOSH RUN-ST MARY'S	STMA	1905016665	MECHANICSVILLE	0010	0066	41.33	2043	2
MCINTOSH RUN-ST MARY'S	STMA	1906026273	HOLLYWOOD	0027	0029	40.57	1442	2
MCINTOSH RUN-ST MARY'S	STMA	1906006752	MECHANICSVILLE	0015	0016	40.34	1412	2
MCINTOSH RUN-ST MARY'S	STMA	1905044413	MECHANICSVILLE	0006	0035	40.04	1390	2
MCINTOSH RUN-ST MARY'S	STMA	1905009693	MECHANICSVILLE	0014	0156	35.8	2038	2
MCINTOSH RUN-ST MARY'S	STMA	1905039177	MECHANICSVILLE	0009	0208	35.29	1387	2
MCINTOSH RUN-ST MARY'S	STMA	1902046032	CALLAWAY	0057	0071	34.94	1263	2
MCINTOSH RUN-ST MARY'S	STMA	1906046800	MECHANICSVILLE	0014	0266	34.7	2089	2
MCINTOSH RUN-ST MARY'S	STMA	1905044421	MECHANICSVILLE	0006	0035	34.57	1391	2
MCINTOSH RUN-ST MARY'S	STMA	1902019612	CALLAWAY	0057	0004	33.18	1252	2
MCINTOSH RUN-ST MARY'S	STMA	1906000118	HOLLYWOOD	0027	0433	32.93	1997	2
MCINTOSH RUN-ST MARY'S	STMA	1905020972	MECHANICSVILLE	0009	0223	31.35	1380	2
MCINTOSH RUN-ST MARY'S	STMA	1905060842	MECHANICSVILLE	0006	0060	31.16	2070	2
MCINTOSH RUN-ST MARY'S	STMA	1902007371	CALLAWAY	0057	0169	30.88	1241	2
MCINTOSH RUN-ST MARY'S	STMA	1903006565	HOLLYWOOD	0033	0208	30	1275	2
MCINTOSH RUN-ST MARY'S	STMA	1906011942	MECHANICSVILLE	0015	0031	29.98	1421	2
MCINTOSH RUN-ST MARY'S	STMA	1905040337	MECHANICSVILLE	0009	0274	29.34	2045	2
MCINTOSH RUN-ST MARY'S	STMA	1903000346	LEONARDTOWN	0040	0258	29.02	1264	2
MCINTOSH RUN-ST MARY'S	STMA	1905020212	MECHANICSVILLE	0006	0007	28.66	2067	2
MCINTOSH RUN-ST MARY'S	STMA	1905044669	MECHANICSVILLE	0009	0329	28.6	1394	2
MCINTOSH RUN-ST MARY'S	STMA	1906030734	MECHANICSVILLE	0019	0174	28.25	1459	2
MCINTOSH RUN-ST MARY'S	STMA	1906046789	MECHANICSVILLE	0014	0264	28.2	1498	2
MCINTOSH RUN-ST MARY'S	STMA	1906033385	HOLLYWOOD	0020	0238	28	1472	2
MCINTOSH RUN-ST MARY'S	STMA	1906032303	HOLLYWOOD	0026	0164	27.61	1464	2
MCINTOSH RUN-ST MARY'S	STMA	1906066585	HOLLYWOOD	0021	0080	27.49	1538	2
MCINTOSH RUN-ST MARY'S	STMA	1905027594	MECHANICSVILLE	0014	0215	26.24	2044	2
MCINTOSH RUN-ST MARY'S	STMA	1906049575	MECHANICSVILLE	0014	0284	26.02	1503	2
MCINTOSH RUN-ST MARY'S	STMA	1902044358	GREAT MILLS	0058	0275	25.3	1262	2
MCINTOSH RUN-ST MARY'S	STMA	1905060613	MECHANICSVILLE	0006	0055	25.25	2069	2
MCINTOSH RUN-ST MARY'S	STMA	1905006805	MECHANICSVILLE	0009	0165	25.12	1376	2
MCINTOSH RUN-ST MARY'S	STMA	1906032311	HOLLYWOOD	0026	0283	24.794	1465	2
MCINTOSH RUN-ST MARY'S	STMA	1906178129	HOLLYWOOD	0026	0164	24.44	1550	2
MCINTOSH RUN-ST MARY'S	STMA	1905040388	MECHANICSVILLE	0009	0278	24.3	1389	2
MCINTOSH RUN-ST MARY'S	STMA	1905044456	MECHANICSVILLE	0006	0035	24.06	1392	2
MCINTOSH RUN-ST MARY'S	STMA	1903030601	LEONARDTOWN	0025	0195	24	1333	2
MCINTOSH RUN-ST MARY'S	STMA	1906045731	MECHANICSVILLE	0019	0383	24	1494	2
MCINTOSH RUN-ST MARY'S	STMA	1906068235	MECHANICSVILLE	0014	0359	22.97	1542	2
MCINTOSH RUN-ST MARY'S	STMA	1905044650	MECHANICSVILLE	0009	0329	22.82	1393	2
MCINTOSH RUN-ST MARY'S	STMA	1906046754	MECHANICSVILLE	0014	0261	21.93	1497	2
MCINTOSH RUN-ST MARY'S	STMA	1906048471	MECHANICSVILLE	0014	0283	21.55	2057	2
MCINTOSH RUN-ST MARY'S	STMA	1903048985	LEONARDTOWN	0024	0173	21.1	1352	2
MCINTOSH RUN-ST MARY'S	STMA	1903016781	LEONARDTOWN	0041	0195	20.57	1294	2
MCINTOSH RUN-ST MARY'S	STMA	1906035434	MECHANICSVILLE	0019	0088	20.5	1479	2
MCINTOSH RUN-ST MARY'S	STMA	1903001342	HOLLYWOOD	0033	0018	20	1265	2
MCINTOSH RUN-ST MARY'S	STMA	1903025772	LEONARDTOWN	0033	0100	20	1324	2
MCINTOSH RUN-ST MARY'S	STMA	1906059600	MECHANICSVILLE	0019	0348	20	1525	2
MCINTOSH RUN-ST MARY'S	STMA	1905004004	MECHANICSVILLE	0009	0337	123.4	2035	1
MCINTOSH RUN-ST MARY'S	STMA	1902017466	LEONARDTOWN	0057	0146	90.31	1251	1

MCINTOSH RUN-ST MARY'S	STMA	1904052994	MECHANICSVILLE	0013	0415	52.72	1372	1
MCINTOSH RUN-ST MARY'S	STMA	1905016533	MECHANICSVILLE	0009	0042	46.4	2040	1
MCINTOSH RUN-ST MARY'S	STMA	1905026628	MECHANICSVILLE	0009	0133	43.56	1381	1
MCINTOSH RUN-ST MARY'S	STMA	1905015014	MECHANICSVILLE	0009	0034	39.2	2039	1
MCINTOSH RUN-ST MARY'S	STMA	1905016541	MECHANICSVILLE	0009	0041	36.43	2041	1
MCINTOSH RUN-ST MARY'S	STMA	1905053994	MECHANICSVILLE	0005	0317	31.34	1397	1
MCINTOSH RUN-ST MARY'S	STMA	1906057756	HOLLYWOOD	0021	0156	31.1	1519	1
MCINTOSH RUN-ST MARY'S	STMA	1903057968	LEONARDTOWN	0040	0094	30.06	1355	1
MCINTOSH RUN-ST MARY'S	STMA	1905054036	MECHANICSVILLE	0005	0317	30.04	1398	1
MCINTOSH RUN-ST MARY'S	STMA	1905181029	MECHANICSVILLE	0013	0162	29.7	1401	1
MCINTOSH RUN-ST MARY'S	STMA	1906020038	HOLLYWOOD	0027	0157	28.56	1433	1

UNIT	COUNTY	ACCT ID	CITY	MAP	PARCEL	SDAT ACRES	MAP NUMBER	TIER
MCINTOSH RUN-ST MARY'S	STMA	1906057799	HOLLYWOOD	0027	0911	25.6	1521	1
MCINTOSH RUN-ST MARY'S	STMA	1906046584	MECHANICSVILLE	0010	0099	25.56	1495	1
MCINTOSH RUN-ST MARY'S	STMA	1906057705	HOLLYWOOD	0021	0091	23.48	1518	1
MCINTOSH RUN-ST MARY'S	STMA	1905053234	MECHANICSVILLE	0006	0009	23.31	1396	1
MCINTOSH RUN-ST MARY'S	STMA	1906043615	MECHANICSVILLE	0014	0221	22.93	1493	1
MCINTOSH RUN-ST MARY'S	STMA	1905011019	MECHANICSVILLE	0009	0163	22.89	1378	1
MCINTOSH RUN-ST MARY'S	STMA	1905039169	MECHANICSVILLE	0013	0209	21.1	1386	1
MCINTOSH RUN-ST MARY'S	STMA	1905038308	MECHANICSVILLE	0009	0285	20.9	1385	1
MCINTOSH RUN-ST MARY'S	STMA	1906057780	HOLLYWOOD	0027	0912	20.9	1520	1
MCINTOSH RUN-ST MARY'S	STMA	1905005752	MECHANICSVILLE	0014	0192	20.1	1375	1
MCINTOSH RUN-ST MARY'S	STMA	1905028515	MECHANICSVILLE	0013	0266	20	1383	1
MCINTOSH RUN-ST MARY'S	STMA	1905004012	MECHANICSVILLE	0009	0052	31.99	1373	0
MCINTOSH RUN-ST MARY'S	STMA	1905177621	MECHANICSVILLE	0005	0337	31	1400	0
MCINTOSH RUN-ST MARY'S	STMA	1905059976	MECHANICSVILLE	0009	0335	27.63	2047	0
MCINTOSH RUN-ST MARY'S	STMA	1905044944	MECHANICSVILLE	0014	0311	23.45	1395	0

Appendix II – Conceptual Management Plan

Southern Maryland Woodlands National Wildlife Refuge

Anne Arundel, Calvert, Charles, Princes Georges and St. Mary's Counties,
Maryland

U.S. Department of the Interior
Fish and Wildlife Service
Region 5
300 Westgate Center Drive
Hadley, MA 01035

Conceptual Management Plan

July 2023

Table of Contents

- I. Introduction
- II. Goals of the National Wildlife Refuge System
- III. Refuge Administration
- IV. Habitat Management
- V. Population Monitoring
- VI. Educational and Recreational Opportunities
- VII. Facilities Management

I. Introduction

The U.S. Fish and Wildlife Service (USFWS, FWS, we) proposes to create an acquisition boundary for the Southern Maryland Woodlands National Wildlife Refuge (NWR, refuge), a new national wildlife refuge that encompasses currently unprotected, high priority fish and wildlife habitats across five Southern Maryland counties. This management plan for the proposed Southern Maryland Woodlands NWR presents a general outline on how the refuge would be operated and managed. As a conceptual plan, it does not provide extensive detail, pinpoint exactly where facilities might be located, or show where public use would be allowed. Those details will be included in formal refuge management planning with input from the public and in accordance with the National Environmental Policy Act (NEPA), as well as the compatibility requirements in the National Wildlife Refuge System Improvement Act of 1977. We developed this plan as part of our public engagement process to provide additional information to those who are interested in general intent of refuge management activities, especially future refuge neighbors. The management actions described in this plan apply only to properties acquired in fee, and not on conservation easement lands.

II. Goals of the National Wildlife Refuge System

- A.** Conserve a diversity of fish, wildlife, and plants and their habitats, including species that are endangered or threatened with becoming endangered.
- B.** Develop and maintain a network of habitats for migratory birds, anadromous and interjurisdictional fish, and marine mammal populations that is strategically distributed and carefully managed to meet important life history needs of these species across their ranges.
- C.** Conserve those ecosystems, plant communities, wetlands of national or international significance, and landscapes and seascapes that are unique, rare, declining, or underrepresented in existing protection efforts.
- D.** Provide and enhance opportunities to participate in compatible wildlife-dependent recreation (hunting, fishing, wildlife observation and photography, and environmental education and interpretation).
- E.** Foster understanding and instill appreciation of the diversity and interconnectedness of fish, wildlife, and plants and their habitats.

III. Refuge Administration

The proposed Southern Maryland Woodlands NWR would be part of the National Wildlife Refuge System (Refuge System). The Northeast Region of the USFWS, headquartered in Hadley, Massachusetts, would provide oversight of refuge administration and management. The Regional Office would also provide technical assistance on matters such as engineering, public use planning, and migratory bird management.

Typical positions on a national wildlife refuge may include Refuge Manager (Project Leader and Refuge Operation Specialists), Wildlife Biologist, Visitor Services Specialist, Administrative Assistant, Maintenance Worker/Equipment Operator, and Refuge Law Enforcement Officer. Refuge staffs are sometimes augmented by seasonal hires including student interns and other youth hiring programs like the Youth Conservation Corps.

It is important to note that there may be no staffed positions assigned to a new refuge until a sufficient land base is established that warrants on-site management. It is typical for a newly established refuge to be managed temporarily from the closest existing refuge, which in this case is Patuxent Research Refuge in Laurel, Maryland. Decisions on initial staffing will depend on availability of funding and future management needs.

As land acquisition and staffing increase, so would the need for an administrative headquarters, maintenance facilities, and visitor facilities. Repurposing of existing facilities acquired with land may occur if they are serviceable based on condition assessments, but those structures deemed as unsound or that are not needed by the refuge would likely be demolished.

IV. Partnerships

Building and maintaining partnerships is an essential component of refuge management. Establishing cooperative relationships with neighboring landowners, tribes, non-profit conservation organizations, and government representatives at local, state and federal levels results in better communication and better outcomes for wildlife and their habitats.

Refuge neighbors – Establishing good relations with neighboring landowners, and their lessees, is important to ensure mutual respect of property boundaries, provide a means to communicate about planned refuge management activities, and potentially coordinate on habitat improvements. Refuges want to be good neighbors and open communication is critical.

Tribes – Refuges have special responsibilities regarding coordination with federally recognized tribes. Director's Order 226 requires that when refuge lands adjoin lands owned by a federally recognized tribe, the FWS will engage in co-stewardship of the land. While these responsibilities do not apply to state-recognized tribes, the FWS would seek to engage in cooperative land management with adjoining landowners to further the protection of natural and cultural resources and to improve habitats.

Non-profit conservation partners – The Southern Maryland Conservation Alliance, of which the USFWS is a core member, “is a network of partners who work to conserve and restore Southern Maryland’s landscapes, waterways, and shorelines that are special to its people, fundamental to its economy, reflected in its culture, and vital for its native fish, wildlife, and plants on which we rely.” The refuge would play an important role in the overall work of this partnership.

Government representatives – The FWS seeks to work in partnership with state and federal agencies with whom we have overlapping responsibilities and opportunities. Having good communications with local government representatives helps resolve issues that are of concern to constituents and increases understanding of refuge management activities.

V. Habitat Management

Forests – One of the priority habitat types within the proposed acquisition boundary is unfragmented forest. If acquired, mature forests would generally not require intensive management except to control disease outbreaks and/or to reduce invasive species. Younger forests may be managed to encourage growth and

improve forest health. Mechanical thinning and prescribed fire are sometimes used in conjunction with forest management. Re-forestation may occur to connect forest stands to reduce fragmentation. Prior to major forest management occurring, the refuge would prepare a habitat management plan and seek public review and comment. Refuges often employ local contractors to assist with forest management especially during thinning operations.

Wetlands – Protection of existing, functioning wetlands will be a major emphasis if the boundary is approved. Wetlands function to protect water quality and quantity, absorb storm surges, sequester carbon and serve as vital habitat for innumerable species of fish, wildlife, and plants. If wetlands are functioning well, the best management practice is to buffer them from external threats like sedimentation, excess nutrient loading, and invasive species. If opportunities arise, refuges may restore or enhance impacted wetlands by filling drainage ditches, replacing culverts, installing water control structures, and controlling invasive species.

Grasslands/Shrublands – In southern Maryland, grasslands and shrublands are generally a temporary feature on the landscape as abandoned fields, cutover forests, and reclaimed mining sites begin to develop into eventual forest habitat. Some migratory birds are dependent on grassland and shrublands for nesting and foraging habitat. Birds that nest in grasslands generally require expansive areas and their productivity is typically not as successful in smaller grasslands. If the refuge were to acquire grassland or shrubland habitat, it will be a management decision as to whether the size, composition and other property features warrant management to keep the habitat in early stages of growth, or let it revert to forest. Reclaimed mining sites could potentially be managed as grasslands over a longer period due to past soil alterations that favor slower growth.

Fire management – We sometimes use prescribed fire as a management tool in grasslands and forests. Before fire may be used, a fire management plan must be prepared, including detailed prescriptions outlining the conditions under which fire may be employed and the safeguards that will be put in place. The FWS employs fire specialists, trained refuge staff, and trained partner staffs to ensure sufficient personnel are available during prescribed burns, and we share our staff and expertise with partners who are conducting fire management.

Croplands – Refuge System policy prohibits planting or maintaining non-native vegetation, including planted crops, unless doing so is necessary to meet refuge management objectives. The following language is from FWS Manual chapter 601 FW 3: “We do not allow refuge uses or management practices that result in the maintenance of non-native plant communities unless we determine there is no feasible alternative for accomplishing refuge purpose(s). For example, where we do not require farming to accomplish refuge purpose(s), we cease farming and strive to restore natural habitats. Where feasible and consistent with refuge purpose(s), we restore degraded or modified habitats in the pursuit of biological integrity, diversity, and environmental health. We use native seed sources in ecological restoration. We do not use genetically modified organisms in refuge management unless we determine their use is essential to accomplishing refuge purpose(s) and the Regional Chief, National Wildlife Refuge System, approves the use.”

If the refuge were to acquire agricultural lands in fee, they would likely be converted to native habitat by planting grass, trees or shrubs or allowed to naturally succeed to grass, shrubs and eventually forest.

VI. Population Monitoring

Wildlife population monitoring is an essential component of refuge management. Surveys are necessary both to establish baseline conditions about what species are using specific habitats and when they are present in those habitats, and to evaluate their response to active management. Surveys are conducted on habitat features and individual species using a wide variety of techniques which are continually being refined. Surveys that commonly occur on refuges include waterfowl counts, breeding bird surveys, anuran call counts, vernal pool surveys, and secretive marsh bird surveys.

VII. Educational and Recreational Opportunities

The 1997 Refuge System Improvement Act lists six wildlife-dependent activities that have been determined to be appropriate uses of the Refuge System. They are environmental education, fishing, hunting, nature interpretation, photography, and wildlife viewing. Before being permitted on refuge lands, any proposed use must first be determined in writing by the refuge manager to be compatible with the purposes of the refuge. If warranted, a step-down visitor services management plan would be developed once a sufficient land base has been acquired. Fishing and hunting programs on refuges require analysis under the NEPA, preparation of a management plan, coordination with the state, and other compliance documentation. We expect over time that the lands and waters of Southern Maryland managed by the Refuge System will provide additional opportunities for visitors to engage in outstanding wildlife related recreation.

Access – Newly acquired refuge lands are closed until officially opened after compatibility determinations and other required compliance has been completed. Once opened to visitation, refuges are typically open from sunrise to sunset with access controlled by signs and gates. Fees are sometimes charged but access is most often free. Fees may be charged for hunting, fishing or special use permits. As stated on the FWS’s website ([Accessibility | U.S. Fish & Wildlife Service \(fws.gov\)](#)), “Access to facilities, programs, and activities offered to the public is available to everyone, including people with physical and mental disabilities. This includes information and services that we offer online as well as access to our facilities and programs and activities at refuges and hatcheries. We are continuously working to eliminate barriers and increase access. If you are a person with a disability and need alternative formats or services, or have any questions concerning a reasonable accommodation, please contact the [Disability Program Manager](#) or access the Department of the Interior [Reasonable Accommodation Policy](#), PB 21-03.”

Non-priority uses – Before any use is permitted on a refuge, it must be determined to be both appropriate and compatible. The six priority uses of the Refuge System (environmental education, fishing, hunting, nature interpretation, photography, and wildlife viewing) have been determined by Congress to be appropriate uses. All other uses must first be determined as appropriate uses of the Refuge System, and if so, must then be determined to be compatible with refuge purposes and those of the Refuge System. A Special Use Permit is often required for non-priority uses.

Law enforcement – Enforcement of State and Federal laws on national wildlife refuges is important to safeguard resources and protect visitors. Refuge law enforcement officers are authorized to enforce the full suite of refuge regulations. Refuge officers will coordinate with state and local law enforcement.

VIII. Facilities Management

Existing buildings acquired incidentally during a land transaction are sometimes re-utilized for administration and management purposes. If the buildings are not suitable for refuge use, they are generally disposed of via transfer, sale, or demolition and removed from refuge lands. Following this process, former building sites are returned to natural conditions. The FWS conserves cultural and historic resources, including buildings, found on its lands and waters, as mandated by Congress under the NHPA. Decisions involving the construction of any new facilities would be deferred pending acquiring an adequate land base to manage and based on the needs identified for administration of those lands.

Boundaries of any lands acquired would be posted with national wildlife refuge signs at regular intervals to identify the property boundary and the type of interest acquired, fee or easement. Signs are also used to provide information, identify areas closed to all entry, to orient visitors and promote safe and enjoyable access for all.

Appendix III – Stakeholder and Public Consultation

45-Day Public Comment Period/Summary of Public Comments

In March 2024, the USFWS released for public review the draft LPP/EA for the proposed Southern Maryland Woodlands NWR. The draft LPP/EA outlined two alternatives for managing the refuge. Alternative B was identified as the “FWS-preferred alternative.”

Summary of Comments Received

After the comment period ended, we compiled all the comments we received, including all letters, e-mails, telephone calls, and comments submitted at information sessions. In total, we received 328 separate emailed written comments and 1 telephone call prior to and during the comment period and 6 comments in the days immediately following the comment period. Written comment letters were attached to 33 of the emails and 1 comment letter was mailed as a hard copy. Comment letters from the America the Beautiful for All Foundation, the Choose Clean Water Coalition, and the Chesapeake Conservation Partnership had multiple signatories from a total of 50 organizations.

We received a variety of emails, some including comments on letterhead, from local, State, and Federal Governmental agencies and non-governmental organizations, including the following:

Friends of Patuxent Research Refuge
Nanjemoy.net
Southern Maryland Audubon
Southern Maryland National Heritage Area
The Conservation Fund
American Chestnut Land Trust
Chesapeake Conservancy
Chesapeake Conservation Partnership*
Patuxent Tidewater Land Trust
Preservation Maryland
Maryland Native Plant Society
Cove Point National Heritage Trust
Nanjemoy Vision
Rappahannock Wildlife Refuge Friends
Friends of Hunting Creek
Charles County Government
City of Mount Rainier, Maryland
Chesapeake Legal Alliance
Audubon Mid-Atlantic
Coalition to Protect America’s National Parks
Chesapeake Bay Foundation
Choose Clean Water Coalition**
Friends of Jug Bay
Maryland Ornithological Society

Anne Arundel County
Chapman Forest Foundation
Mattawoman Watershed Society
America the Beautiful for All Coalition***
Piscataway Conoy Tribe
Office of Delegate Edith J. Patterson
The Bay Journal
Chesapeake Bay Magazine
Trail Riders for Today
Advocates for Herring Bay
Scenic Rivers Land Trust
St. Mary's Watershed Association
Southern Maryland Conservation Alliance
Black Swamp Creek Land Trust
Port Tobacco River Conservancy
U.S. Navy Patuxent Naval Air Station
National Parks Conservation Association, Mid-Atlantic

Pre-Public Comment Period

Maryland National Capitol Parks and Planning
Patuxent Bird Club
Calvert County Department of Planning and Zoning

Post-Public Comment Period

Society for Biodiversity Preservation
City of College Park, Maryland

*Signatories were Baltimore Green Space, Catoctin Land Trust, Chesapeake Conservancy, Clear Water Conservancy, Eastern Shore Land Conservancy, Environmental Policy Innovation Center, Forever Maryland, Hartford Land Trust, Lower Shore Land Trust, and Manada Conservancy.

**Signatories were Audubon Mid-Atlantic, Baltimore Green Space, Casey Trees, Catoctin Land Trust, Chapman Forest Foundation, Chesapeake Conservancy, Chesapeake Legal Alliance, Forever Maryland, Friends of Lower Beaverdam Creek, Friends of Quincy Run, Friends of the Nanticoke River, Interfaith Partners for the Chesapeake, Maryland Conservation Council, Maryland League of Conservation Voters, Mattawoman Watershed Society, National Aquarium, National Parks Conservation Association, Nature Forward, Potomac Conservancy, Potomac Riverkeeper Network, Rachel Carson Council, Safe Healthy Playing Fields, Inc., Scenic Rivers Land Trust, Sierra Club-Maryland Chapter, Southern Maryland Audubon Society, The 6th Branch, Waterkeepers Chesapeake.

***Signatories were American Rivers, California Environmental Voters, Center for Biological Diversity, Chesapeake Conservancy, Coalition to Protect America's National Parks, Colorado Youth Corps Association, Endangered Species Coalition, Green Latinos, Mountain Mommas, Old Growth Forest Network, and The Ocean Project.

In the discussion below, we address and respond to the substantive comments we received. Generally, a substantive comment meets at least one of the following criteria:

- It challenges the accuracy of information presented.
- It challenges the adequacy, methodology, or assumptions of our analysis and supporting rationale.
- It presents new information relevant to the analysis.
- It presents reasonable alternatives, including mitigation, other than those presented in the document.

To facilitate our responses, we grouped similar comments together and organized them by subject heading. Directly beneath each subject heading, you will also see a list of unique letter ID numbers. The Table at the end of this appendix relates each letter ID number to the name of the individual, agency, or organization that submitted the comment. In several instances, we refer to specific text in the document and indicate how the final LPP/EA was changed in response to comments. The full versions of both the draft LPP/EA and the final LPP/EA are available online

at: <https://www.fws.gov/project/evaluating-new-refuge-lands-southern-maryland>.

Service Responses to Comments by Subject

General Support for the Plan and Stated Refuge Goals (A)

(Comment ID# 1, 2, 4 – 10, 13 – 21, 23 – 53, 55 – 73, 75 – 78, 80 – 85, 87 – 99, 101 – 105, 107 – 114, 116 – 119, 121 – 124, 126 – 130, 132 – 134, 136 – 142, 145 – 151, 154 – 158, 160, 161, 163 – 165, 168 – 171, 173 – 182, 184 – 186, 190, 192 – 197, 199 – 205, 207 – 216, 218 – 243, 245 – 265, 267 – 269, 273 – 275, 279, 281 – 285, 287, 289, 290, 292, 293; **Total – 250; Pre-Comment Period** Comment ID# 2, 4, 6, 8, 10 – 14, 21; **Post-Comment Period** Comment ID# 3 – 6)

Comment: The majority of the comments were in favor of the Southern Maryland Woodlands National Wildlife Refuge and identified support because the refuge would protect natural habitat for fish and wildlife, protect biodiversity and ecosystems, provide ecosystem services, improve quality of life, protect water quality and the Chesapeake Bay, provide opportunities for outdoor recreation, and provide outdoor opportunities for youth. Several mentioned the importance of protecting specific watersheds like Nanjemoy Creek and McIntosh Run, as well as individual counties.

The membership of the American Chestnut Land Trust submitted 97 jot form emails stating several variations of the following: “My name is John Doe and I am a resident in Calvert County, Maryland. I wish to express my support for the U.S. Fish and Wildlife Service's efforts to establish the Southern Maryland Woodlands National Wildlife Refuge. Southern Maryland is a rich ecological region that deserves protection and deserves USFWS refuge funds. For this reason, I fully support the draft LPP/EA, and I look forward to seeing this refuge established in coming years!”

Response: We thank these commenters for their support for the proposed Southern Maryland Woodlands NWR. We have the shared goal of conserving and managing habitat for fish and wildlife and providing wildlife-dependent recreational opportunities. We look forward to working with the public and partners as we implement the final plan.

General Support for the Plan and Stated Refuge Goals and Protection of Agriculture and Rural Landscapes (B)

(Comment ID# 3)

Comment: “As a taxpayer that enjoys visiting natural areas, I support this voluntary program to conserve land for farming and wildlife.”

Response: We agree that fish and wildlife habitat protection and agriculture can provide mutual complementary benefits, specifically by maintaining working rural landscapes that support both habitat and working forests and farms.

Support for the Piscataway Conoy People (These were neutral, con, or unknown opinion regarding the Plan and the Stated Refuge Goals) (C)

(Comment ID# 11, 143, 206, 288; **Total 4**)

Comment: “FWS should use this draft plan as a jumping-off point from which to find ways of returning the land in question to Piscataway people, similar to other recent high-profile land returns, such as the rematriation of Fones Cliffs to the Rappahannock Tribe.”

Comment: “I am in receipt of your proposal and am currently reviewing it. I'm extremely baffled as to how you included three Federally recognized tribes that had nothing to do with our tribal lands and have completely attempted to override our sovereignty so close to "Maryland Day", the day celebrated as the "beginning of Maryland" when our people existed here for thousands of years prior. We have established a Piscataway Land Trust, if any lands should be preserved in Maryland, Washington, DC and into Virginia and West Virginia, it should be in our trust as these are our unceded ancestral lands.”

Comment: [Excerpt] “Thank you for you and your colleagues’ work on planning the refuge and in your public outreach. I am submitting my comments in hopes of assisting USFWS move through challenging situations and to protect land and traditional relations.” [Excerpt] “It is incumbent upon the USFWS to inventory lands with the Piscataway and to provide for appropriate management that will protect the totality of Piscataway relations in the land. The totality includes that “archaeological sites” are interrelated with the soil, plants, animals, waters, and people. In addition to incorporating the existing data on areas and sites of importance to the Piscataway, the USFWS should work directly with the Piscataway to identify priority areas, landscapes, parcels, and sites of importance to them and take the Piscataway’s desires regarding if they want that land to be under federal ownership into account within USFWS parcel ranking system for acquisition and in USFWS management.”

Comment: One commentor stated that the Service must include the Piscataway Tribe in any Refuge planning.

Response: The FWS looks forward to working with the Piscataway and Piscataway Conoy Tribes as interested parties in the establishment of the refuge. As a Federal agency within the Department of the Interior, the FWS has a Trust responsibility with federally recognized Tribal Nations.

General Support for the Plan and Stated Refuge Goals and need to protect more than 40,000 acres or the design is flawed (D)

(Comment ID# 12, 135; **Total 2**)

Comment: “I note in the proposal that less than 7% of the land is to be protected by fee or easement. (Maximum of 40,000 acres of the 577,000 acres in the potential NWR.) This is equivalent to open space in NYC's Central Park compared to all of Manhattan. Several places in the plan you limit the potential that future generations may want to add or protect land. Why not change the word "maximum" of 40,000 acres to a "minimum" of 40,000 acres or set it as a target not a ceiling. By saying "no more than" or "a maximum of" you do a disservice to future conservation potential.

I led the Lancaster Conservancy for the last 8 years. We acquired in fee over 5,000 acres in less than 5 years in the Lower Susquehanna Conservation Landscape. The farmland trust protected another 15,000 acres in a

similar timeframe by easement and we are just getting going in a much smaller geographic area. We would never set a limit to the lands that we would protect by fee or easements if you have willing property owners and the resources to add to the protected area.”

Comment: “The refuge is an excellent idea. But more of the land needs to be contiguous. As planned too fragmented doing wildlife little good. Land not contiguous - does wildlife little good.”

Response: Based on the experience at Rappahannock River Valley NWR and other landscape-scale refuges in the Northeast Region, we believe that protecting 40,000 acres in 30 years is a reasonable target. Rappahannock River Valley NWR was established in in the 1990s and has just recently reached 10,000 acres conserved, which is one-half of the maximum of 20,000 acres authorized. Once 40,000 acres is reached, the Service can initiate a new LPP/EA to investigate the potential of expanding our purchase authority, should that be warranted. Additionally, a major goal of the establishment of this refuge is to ensure the protection of large habitat blocks and movement corridors between large blocks of habitat. This will be accomplished by connecting refuge lands to themselves and connecting refuge lands to those protected by others (i.e., other Federal, State, and county conserved lands and lands under conservation easement).

General Support for the Plan and Stated Refuge Goals and remove the dump across the street (E)
(Comment ID# 22)

Comment: This landowner suggests that the Service should remove the “dumps” across the street from his home on Sand Road in Harwood, Maryland, and acquire the cleaned-up lands for the refuge.

Response: Parcels with extensive debris and likely sources of contamination are likely to rank poorly when considering properties for protection.

General Support for the Plan and Stated Refuge Goals and no or limited hunting or limited disturbance to wildlife (F)
(Comment ID# 79, 162, 189, 191; **Total 4**)

Comment: One commentator made known her opposition to a proposed State regulation allowing the hunting of Tundra Swans. Other commentators requested that the Service limit public access, including for hunting and fishing, to limit the disturbance to fish and wildlife.

Response: Wildlife-dependent public uses, including hunting fishing, wildlife observation, wildlife photography, environmental education, and interpretation, are considered priority uses of national wildlife refuges per the Refuge System Improvement Act of 1997. As part of this Act, prior to allowing any use on a national wildlife refuge, a refuge manager must complete a compatibility determination. While developing the compatibility determination, the refuge manager would use current scientific studies and professional judgement to ensure the use does not adversely impact refuge resources and that it contributes to the refuge’s purposes and FWS mission.

General Support for the Plan and Stated Refuge Goals and a willing landowner (G)
(Comment ID# 54, 144, 244; **Total 3; Post-Comment Period Comment ID# 2**)

Comment: Several landowner commentors expressed interest in selling their land or conservation easements on their land and wondered if their parcels would be of interest to the Service.

Response: All unprotected parcels 20 acres or greater within the proposed acquisition boundary and outside priority funding areas (where counties are directing development) were ranked based on eight ecological criteria. As a practice, the FWS expects to pursue the highest ranked parcels first. Parcels with landowners who express a willingness to sell property or conservation easements will be evaluated by how they meet the eight ecological criteria and the availability of funding. A list of willing landowners will be maintained in our records.

General Support for the Plan and Stated Refuge Goals and support cultural heritage (H)
(Comment ID# 74; **Post-Comment Period** Comment ID# 1)

Comment: One commentor noted that the LPP/EA would protect historic and cultural heritage. Another commentor supported the refuge plan with “alterations” considering historic sites and considerations for the population’s wellbeing, including farmers and military families.

Response: As noted in the Affected Environment and Environmental Consequences section of the LPP/EA, Section 106 of the NHPA of 1966, as amended, and Section 14 of the Archaeological Resources Protection Act require the FWS to evaluate the effects of any of its actions on cultural resources (i.e., historic, architectural, and archaeological) that are listed or eligible for listing in the NRHP. The body of Federal historic preservation laws has grown dramatically since the enactment of the Antiquities Act of 1906. Several themes recur in these laws, their promulgating regulations, and more recent executive orders. They include: (1) Each agency is to systematically inventory the historic properties on its holdings and to scientifically assess each property’s eligibility for the NRHP; (2) Federal agencies are to consider the impacts to cultural resources during the agencies’ management activities and seek to avoid or mitigate adverse impacts; (3) the protection of cultural resources from looting and vandalism are to be accomplished through a mix of informed management, law enforcement efforts, and public education; and (4) the increasing role of consultation with groups, such as Native American Tribes, in addressing how a project or management activity may impact specific archaeological sites and landscapes deemed important to those groups. The FWS, like other Federal agencies, is legally mandated to inventory, assess, and protect cultural resources located on those lands that the agency owns, manages, or controls. The FWS’s cultural resource policy is delineated in 614 FW 1-5 and 126 FW 1-3.

Unknown Position and clarification regarding “partnering” (I)
(Comment ID# 86)

Comment: "Trying to figure out what "Partnering" means. Selling my land would be out of the question, but depending on the definition of partnership it could be feasible."

Response: By “partnering,” in the context of this comment, we assume this commentor refers to conveying a less-than-fee interest in land. This would take the form of a conservation easement, whereby the FWS would purchase development rights and limit uses of the land that could adversely affect wildlife habitats. The landowner retains ownership of the parcel and all remaining rights. Such arrangements can lead to long-term relationships between the landowner and local FWS representative.

As used in this document, we define “partnering” as working with landowners, other government agencies, and non-governmental organizations to achieve common goals.

General Support for the Plan and Stated Refuge Goals with cautions and/or recommendations (J)
(Comment ID# 100, 172, 183, 266, 272, 280; **Total 6; Pre-Comment Period** Comment ID# 9, 20, 34)

Comment: One commentor provided links to information regarding the proposed establishment of a new refuge in Illinois that experienced opposition from local government and the public. That same commentor cautioned trail hiking and other activities associated with public access could be detrimental to wood turtles, spotted turtles, and other turtle species.

Comment: Another commentor recommended we “choose parcels based on science and in line with Target 3 of the Kunming-Montreal Global Biodiversity Framework and the America the Beautiful plan, to approach prioritization of acquisitions based not only on acreage coverage but also according to biodiversity outcomes and social factors.”

Response: We describe the parcel prioritization process in Appendix I – Acquisition Plan. Parcels were prioritized based on five criteria specific to the Refuge System’s Strategic Growth Priorities and three additional criteria concerning whether a parcel was in a MD DNR green infrastructure hub or corridor, in a MD DNR Targeted Ecological Area, and parcel size.

Comment: “Of course I believe you should create this incredibly complicated multipurpose refuge. But please inform me first how you’ll support it, when you can’t even adequately support the Patuxent Research Refuge with enough staff to maintain it as any refuge should be.”

Response: We anticipate that it will require several years to acquire a substantial land base requiring an active FWS presence. We will evaluate staffing needs at that time relative to available funding.

Comment: I strongly agree with the stated priorities for site selection and would only amplify the importance of prioritizing large, contiguous tracts of forested land. Even in this setting, however, scientists have shown that most forests have lost long term viability because young trees quickly disappear due to deer browsing. Are provisions allowing hunting sufficient to address this issue, or are deer exclosures also needed on a large scale? On the issue of hunting, my main worry is the destructive effects dogs very often have on fragile native ecosystems. Since it seems hunters and dogs often go together, can provisions for hunting disallow the use of dogs in ecologically sensitive areas? On the issue of conservation easements, these efforts provide an excellent opportunity to publicize the Sea Grant Maryland program (Natl Wildlife Federation), which encourages (and incentivizes) landowners to create a certified native wildlife habitat. We have one at our home in Silver Spring and will soon have one in Hollywood. On the issue of waterfowl conservation areas, both inside and outside the priority funding areas of the plan, many more Osprey platforms are needed and many of the existing platforms are damaged beyond usability. As a waterfront resident of Hollywood, Maryland, I was recently heartbroken by the discovery of a dead Eastern Bluebird (not a Blue Jay) in our yard. As this occurred the very day after I saw my neighbor spraying his yard with herbicide, I suspected that may have been the cause. Perhaps the publicity around this draft plan could help educate citizens about the harms from using pesticides and herbicides? It’s badly needed!

Comment: Another commentor hoped that the establishment of the refuge would make the practice of stream restoration less likely and provided a link to a website showing habitat damage resulting from stream restoration projects.

General Response to Comments: We thank these commentors for these cautions and recommendations and we will take them under consideration as the refuge becomes established, and we evaluate public use opportunities.

Requests for More Information (K)

(Comment ID# 106, 120, 152, 153, 159, 166, 167; **Total 7; Pre-Comment Period** Comment ID# 16, 19, 23, 24, 25, 28, 29, 35)

Comment: There were numerous requests for additional information including about public meetings, requests for FAQs, maps, power point slides, two queries from the press, and from a state legislator for a summary sheet for her to send to constituents.

Response: We accommodated these requests where possible.

General Support for the Plan and Stated Refuge Goals and proponent of horseback riding on refuge lands (L)

(Comment ID# 115)

Comment: One Commentor inquired as to whether horseback riding will be permitted on the Refuge.

Response: As noted previously, a refuge manager must complete a compatibility determination prior to allowing any use on a national wildlife refuge. While developing the compatibility determination, the Refuge Manager would use current scientific studies and professional judgement to ensure the use does not adversely impact refuge resources and that it contributes to the refuge's purposes and FWS mission.

General Support for the Plan and Stated Refuge Goals and proponent of hunting, fishing, and/or trapping (M)

(Comment ID# 125, 188; **Total 2**)

Comment: Two commentors inquired about hunting, fishing, and trapping on refuge lands and whether these activities will be permissible.

Response: Hunting and fishing are often permitted on refuge lands and would undergo a compatibility determination as described previously. Hunting and fishing are two of the six priority public uses of the Refuge System under the 1997 Refuge System Improvement Act. We consider hunting and fishing to be legitimate, traditional recreational uses of renewable natural resources. The FWS's policy permits these uses on a national wildlife refuge when it is compatible with the purposes for which the refuge was established. The decision to permit hunting and fishing on national wildlife refuges is made on a case-by-case basis that considers biological soundness, impacts to wildlife populations and habitats, economic feasibility, effects on other refuge programs, public safety, and public demand.

Trapping on public land must be considered in context of other public uses. The setting of traps in proximity to trails actively used by the public for other recreational uses such as hiking, wildlife observation and photography presents a safety risk that must be considered by refuge management. Per policy, trapping on Refuge System land is only allowed if it is determined to be appropriate and compatible with refuge purposes.

Against the Plan and Stated Refuge Goals – Will result in more regulation (N)

(Comment ID# 131; **Pre-Comment Period** Comment ID#22)

Comment: “Do not allow the Federal camels nose to sneak under the Southern MD tent!! Nothing good will come of it except more regulation from unelected bureaucrats from the Montgomery/Fairfax Czardom!!”

Response: Lands within the acquisition boundary do not become part of the refuge unless their owners willingly sell or donate them to the FWS. The proposed refuge boundary only allows us to engage with willing sellers - it has no impact on private property use or who an owner can choose to sell to. There are no additional regulations or control on private lands not acquired by the FWS. The individual landowner retains all the rights, privileges, and responsibilities of private land ownership.

General Support for the Plan and Stated Refuge Goals and wants their watershed included in the refuge boundary or in partnership area boundary (O)

(Comment ID# 198, 217, 270, 276, 277, 286, 291; **Total 7; Pre-Comment Period** Comment ID# 1, 3, 5, 7, 15, 17, 18, 27, 31)

Comment: Numerous commentors observed that their watershed of concern was left outside the proposed acquisition boundary and/or the Partnership Area.

Response: The four watershed-based refuge Units were chosen because they satisfied certain ecological criteria important to Service Trust Resources, including the National Wildlife Refuge System’s Strategic Growth Priorities of waterfowl, federally listed species, and birds of conservation concern. Except for Herring Bay in Anne Arundel County, the watersheds named are outside the acquisition boundary but within the Partnership Area, which consists of Southern Maryland lands outside of but adjacent to and between the four refuge Units. Within the Partnership Area, refuge funding sources will not be expended, but the FWS will make a concerted effort to apply Coastal Program and Partners for Fish and Wildlife funding and staffing resources, coordinating, and pooling funds and other resources with the Southern Maryland Conservation Alliance and other partners to implement on-the-ground restoration and conservation projects. These include Piscataway Creek, Port Tobacco River, Black Swamp Creek, and Lower St. Mary’s River. Herring Bay was excluded from both the acquisition boundary and the Partnership Area. After closer review, it was decided to include Herring Bay in the Partnership Area because of its rural character, several largely forested unprotected watersheds, importance to water quality in the Chesapeake Bay, and the presence of eroding cliffs and beaches that have the potential to support federally listed tiger beetles.

Requesting Further Consultation/Consideration Due to Mission Conflicts with Patuxent Naval Air Station (P)

(Comment ID# 271)

Comment: Letter signed by D.J. Burfield, Captain U.S. Navy, Commanding Officer. [Excerpt] As currently written, the EA does not take into consideration the impacts the proposed action, specifically the designation of land as a refuge, will have to military operations.

The proposed acquisition area (specifically the McIntosh and Patuxent Units) falls beneath airspace that the Navy uses for aviation testing and training. This includes approach/departure corridors for active runways, Federal Aviation Administration (FAA) designated Special Use Airspace (surface to 4,999 feet), Class D airspace (surface to 2,500 feet), and Class E airspace most often used by helicopters at altitudes from 500 to 2,500 feet.

The FAA requests pilots maintain a minimum altitude of 2,000 feet above National Wildlife Refuges and other noise sensitive areas (Aeronautical Information Manual Chapter 5 and FAA Advisory Circular 91-36c), and the Navy's Naval Air Training and Operating Procedures Standardization General Flight and Operating Instructions Manual (CNAF M-3710.7) states that noise sensitive and wilderness areas should be avoided by pilots when at an altitude of less than 3,000 feet. The designation of a National Wildlife Refuge in airspace used by the Navy could limit our use of these areas.

Further, restoration and/or management of lands to attract birds could create a safety concern for pilots, and smoke from controlled burns could create visual hazards. Bird/wildlife Aircraft Strike Hazard is especially a concern within a 5-mile radius of airfields (FAA Advisory Circular 150/5200-33C, Hazardous Wildlife Attractants on or near Airports) to protect approach, departure, and circling aircraft and for low-flying aircraft.

Lastly, the proposed acquisition boundary overlays portions of NAS Patuxent River (and several other military installations), which is already owned by the federal government and is therefore not feasible to include within the acquisition plan.

Therefore, NAS Patuxent River respectfully requests that U.S. Fish and Wildlife Service (USFWS):

1. Assess the impact that refuge designation could have on Navy flight operations in its EA to determine if a significant impact exists; and if so, identify and incorporate solutions/mitigations to ensure that the designation has no negative impacts to Navy operations and military readiness.
2. Coordinate with the Navy in the development of its acquisition plan and any management or restoration activities that have the potential to increase bird populations, create visual hazards, or impact air navigation.
3. Remove NAS Patuxent River property from the acquisition area boundary.

Response: The FWS respects the responsibilities associated with the operation of Naval Air Station (NAS) Patuxent River and the importance of ensuring the safety of its personnel. A subsequent discussion with NAS Patuxent River staff illuminated the key issue – Navy regulations prohibit flight operations below a given altitude within areas charted by FAA as Restricted Airspace. As refuge lands are acquired, we do not expect operations at NAS Patuxent to represent a concern to wildlife, largely due to habituation that has occurred since NAS Patuxent River's inception in the 1940s. In order to directly address NAS Patuxent

River's concern, we conveyed our assessment of minimal wildlife risk to FAA so that any associated refuge lands are not restricted per FAA's charts. In response to a July 3, 2024, letter from the Regional Refuge Chief, FAA responded via email followed by a letter dated July 17, 2024: "We can honor the request to NOT chart the Southern Maryland Woodlands NWR. We will make the attached letter a part of our permanent chart files and this will carry forward in perpetuity for future cartographers and decision makers."

Regarding the Navy's comments about future refuge lands proposed within NAS Patuxent River property, no such lands are included in the final LPP/EA.

We believe this satisfies the concerns raised by the Navy. Should the LPP/EA be approved, the FWS will proceed with acquisition activities as described in the final document.

General Support for the Plan and Stated Refuge Goals and recommending enhancements for public access (Q)

(Comment ID# 278)

Comment: The National Parks Conservation Association, Mid-Atlantic Region Senior Program Director recommended using refuge establishment to enhance public access.

Response: The FWS recognizes that there is a need for additional public access to Maryland lands and waters, particularly in under-resourced communities. We anticipate establishing additional public access points in the form of trails and water access on FWS-owned lands.

Providing Information

(Pre-Comment Period Comment ID# 26, 30)

Comment: Charles County provided a link to the public listening session held at their administration building in March 2023 and the Southern Maryland Resource Conservation and Development Council offered to assist in identifying and pursuing parcels for protection.

Response: The FWS is thankful for assistance from our partners.

Response from Federally Recognized Tribes

(Pre-Comment Period Comment ID# 32, 33)

Comment: It was a pleasure making your acquaintance by phone today. Delaware Tribe of Indians would like to enter consultation regarding the boundaries and of new areas of protection for Southern Maryland Refuge.

Comment: Thank you, and we [The Delaware Nation] do still want to be a consulting party on this project. I have not yet been able to review the EA/Plan as our office is currently inundated with consultation requests, so I do not have comments at this time. But if the plan does not involve any ground disturbance and is simply outlining the land acquisitions you plan to make, we should not have concerns. But we would like to be contacted ongoingly should any plans for ground disturbance arise.

Response: The FWS is thankful for the interest shown by the Delaware Tribe of Indians and the Delaware Nation and will continue consultation as lands are acquired and managed as part of the Refuge System.

45-Day Public Comment Period Commentors (Comment Numbers are grouped by comment topic and are not always in numerical order – actual topics are in the administrative record and are not included in this table)

Comment #	Name	Affiliation
1	Kasenia Coulson	Citizen
2	Stephen Cooke	Citizen
4	Thomas Conner	Citizen
5	Brandi Gerstner	Citizen
6	Joseph Allen	Citizen
7	Vince Burke	Citizen
8	Jon Gardner	Citizen, Friends of Patuxent Refuge
9	Kenny K	Nanjemoy Net
10	Lynn Wheeler	Southern Maryland Audubon
13	Liz Tymkiw	Citizen
14	Richard Schubert	Citizen
15	Jamie Testa	Citizen
16	Allison Burnett	Citizen
17	Thomas Currier	Citizen
18	Dona Wilson	Citizen
19	Thomas Tait	Citizen
20	Chelsea Anderson	Citizen
21	Gabriele Parker	Citizen
23	Darlene Harrod	Citizen
24	Richard Casey	Citizen
25	Anthony Fazio	Citizen
26	Ashley Brown	Citizen
27	Susan Vecchione	Citizen
28	Jennifer Cookus	Citizen
29	Sandra VonOosten	Citizen
30	Deb Bargar	Citizen
31	Tiffany Kildale	Citizen
32	Anne Scharpf	Citizen
33	Deborah Funchion	Citizen
34	Walter Boynton	Citizen
35	Ellen Zahniser	Citizen
36	Albert Zahniser	Citizen
37	Marijo Cosmas-Monnett	Citizen
38	Marcia Cosmas-Monnett	Citizen
40	Eva Blockstein	Citizen

41	Jennifer Ludlow	Citizen
42	Brian Anderson	Citizen
43	Gary Loew	Citizen
44	Coni Giannini	Citizen
45	Robert McGillicuddy	Citizen
46	Denise Swol	Citizen
47	Joseph Turner	Citizen
48	Emily Currier	Citizen
49	Kirsten Atkinson	Citizen
50	Abigail Cianciolo	Citizen
51	Doug Harbold	Citizen
52	Elliot Hamilton	Citizen
53	Sharon Hensley	Citizen
55	Dawn Balinski	Citizen
56	Bob Field	Citizen
57	Emily Gibson	Citizen
58	Mary McClellan	Citizen
59	Kent Mountford	Citizen
60	Jack Felsher	Citizen
61	Patti Stiles	Citizen
62	Merikay Smith	Citizen
63	Kathleen Marasco	Citizen
64	Richard Gray	Citizen
65	Kimberley Von Paris	Citizen
66	Liam Henderson	Citizen
67	Jennifer Broome	Citizen
68	Mathew Colip	Citizen
69	Anna Wilson	Citizen
70	Linda Witkin	Citizen
71	Marc Imlay	Citizen
72	Alice Imlay	Citizen
73	Gary Leyland	Citizen
75	Heather Smith	Citizen
76	Israel Daniel	Citizen
77	Brittany Colip	Citizen
78	Jasmine Booker	Citizen
80	David Braun	Citizen
81	Kathy Daniel	Citizen
82	Samantha Smith	Citizen
83	Mary Alice Hayward	Citizen
84	Richard Fallica	Citizen
85	Patricia Hayward	Citizen
87	Cathy Welker	Citizen

88	Becca Rolley	Citizen
89	Cathy Foutz	Citizen
90	Larry Foutz	Citizen
91	Jacqui Sapper	Citizen
92	Alexis Allen	Citizen
93	Liz Orlandi	Citizen
94	Susan Farnsworth	Citizen
95	Kate Wolf	Citizen
96	June Leyland	Citizen
97	Rev. Albert K. Lane III	Citizen
98	Kurt Larsen	Citizen
99	Judy Larsen	Citizen
101	Eileen Abel	Citizen
102	Molly Moore	President, Southern MD Audubon
103	Molly McCoy	Citizen
104	Tim Hayden	Citizen
105	James Stolarski	Citizen
107	Beth Ramey	Citizen
108	Melanie Crowder	Citizen
109	Lucille Walker	Executive Director, Southern Maryland National Heritage Area
110	Denise Frey	Citizen
111	John Brader	Citizen
112	Latrice Urbanowicz	Citizen
113	Laura Ross	Citizen
114	Susan Cecere	Citizen
116	Don Patterson	Citizen
117	Molly Pinkas	Citizen
118	Paige Pinkas	Citizen
119	Brenda Songy	Citizen
121	Darryl Earhart	Citizen
122	Kenny Yekstat	Citizen
123	Christina Nigro	Citizen
124	Jody Longhill	Citizen
126	Mike Cook	Citizen
127	Dr. Hiram Larew	Citizen
128	Vanessa Hale	Citizen
129	Elise Kreiss	Citizen
130	Gerhard McGloin	Citizen
132	Tony Mazella	Citizen
133	Rich Batiuk	Citizen
134	Susan Batiuk	Citizen
136	J&H Elbaum	Citizen

137	Ayanna Henry	Citizen
138	Craig Jeschke MD	Citizen
139	Jim Sheats	Citizen
140	Patricia Minger	Citizen
141	Frederick Minger	Citizen
142	Steven Gibb	Citizen
145	Melanie Miles	Citizen
146	Virginia Armstrong	Citizen
147	Ronald Armstrong	Citizen
148	Craig Turner	Citizen
149	Carol Russell	Citizen
150	Debra McCallum	Citizen
151	Stanley Reese	Citizen
154	Rich Dolesh	Friends of Patuxent Research Refuge
155	Terri Zselezcky	The Conservation Fund
156	Mary Hoover	American Chestnut Land Trust
157	Bonnie Bick	Mattawoman Watershed Society
158	Mario Quesada	Citizen
160	Chase Douglas	Chesapeake Conservancy - Chesapeake Conservation Partnership
161	Molly Moore	President - Southern Maryland Audubon
163	Bill Crouch	The Conservation Fund
164	Lowell Adams	Friends of Patuxent Research Refuge
165	Bill Schultz	Citizen
168	Frank Allen	Patuxent Tidewater Land Trust
169	Max Ferlauto	PhD. Student UMD
170	Sandra Miller	Citizen
171	Robin Jenkins	Citizen
173	corncribstudio@outlook.com	President, Patuxent Tidewater Land Trust
174	Drew Koslow	Citizen
175	Tina Rhea	Citizen - Wildlife Biologist
176	Don Wilcox	Citizen
177	Peggy Alpert	Citizen
178	Ron Meldau	Citizen
179	Elaine Fujimura	Citizen
180	Maggie Pelta-Pauls	Preservation Maryland
181	Jeffery Turner	Citizen
182	Patricia Armstrong	Citizen
184	Melissa McCarthy	Citizen
185	Frances Klapthor	Citizen
186	Vera Herath	Citizen
189	Christine Proctor	Citizen
188	Karyn Molines	Maryland Native Plant Society

190	April O'Neal	Citizen
192	Amy Henderson	Citizen
193	Elaine Phillips	Citizen
194	Nick Wallace	Citizen
196	George Alderson	Citizen
197	Frances Alderson	Citizen
199	Kathy Daniel	Citizen
200	Dr. Ralph Eshelman	Cove Point Natural Heritage Trust
201	Sharon Crissinger	Citizen
202	Mark Jaster	Citizen
203	Deborah Matiek	Citizen
204	Sarah Lumbard	Citizen
205	Kevin Boyce	Citizen
207	Loretta d'Eustachio	Nanjemoy Vision
208	Ellen Farr	Citizen
209	David Farr	Citizen
210	Mulheron Farm	Conservancy for Charles County - Board Member
211	Susan Hrybyk	Citizen
212	Daniel Potrepka	Citizen
213	Robert Willey	Citizen
214	Susan Miller	Citizen
215	Ann Bodling	Citizen
216	Carol Partonen	Citizen
218	Stephen Colangelo	Rappahannock Wildlife Refuge Friends, Inc.
219	Ron Klauda and Frank McPhillips	Friends of Hunting Creek
220	Michael Davis	Citizen
221	Richard Casey	Citizen
222	Jennifer Davis	Citizen
223	Deloris Whaley	Citizen
224	James Burke	Citizen
225	Alisa Anania	Citizen
226	Ken Anderson	Citizen
227	Joan Lucas-Anderson	Citizen
228	Stephanie Rupard	Citizen
229	Chelsea Ihnacik	Citizen
230	Kent Mountford	Citizen
231	Kristin Spencer	Citizen
232	David Braun	Citizen
233	Amy Gibson	Citizen
234	Diane Staley	Citizen
235	John Staley	Citizen
236	Edward Edelen	Citizen

237	John Yoe	Citizen
238	Krista Schyler	Citizen
239	Tom Liddle	Citizen
240	Courtney Koivisto	Citizen
241	Kenneth Bawer	Citizen
242	Margaret Boozer-Strother	Citizen
243	Jenifer Ellin	Charles County Government
245	Richard Gray	Citizen
246	Luke Chesek	Councilman - City of Mount Rainier
247	William Updike	Citizen
248	Mimi McKinley-Ward	Citizen
249	Jodi Beder	Citizen
250	Evan Isaacson	Chesapeake Legal Alliance
251	Michael McCauley	Citizen
252	Barbara Anderson	Citizen
253	Jody Couser	Chesapeake Conservancy
254	Valerie Theberge	Citizen
255	Michelle Tucker	Citizen
256	Susan Polsky	Citizen
257	Steve and Alicia Jackson	Citizens
258	Kim Smaczniak	Citizen
259	Devan Samant	Citizen
260	David Curson	Audubon Mid-Atlantic, Director of Bird Conservation
261	Teresa Manthripragada	Coalition to Protect America's National Parks
262	Mary Goldschmid	Citizen
263	Doug Myers	Chesapeake Bay Foundation
264	Sarah Ramotnik	Choose Clean Water Coalition
265	Dennis Fravel	Friends of Jug Bay, President-Elect
267	V. Beth Olsen, PhD	Citizen
268	Megan and Anton Rytting	Citizens
269	John Reynolds	Chesapeake Conservancy Board of Directors
273	Dennis Mateik	Citizen
274	Kurt R. Schwarz	Maryland Ornithological Society, Conservation Chair Emeritus
275	W.O. (Bill) Berry PhD.	Citizen - Biologist/Environmental Scientist
279	Erik Michelesen	Anne Arundel County, Senior Environmental Policy Officer & Department of Public Works Deputy Director, Bureau of Watershed Protection and Restoration
281	Mary Hoover	American Chestnut Land Trust
282	Ben Alexandro	Chesapeake Conservation Partnership
283	Kevin Bell, Esq.	Citizen
284	Richard Dolesh	Friends of Patuxent Research Refuge, Inc.
285	Sharon Bois	Citizen

287	Molly Moore	Southern Maryland Audubon, President
289	Alex Winter	Mattawoman Watershed Society
290	Bonnie Bick	Chapman's Forest Foundation, Inc.
292	Frank Allen	Patuxent Tidewater Land Trust, President
293	Ben Alexandro	America the Beautiful for All Coalition
3	Tony Mazzella	Citizen
11	William Kelly	Citizen
143	Kyle Harmon	Citizen
206	Chief Jesse Swann	Piscataway Conoy Tribe
288	Virginia R. Busby, PhD	Citizen
12	Phil Wenger	Lancaster Conservancy
135	Peter Frandsen	Citizen
22	Joseph Burke	Citizen
39	Jane Kostenko	Citizen
79	Kathy Daniel	Citizen
162	Kathy Daniel	Citizen
189	Diana Colangelo	Citizen
191	Wendy Olsen	Citizen
54	Michelle Quesenberry	Citizen
144	Dean Gissiner	Citizen - Hunt Club
244	Danny Bystrak	Citizen
74	Alison Ramos	Citizen
86	Philip Poe	Citizen
100	Mario Quesada	Citizen
100	Mario Quesada	Citizen
172	Rachel E. Golden Kroner, Ph.D.	Citizen - Conservation Biologist
183	Christine McElroy	Citizen - PRRPIP volunteer
266	Brandon Hall	Citizen
272	Jane Osburn	Citizen
280	Roger Davis	Citizen
106	Mike Helfrich	Citizen
120	Jeff O'Neil	Citizen
152	Kara Franklin	Chief of Staff - Delegate Edith J. Patterson
153	Tim Wheeler	Bay Journal
159	Eileen Abel	Citizen
166	Joel McCord	Chesapeake Bay Magazine
167	Clark Thomas	Citizen
115	Jacqui Cowan	Trail Riders for Today Anne Arundel County Coordinator
125	Randall Carroll	Citizen
188	David Jones	Citizen
131	H.S. Gaultp	Citizen
198	Kathy Gramp	Advocates for Herring Bay
217	Nancy Schertler	Citizen

270	Sarah Knebel	Scenic Rivers Land Trust, Executive Director
276	Emma Green	St. Mary's Watershed Association, Executive Director
277	Mary Hoover and Greg Bowen	American Chestnut Land Trust; Southern Maryland Conservation Alliance
286	Richard Dolesh	On Behalf of Black Swamp Creek Land Trust
291	Tina Wilson	Port Tobacco River Conservancy
271	Melanie McGinnes	U.S. Navy, Patuxent Naval Air Station
278	Pamela Goddard	National Parks Conservation Association, Mid-Atlantic Region Senior Program Director

Pre-45-Day Public Comment Period Commentors

Comment #	Name	Affiliation
1	Jonas Williams	Citizen
2	Fatimah Hasan	Planner III, Special Projects Section, Countywide Planning Division, Maryland National Capital Parks and Planning
3	Marcia Watson	Patuxent Bird Club
4	Molly Moore	Southern Maryland Audubon
5	Linda Keenan	Citizen
6	Debra Kraling	Citizen
7	Bettye Maki	Citizen
8	Robert Franz	Citizen
9	Brandon Hall	Citizen
10	Molly Pinkas	Citizen
11	Carl Fleishhauer	Citizen
12	Kathy Daniel	Citizen
13	Carla Campbell	Citizen
14	Dorothy Howe	Citizen
15	Kathy Gramp	Advocates for Herring Bay
16	Amalia Pleake-Tamm	Calvert County Department of Planning & Zoning
17	Karen Hasychak	Simmons Ridge HOA
18	Joann Flynn	Black Creek Swamp Land Trust
19	?	Citizen
20	Mario Quesada	Citizen
21	Marissa Olszweski	Choose Clean Water Coalition
22	Marvin Miller	Citizen/Landowner
23	Michael Dahlstrom	Citizen
24	Bill Berry	Citizen
25	Evan Malnik	Citizen
26	Jesse Lynn Bungcayao	Executive Assistant to the Charles County Administrator
27	Lila West	Cove Point National Heritage Trust
28	James Kelly	Citizen

29	Karen Malkin	Citizen
30	Alison Burnett	Southern Maryland Resource Conservation and Development Council
31	Lee De Cola	Citizen
32	Susan Bachor	Delaware Tribe of Indians
33	Katelyn Lucas	Delaware Nation
34	Mario Quesada	Citizen
35	Hillary Bell	Maryland Department of Natural Resources - Director, Land Acquisition and Planning

Post-45-Day Public Comment Period Commentors

Comment #	Name	Affiliation
1	Joan Sainz	Citizen
2	Michael Dahlstrom	Citizen
3	Shyamala S. Rajan	Society for Biodiversity Preservation
4	Yvette T. Allen, CMC	Assistant Clerk, City of College Park, MD
5	Jonathan Moreland	Citizen
6	Liz Steenrod	Citizen

Appendix IV - Finding of No Significant Impact

Estimated Lead Agency Total Costs Associated with Developing and Producing this Environmental Assessment: \$20,000

Finding of No Significant Impact Establishment of a New Southern Maryland Woodlands National Wildlife Refuge

July 23, 2024

Introduction

The U.S. Fish and Wildlife Service (USFWS, FWS, we, our) proposes to protect and manage fish and wildlife habitat in Anne Arundel, Prince Georges, Calvert, Charles, and Saint Mary's Counties in Southern Maryland through establishment of Southern Maryland Woodlands National Wildlife Refuge (NWR; refuge). A draft and final Land Protection Plan and Environmental Assessment (LPP/EA) were prepared to inform the public of the possible environmental consequences of implementing a plan to establish the refuge. This LPP/EA identifies several watersheds that exhibit the conservation values that the FWS and its partners seek to protect. These largely forested habitats remain intact but are vulnerable to conversion from development within the Washington, DC metropolitan region. If protected, these watersheds will continue to provide resilience to climate change, conserve waterfowl and other migratory bird habitat, aid in the recovery of listed threatened and endangered species and provide nearby outdoor recreational opportunities for the 10 million people who live and work in the Washington-Baltimore metropolitan region.

A description of the alternatives, the rationale for selecting the preferred alternative, the environmental effects of the preferred alternative, coordination with others, and public involvement during the planning process in compliance with the National Environmental Policy Act of 1969 (NEPA), are summarized below. Supporting information can be found in the final LPP/EA for the establishment of Southern Maryland Woodlands NWR.

Alternatives

In developing the final LPP/EA for Southern Maryland Woodlands NWR, we evaluated the two alternatives described below. Alternative A - No Action and Alternative B - the Proposed Action of establishing a new refuge boundary or boundaries in Southern Maryland. The importance of the watersheds included in the Proposed Action to populations of waterfowl, migratory birds of conservation concern, and threatened and endangered species is well documented. Removing any of the proposed watersheds would lessen the FWS's ability to work with willing sellers to conserve these habitats, which in turn could result in their unavailability to wildlife from incompatible land use changes.

Alternative A — No Action (No Refuge Established): The No Action alternative, as required by NEPA, serves as a baseline for comparing alternative B. Alternative A represents no change from our current conservation efforts in this landscape.

Under this alternative, there would be no additional FWS acquisition authority to augment collaborative partnership efforts. However, the FWS would continue to support partners' and private landowners' efforts

to protect and manage habitat throughout Maryland, primarily through the Coastal and Partners for Fish and Wildlife programs.

Alternative B — Service-Preferred Alternative (Refuge Established): This alternative would create a new refuge called the Southern Maryland Woodlands NWR. The refuge would consist of the Lower Patuxent-Calvert Unit, Nanjemoy-Mattawoman Unit, Zekiah-Wicomico Unit, and McIntosh Run-St. Mary's Unit. The total area encompassed by the proposed refuge acquisition boundary is approximately 577,420 acres. Of these, 169,151 acres are contained in undeveloped parcels of 20 acres or greater, and all of which are located within areas designated by the State of Maryland as Targeted Ecological Areas and/or Green Infrastructure Hubs and Corridors. The Acquisition Plan (Appendix I of the LPP/EA) describes the procedure used for ranking parcels based on their ecological value and the Refuge System's Strategic Growth Priorities. The top two highest quality ranking tiers accounted for 44,105 acres. Thus, it was decided to request the authority to purchase interest in 40,000 acres of land over 30 years. This approach allows the flexibility to complement partners' conservation efforts over time, as needed, in areas most critical to landscape connectivity.

Rationale for Selecting Alternative B

The Refuge System's Strategic Growth Policy priority conservation targets (602 FW 5) are Recovery of Federally Threatened and Endangered Species, Conserving Migratory Birds of Conservation Concern, and Implementing the North American Waterfowl Management Plan. The priorities for the growth of the Refuge System are the principal priorities for this proposed refuge establishment project. In addition, connectivity between existing conservation lands will be enhanced, opportunities for compatible wildlife-dependent recreational activities will be pursued, and any cultural resources or wetlands found within the refuge will be afforded protection by the FWS.

Federally listed species occurring within the proposed acquisition boundary include the federally endangered dwarf wedgemussel, which benefits from the good water quality in Nanjemoy Creek and McIntosh Run. Federally endangered Atlantic and shortnose sturgeon forage in the Potomac River and at the mouths of several Potomac River tributaries, including Mattawoman Creek, Nanjemoy Creek, and Zekiah Swamp. Cliffs and beaches along the Chesapeake Bay shoreline provide breeding and foraging habitat for the federally threatened Puritan and Northeastern beach tiger beetles. Extensive forests throughout the region provide roosting habitat for the federally threatened long-eared bat. For an LPP/EA to fully address the Refuge System Strategic Growth Policy in regard to listed species, recovery plans for listed species found within the proposed acquisition boundaries should identify land acquisition as a task necessary to achieve recovery goals and recovery plans for the dwarf wedgemussel, Puritan tiger beetle, and Northeastern beach tiger beetle all have this recovery task.

Forests, fields, and wetlands within the proposed acquisition boundaries support numerous Birds of Conservation Concern. Extensive freshwater and brackish emergent wetlands and associated mudflats provide breeding and foraging habitat for willet, king rail, saltmarsh sparrow, and least tern, and foraging habitat for whimbrel, Hudsonian godwit, dunlin, short-billed dowitcher, lesser yellowlegs, and semipalmated sandpiper. Vast tracts of interior forest provide breeding habitat for 20 of 24 Maryland Forest Interior Dwelling Species, some of which are also Birds of Conservation Concern, including wood thrush, Kentucky warbler, scarlet tanager, and whip-poor-will and other habitat specialists such as prairie warbler

and red-headed woodpecker. Grasslands and shrublands provide breeding and foraging habitat for the grasshopper sparrow and yellow-breasted chat, and foraging habitat for migrating bobolink.

Large expanses of tidal and non-tidal wetlands provide migrating and wintering habitat for waterfowl including Canada geese, mallard, American black duck, Northern pintail, gadwall, American widgeon, ring-necked duck, green-winged teal, lesser and greater scaup, canvasback, redhead, tundra swan, and ruddy duck. Additionally, forested wetlands and riparian forests in the region provide breeding and wintering habitat for large numbers of wood duck.

A Conceptual Management Plan was included in the final LPP/EA to guide the establishment, acquisition, and management of Southern Maryland Woodlands NWR. Management of the refuge will continue under the guidance in the conceptual plan until the development of a Comprehensive Conservation Plan and/or step-down management plan(s) (e.g., Habitat Management Plan) for the refuge.

Our decision to select alternative B was made after evaluating the predicted environmental effects, and after reviewing the partner and public comments that we received on the draft plan during the public comment period.

Environmental Effects

We have reviewed the predicted beneficial and adverse effects with implementing alternative B as described in the Affected Environment and Environmental Consequences section of the final LPP/EA. Effects on the biological, socio-economic, cultural, and physical environments are detailed. There are no significant adverse effects expected from the establishment of the Southern Maryland Woodlands NWR, and most are short-term, limited in area, and do not result in a cumulative impact. Further, many beneficial impacts are expected.

Establishing the refuge will not only directly benefit threatened and endangered species, Birds of Conservation Concern, and waterfowl, but will protect, restore, and enhance healthy soil biota, native plants, wetlands, and other native resident populations of mammals, fish, reptiles, amphibians, and invertebrates, such as pollinators. Cultural resources will be offered increased protection. Cumulative beneficial impacts on adjacent protected lands will also accrue from the presence of a refuge by reducing habitat fragmentation and protecting habitat connectivity across the landscape. In addition, increased public hunting, wildlife observation/photography, and other compatible public use opportunities will likely become available.

45-Day Public Comment Period/Summary of Public Comments

The final LPP/EA details the consultation and coordination with resource experts, the public, and elected officials that occurred during development of the draft and final plans. Examples of those involved in the process include:

- The 44-member Southern Maryland Conservation Alliance.
- U.S. Senator Chris Van Hollen's staff.
- Congressman Hoyer and staff.
- Three federally Recognized Tribes and three State-Recognized Tribes.
- County governments.
- Public listening session attendees.

We released a review draft LPP/EA for the proposed Southern Maryland Woodlands NWR for a 45-day public comment period in March 2024. Appendix III in the LPP/EA summarizes comments received and responses to them.

Consideration of the comments resulted in one modification to the FWS-preferred alternative. Herring Bay in Anne Arundel County was excluded from both the acquisition boundary and the Partnership Area. Several commentors proposed that the Herring Bay watershed be included in the Partnership Area. After closer review, it was decided to include Herring Bay in the Partnership Area because of its rural character, several largely forested unprotected watersheds, importance to water quality in the Chesapeake Bay, and the presence of eroding cliffs and beaches that have the potential to support federally listed tiger beetles. We have determined that this modification does not result in a significant change to the proposal to warrant a revised or amended draft before publishing the final LPP/EA.

Summary of Comments Received

Following the comment period, we compiled all of the comments we received, including all letters, e-mails, telephone calls, and comments submitted at information sessions. In total, we received 328 separate emailed comments and 1 telephone call prior to and during the comment period and six comments in the days immediately following the comment period. Written comment letters were attached to 33 of the emails and 1 comment letter was mailed as a hard copy. Comment letters from the America the Beautiful for All Foundation, the Choose Clean Water Coalition, and the Chesapeake Conservation Partnership had multiple signatories from a total of 50 organizations.

Of the emails and comment letters submitted prior to and during the public comment period, 260 were fully supportive of the plan and its stated goals without reservations or additional topics/recommendations identified. This includes numerous supportive comments from the membership of the Southern Maryland Conservation Alliance and the Maryland Congressional Delegation (Senators Van Hollen and Cardin and Congressman Hoyer). Thirty-nine commenters expressed general support for the plan with additional comments including: limit hunting and public access so as not to disturb wildlife; include hunting, fishing, and trapping as approved public uses; include horseback riding as an approved public use; protect cultural heritage; identified themselves as potentially willing sellers; include a watershed of interest to the acquisition boundary or the Partnership Area; enhance public access; protect farming and rural landscapes; protect more than 40,000 acres; and the design is flawed due to lack of connectivity between parcels.

Of the 328 comments received, only 2 commentors were fully opposed to the plan and refuge goals. One commenter was opposed because of anti-government views. Four comments from or concerning the Piscataway Tribes were: (1) against the proposal, (2) neutral, and (3) two were unclear regarding the commentor's position. The U.S. Naval Air Station Patuxent River (NAS) submitted a comment letter stating that "the EA does not take into consideration the impacts the proposed action, specifically the designation of land as a refuge, will have to military operations." We do not expect establishment of a refuge to effect operations at NAS in any measurable way and will clarify their concerns prior to finalization of the LPP/EA.

Findings

We find that implementing alternative B will not constitute a major Federal action significantly affecting the quality of the human environment under the meaning of Section 102(2)(c) of NEPA (as amended). As such,

an environmental impact statement is not required. This determination is based on the listed factors (40 CFR 1508.27), as addressed in the final LPP/EA for the establishment of Southern Maryland Woodlands NWR. The establishment of the refuge would result in positive impacts to wildlife and aquatic species; habitat, vegetation, and wetlands; threatened, endangered, and other special status species and their habitats; geology and soils; air quality; cultural resources; socioeconomics; and environmental justice. Habitats protected would benefit native fish and wildlife species; preserve healthy soils; maintain or improve water quality and air quality; and prevent the loss of historical and cultural resources. Southern Maryland communities would most likely see positive economic impacts associated with wildlife-dependent recreation and Environmental Justice communities would accrue the localized benefits of protected open space essential to human wellbeing and quality of life.

1. Both beneficial and adverse effects have been considered and this action will not have a significant effect on the human environment.
2. The actions will not have a significant effect on public health and safety.
3. The project will not significantly affect any unique characteristics of the geographic area, such as proximity to historical or cultural resources, wild and scenic rivers, or ecologically critical areas.
4. The effects on the quality of the human environment are not likely to be highly controversial.
5. The actions do not involve highly uncertain, unique, or unknown environmental risks to the human environment
6. The actions will not establish a precedent for future actions with significant effects nor do they represent a decision in principle about a future consideration.
7. There will be no cumulatively significant impacts on the environment. Cumulative impacts have been analyzed with consideration of other similar activities on adjacent lands, in past actions, and in foreseeable future actions.
8. The actions will not significantly affect any site listed in, or eligible for listing in, the National Register of Historic Places, nor will they cause loss or destruction of significant scientific, cultural, or historic resources.
9. The actions are not likely to adversely affect threatened or endangered species, or their habitats.
10. The actions will not lead to a violation of Federal, state, or local laws imposed for the protection of the environment.

Document Availability

The draft and final documents are available on-line at: <https://www.fws.gov/project/proposed-new-refuge-lands-southern-maryland>. Hard copies of the final LPP and EA can be obtained by contacting:

Mark Maghini, Realty Chief
U.S. Fish and Wildlife Service
300 Westgate Center Drive
Hadley, MA 01035-9589
Work: 413.253.8590
E-mail: mark_maghini@fws.gov

Determination

This section will be filled out upon completion of the public comment period and at the time of finalization of the Environmental Assessment.

- The Service's action will not result in a significant impact on the quality of the human environment. See the attached "**Finding of No Significant Impact**".
- The Service's action **may significantly affect** the quality of the human environment and the Service will prepare an Environmental Impact Statement.

Signatures

Submitted By:

Project Leader Signature:

Date:

Concurrence:

Refuge Supervisor Signature:

Date:

Approved:

Regional Chief, National Wildlife Refuge System Signature:

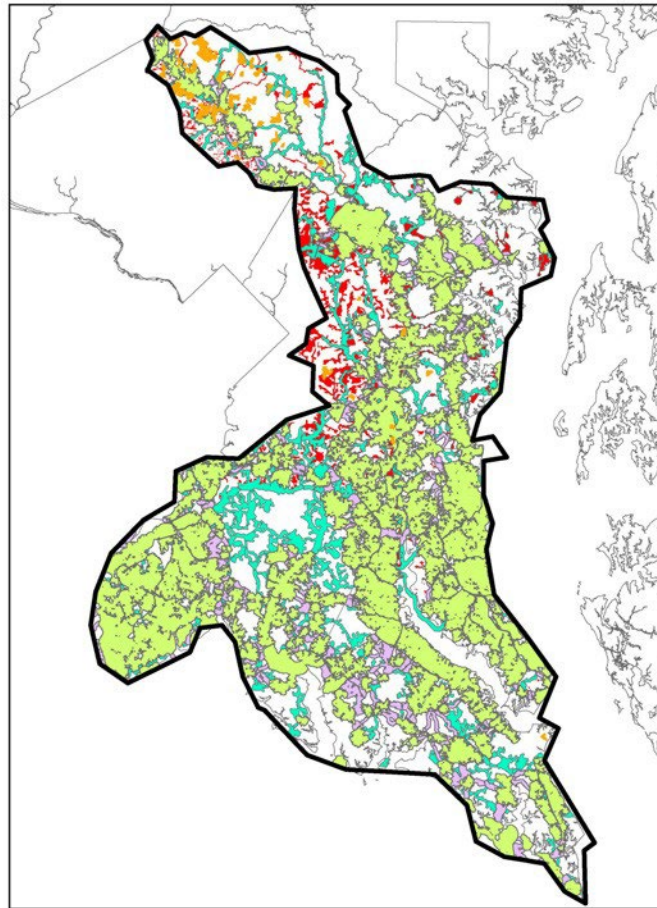
Date:

Addendum – Landscape Conservation Design – 2018

A Conservation Design for Patuxent Waters Conservation Area

FINAL REPORT

March 2018



**Prepared by
Daniel Murphy
Sandy Spencer
for
The Patuxent Waters Conservation Area
Conservation Design Partnership and
Brad Knudsen, Project Leader
Patuxent Research Refuge**

Executive Summary

In 2011, the Director of the U.S. Fish and Wildlife Service (USFWS, FWS) approved a Preliminary Project Proposal (PPP) to expand the acquisition boundary of Patuxent Research Refuge (refuge) in Laurel, Maryland. This was the initial step toward an expanded refuge presence on the western shore of the Chesapeake Bay.

The next step for the refuge is to work in collaboration with partners to create a conservation design. It is anticipated that the conservation design will ultimately inform a Land Protection Plan and Environmental Assessment, which is a public-reviewed document that, if approved by the FWS's Director, will serve as the guide for establishing the expanded refuge.

The foundation of a conservation design is the identification of conservation features that are important to each partner. In the case of the FWS, these features are surrogate species selected to represent all species that use a specific type of habitat and the Refuge System's Strategic Growth Priorities, namely waterfowl, migratory birds of conservation concern, and federally listed threatened and endangered species. Other important conservation features identified by each partner are used to determine the geographic extent of the conservation design, develop conservation targets, identify limiting factors such as climate change and land development, and model future conditions.

The Patuxent Research Refuge conservation design partnership employed conservation decision support tools consisting of datasets created by the University of Massachusetts (UMass) in partnership with the North Atlantic Landscape Conservation Cooperative (NALCC). The decision support tools describe the ecosystem and species capability characteristics of a given location in the present and predict future conditions based on estimates of the potential impacts of stressors like climate change and development pressure. The conservation design partnership used local information and NALCC decision support tools, which are at the regional scale, to identify restoration, protection, and management measures necessary to address identified resource concerns, attain desired future conditions, sustain ecosystem function, and achieve goals and objectives of each partner organization. Because this was a multi-organization planning initiative and is not solely refuge-specific, the title chosen for this conservation design effort is "Patuxent Waters Conservation Area (PWCA)" conservation design.

The PWCA conservation design collaborative partnership consisted of 51 conservation practitioners from 33 organizations. Partnership membership included planners from seven counties located within the conservation design (Howard, Montgomery, Anne Arundel, Prince George's, Calvert, Charles, and St. Mary's); 4 state government entities including the MD DNR; 4 local and regional land trusts; 8 national and worldwide conservation organizations including American Forests, The Conservation Fund, National Fish and Wildlife Foundation, The Nature Conservancy, Audubon MD-DC, Ducks Unlimited, The Trust for Public Land, and the Land Trust Alliance; and 4 Federal agencies including the USFWS, U.S. Forest Service, U.S. Geological Survey, and U.S. Navy.

The PWCA conservation design partnership modeled its effort after the completed Connecticut River Watershed conservation design, also known as "Connect the Connecticut" (www.connecttheconnecticut.org), which served as a pilot project to test the application of the NALCC decision support tools, and the NALCC's Northeast Regional Conservation Design, known as Nature's Network (www.naturesnetwork.org).

The vision and resulting goals of the PWCA is to create a network of intact, resilient, and connected natural areas and working lands sustaining healthy and diverse populations of fish, wildlife, and plants that provide clean water and air, flood protection, recreation, and quality of life for the people of Maryland, the Chesapeake Bay watershed, and beyond. Using the Nature's Network tools, complemented with state and local datasets, the PWCA partnership has created a conservation design that will contribute to the protection and enhancement of these resources and developed strategies for achieving its vision. Like the Connecticut River and Northeast Region projects that preceded it, the PWCA effort is meant to be iterative in terms of process as well as the resulting conservation framework. The PWCA conservation design partnership will employ adaptive management practices that allow for changes in the structure and implementation of the conservation design as the project evolves and as new information and monitoring dictate.

The PWCA conservation design team acquired and produced 95 datasets that can be used by the PWCA partnership for conservation planning and design within the proposed expanded acquisition boundary for the refuge. As with Connect the Connecticut, the nucleus of the PWCA conservation design is a network of resilient, intact habitat cores connected by corridors of similar habitat and embedded in supporting rural landscapes. This conservation design network is housed on the PWCA conservation design Databasin group site and will serve as a "roadmap for conservation action" in the present and in the future within the PWCA conservation design boundary in dynamic and adaptive response to changes brought about due to climate change and development pressure.

Within the 1,413,000-acre PWCA landscape, the conservation design targets approximately 50 percent, or 706,500 acres, of the land area to be maintained as terrestrial, wetland, and aquatic habitat cores connected by habitat corridors and embedded in a supporting rural landscape of healthy forests, wetlands, fields, and vibrant towns. This landscape will support genetically diverse, species rich, healthy populations of fish and wildlife, despite future changes brought about by climate change and development.

The Refuge System's Strategic Growth Policy and Interim Land Protection Planning Guidance were not available during the development of the PPP for the expansion of the refuge boundary. Consequently, the PPP was completed under the old system. The transition from the refuge's PPP to the LPP phase was ultimately put on hold when it became evident that there was a new step in the process for establishing or expanding a refuge, the "conservation design," which involved close coordination between refuges, partners, and stakeholders. The Interim Land Protection Planning Guidance states that FWS personnel engaged in the conservation design process should evaluate any potential priority conservation areas against the Refuge System's priority conservation targets and science-based criteria identified in the Strategic Growth Policy. As a supplement to the conservation design, the PWCA team identified landscapes within the PWCA conservation design boundary that support the Refuge System's conservation targets.

Table of Contents

I.	Background.....	Page 1
II.	Organization and Process.....	Page 2
III.	Geographic Extent.....	Page 4
IV.	Vision, Goals, and Objectives.....	Page 5
V.	Conservation Features... ..	Page 6
VI.	Surrogate Species... ..	Page 11
VII.	UMass/NALCC Nature's Network.....	Page 12
VIII.	State and Local Datasets Selected to Complement and Refine the Nature's Network Datasets to Create the Master Conservation Design Map.....	Page 16
IX.	Patuxent Waters Conservation Area Conservation Design Master Map.....	Page 17
X.	Patuxent Waters Conservation Area Conservation Design Conservation Applications.....	Page 20
XI.	Characteristics of LCC Conservation Designs and the Patuxent Waters Conservation Area Landscape Conservation Design.....	Page 35
XII.	Patuxent Waters Conservation Area Conservation Design and the USFWS Refuge Management Strategic Growth Strategy.....	Page 39
XIII.	Population Monitoring.....	Page 43
XIV.	Acknowledgments	Page 45
XV.	References.....	Page 46

I. Background

In 2011, the Director of the U.S. Fish and Wildlife Service (USFWS, FWS) approved a Preliminary Project Proposal (PPP) to expand the acquisition boundary of Patuxent Research Refuge (refuge) in Laurel, Maryland (USFWS 2011). The proposed expanded boundary included the Patuxent River watershed and several other ecologically and economically important watersheds in central and southern Maryland, including Mattawoman Creek, Nanjemoy Creek, Zekiah Swamp, McIntosh Run, and the headwaters of the South and Severn Rivers (Map 1). This was the initial step toward an expanded refuge presence on the western shore of the Chesapeake Bay.

Through conservation easements, land acquisition, and partnerships within the expanded boundary, the refuge proposes to work with conservation partners and local communities to identify and protect the most ecologically significant, resilient, and water quality enhancing natural areas remaining on the western shore of the Chesapeake Bay in Maryland. While this will include federal acquisition of land and easements from willing sellers, the bulk of the additional protection will come through creative partnerships with private and public landowners.

The next step is to work in collaboration with partners to create a conservation design. It is anticipated that the conservation design will ultimately inform a Land Protection Plan and Environmental Assessment, which is a public-reviewed document that, if approved by the FWS's Director, will serve as the guide for establishing the expanded refuge.

The foundation of a conservation design is the identification of conservation features that are important to each partner. In the case of the FWS, these features are surrogate species selected to represent all species that use a specific type of habitat and the Refuge System's Strategic Growth Priorities, namely waterfowl, migratory birds of conservation concern, and federally listed threatened and endangered species. Other important conservation features identified by each partner are used to determine the geographic extent of the conservation design, develop conservation targets, identify limiting factors such as climate change and land development, and model future conditions.

The Patuxent Research Refuge Conservation Design partnership employed conservation decision support tools known as "Nature's Network" consisting of datasets created by the University of Massachusetts (UMass) in partnership with the North Atlantic Landscape Conservation Cooperative (NALCC). The decision support tools describe the ecosystem and species capability characteristics of a given location in the present and predict future conditions based on estimates of the potential impacts of stressors like climate change and development pressure. The conservation design partnership used local information and Natures Network decision support tools, which are at the regional scale, to identify restoration, protection, and management measures necessary to address identified resource concerns, attain desired future conditions, sustain ecosystem function, and achieve goals and objectives of each partner organization.

Partners can, individually or collectively, apply these conservation design results to their conservation initiatives. Because this was a multi-organization planning initiative and is not solely refuge-specific, the title chosen for this conservation design effort is "Patuxent Waters Conservation Area (PWCA)." In the case of the refuge, the conservation design results will inform an anticipated future Land Protection Plan for an expanded refuge, the ultimate name of which, if approved, will include the descriptor "National Wildlife Refuge." Other applications to the PWCA partnership at large include informing local zoning decisions and targeting conservation lands for the state and local purchase of easements and property.

The PWCA partnership modeled its effort after the completed Connecticut River Watershed

Conservation Design, also known as “Connect the Connecticut” (www.connecttheconnecticut.org), which served as a pilot project to test the application of the Nature’s Network decision support tools, which are now available for the entire Northeast Region (Maine to Virginia) at naturesnetwork.org. As with the Connecticut River Watershed pilot, the finished product of the PWCA project is a network of ecologically important and resilient habitat hubs and corridors which will be targeted for conservation.

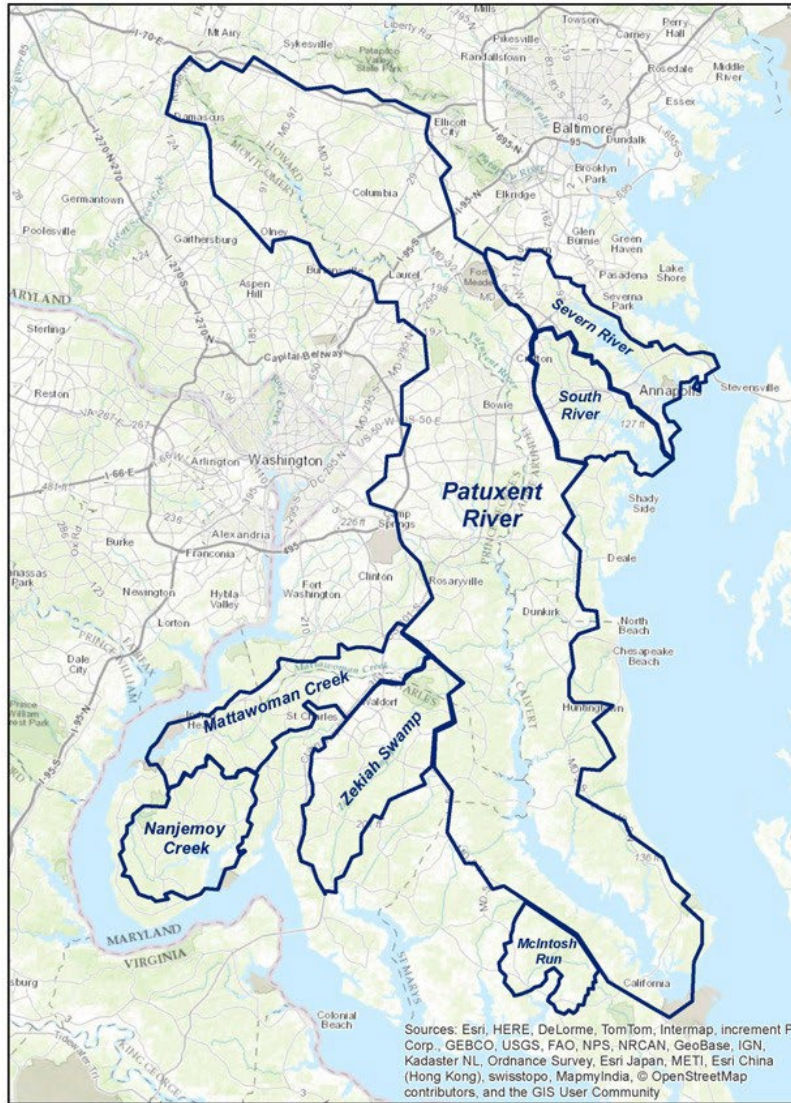
II. Organization and Process

In February and March 2016, the FWS introduced the Nature’s Network conservation design concept to 39 individuals from 20 public and private conservation organizations and solicited their interest in joining the PWCA conservation design project as either a Core or Extended Team member (Appendix I). The Core Team participated in monthly meetings which began in April 2016, to come to consensus on goals and objectives, surrogate species, and local and regional data sources to be employed in the conservation design. The Extended Team was kept apprised of conservation design progress and provided with the opportunity to comment on and provide input to Core Team conservation design products. The Core Team was staffed by 12 individuals from 10 federal, state, local, and non-governmental organizations (NGO). Ultimately, the Extended Team was staffed by 39 individuals from 33 organizations.

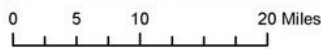
Consensus or majority preference was used to reach decisions related to the design. Major decision points included: defining the Geographic Extent of the conservation design; determining a Vision and establishing Goals and Objectives to realize that Vision; selecting Surrogate Species; and determining which regional, statewide, and local data sets to employ for the conservation design (Appendix II). In the end, a total of 95 datasets were selected to be incorporated into the conservation design.

The entire body of work, including this final draft report, the 2011 PPP, meeting agendas, meeting minutes, power point presentations, and NALCC, state, local, and NGO datasets used to create the conservation design are housed at Databasin and can be accessed at <https://nalcc.databasin.org/>. Instructions for accessing the PWCA conservation design Databasin group site can found in Appendix III.

Map 1. Patuxent Research Refuge Preliminary Project Proposal Watersheds



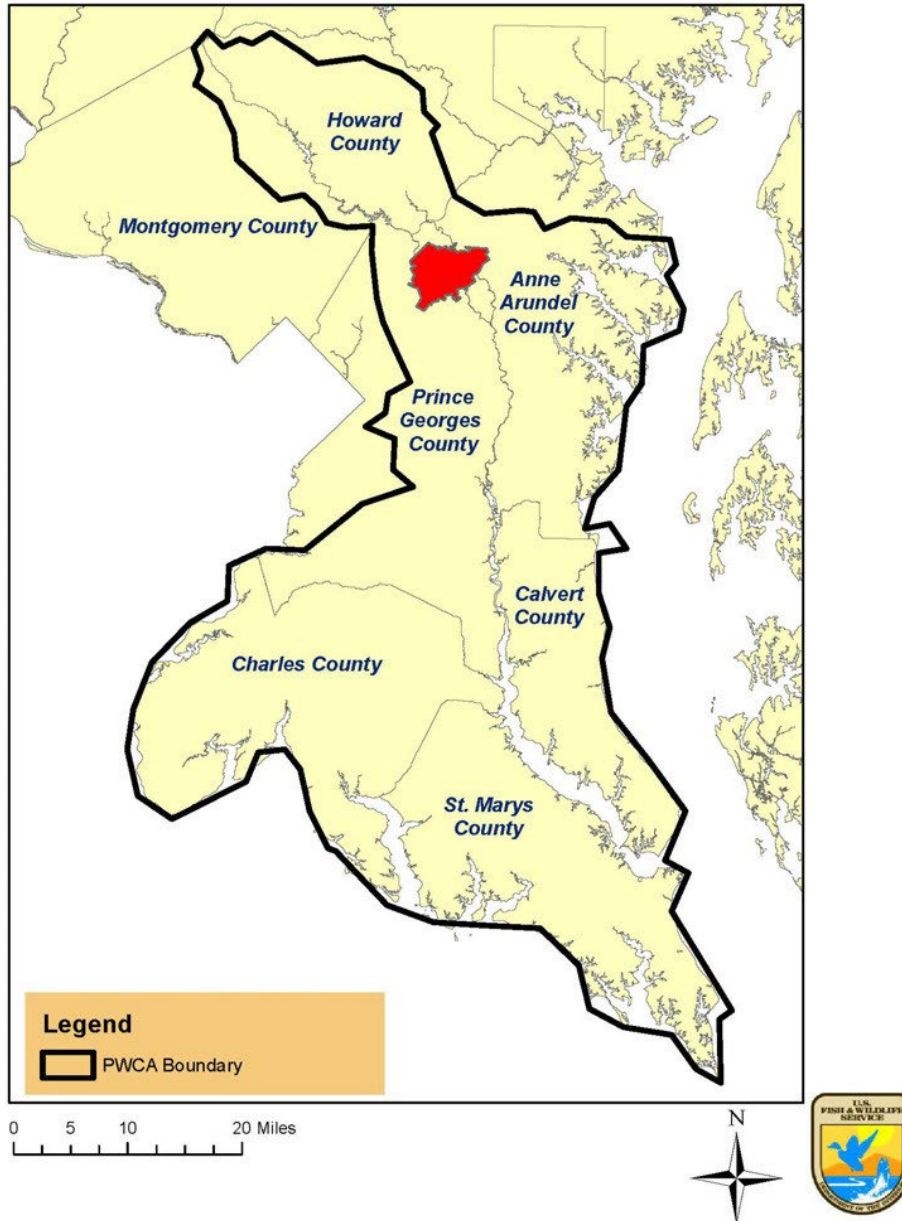
Sources: Esri, HERE, DeLorme, TomTom, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community



III. Geographic Extent

The Core Team decided that the geographic extent of the conservation design would be approximately 1,413,000 acres encompassing all or part of seven central and southern Maryland Counties, namely, Montgomery, Howard, Anne Arundel, Prince George's, Calvert, Charles, and St. Mary's Counties (Map 2). This builds on the area proposed in the PPP, which comprised seven of the most ecologically and economically important river watersheds on the western shore of the Chesapeake Bay in Maryland, as noted in Section I.

Map 2. Existing Patuxent Research Refuge (Red) and Conservation Design Counties



IV Vision, Goals, and Objectives

Vision Statement

“Patuxent Waters Conservation Area is a connected system of natural areas and working lands sustaining healthy and diverse populations of fish, wildlife, and plants that provide clean water and air, flood protection, recreation, and quality of life.”

Goals

Intact - Ensure the persistence of healthy, diverse, and enduring habitats that encompass a full range of biodiversity and ecosystem functions and services, especially stormwater management, soil conservation, groundwater recharge, and air quality.

Resilient - Natural areas and working lands are of a size and condition, and situated in a landscape context that maximizes their restoration, habitat, and ecosystem function potential, and preserves their long-term ability to withstand or recover from stress.

Connected - Maintain ecosystems in a well-distributed, interconnected network that facilitates short-term movements and long-term range shifts of a diversity of both aquatic and terrestrial species.

Objectives

Conservation Design: By January 2017 and in cooperation with partners, prepare a conservation design that identifies and depicts areas of the highest priority that can be considered the most important locations for achieving the goals (best or most urgent places to start such as but not limited to, stream corridors and headwaters, and large forest blocks). The conservation design will also depict additional tiers of priority, including connectors or corridors between core areas, and identify priorities for management and restoration that over time can enhance ecological value and improve natural processes that link ecosystems.

Design Boundary: Beginning in January 2017, use the conservation design as the foundation of a Land Protection Strategy followed by a Land Protection Plan for an expanded Patuxent Research Refuge Acquisition Boundary within which partnerships will be leveraged to enhance funding opportunities for conservation.

Protection: Within 25 years, through partnerships, permanently protect approximately 280,000 acres of priority conservation lands through fee simple acquisition, purchase of conservation easements, zoning, and other methods within the expanded Refuge acquisition boundary. Note: The 280,000-acre figure was determined for the 2011 PPP and is a sum total of MD DNR Targeted Ecological Areas (TEA), Audubon designated Important Bird Areas, lands of high conservation interest, and potential strategic corridors within the proposed expanded acquisition boundary. The MD DNR TEAs made up the bulk of the priority conservation lands and are areas of high ecological value on which MD DNR directs conservation acquisition funds.

Restoration and Management: Within this conservation landscape, develop and implement management and restoration plans in order to enhance and maintain the health of those conserved lands.

III. Conservation Features

The Refuge System's Strategic Growth Policy priority conservation targets (602 FW 5) are Recovery of Federally Threatened and Endangered Species, Conserving Migratory Birds of Conservation Concern, and Implementing the North American Waterfowl Management Plan (NAWMP). In addition to surrogate species that represent other species that use the various habitat types within the conservation design boundary, the priorities for the growth of the Refuge System are priorities for the PWCA conservation design partnership.

Federally listed species that occur within the conservation design boundary include the federally-endangered dwarf wedgemussel, which benefits from the high water quality in Nanjemoy Creek and McIntosh Run. Federally endangered Atlantic and shortnose sturgeon forage in the Potomac River and at the mouths of several Potomac River tributaries, including Mattawoman Creek, Port Tobacco Creek, Nanjemoy Creek, and Zekiah Swamp. Cliffs and beaches along the Chesapeake Bay shoreline provide breeding and foraging habitat for the federally threatened Puritan and Northeastern beach tiger beetles. Extensive forests throughout the region provide roosting habitat for the federally threatened long-eared bat, which have been detected on the Refuge. In order for a conservation design to fully address the Refuge System Strategic Growth Policy in regard to listed-species, recovery plans for listed species found within the conservation design should identify land acquisition as a recovery task necessary to achieve recovery goals and objectives.

Recovery plans for the dwarf wedgemussel, Puritan tiger beetle, and Northeastern beach tiger beetle include land acquisition as a recovery task (USFWS 1993a, USFWS 1993b, and USFWS 1994).

Forests, fields, and wetlands within the conservation design boundary support numerous Birds of Conservation Concern, including breeding and migrating bald eagles and peregrine falcons.

Extensive freshwater and brackish emergent wetlands provide breeding and foraging habitat for least bittern, snowy egret, saltmarsh sparrow, marsh wren, and least tern, and foraging habitat for lesser yellowlegs and semipalmated sandpiper. Vast tracts of interior forest provide breeding habitat for 20 of 24 Maryland-nesting Forest Interior dwelling Species (FIDS), some of which are also Birds of Conservation Concern, including wood thrush, Kentucky warbler, worm-eating warbler, and whip-poor-will and other habitat specialists such as prairie warbler and red-headed woodpecker.

Large expanses of tidal and non-tidal wetlands provide migrating and wintering habitat for waterfowl including Canada geese, mallard, American black duck, Northern pintail, gadwall, American widgeon, ring-necked duck, green-winged teal, lesser and greater scaup, canvasback, redhead, tundra swan, and ruddy duck. Maryland supports one-fourth of the North American ruddy duck population, a large percentage of which winter on the Patuxent River (ACJV 2005). Additionally, forested wetlands and riparian forests in the region provide breeding and wintering habitat for large numbers of wood duck.

Maryland's rich diversity in plant and animal life, landforms, vegetation communities, and aquatic resources is owed to the spanning of four geophysical provinces, the state's position in the Mid-Atlantic Coastal Plain, and climate. The landscape within the proposed project boundary contains 29 of Maryland's 59 Key Wildlife Habitats as identified in the State Wildlife Action Plan (SWAP) (MD DNR 2016a, see Table 1). Decades before the SWAP, however, over a dozen of Maryland's natural areas were already targeted for preservation by naturalists and conservationists for being prime examples of eastern oak-pine forest and associated wetlands. This vast vegetation community type, as classified and described by Braun (1950), is dominant among Maryland's

forest types. It extends from southern New Jersey (including the Pine Barrens) south through the coastal plain to north of the James River before angling southwest toward Mississippi and east Texas. Within the proposed project boundary, there are eight oak-pine sites, identified for protection by such organizations as The Nature Conservancy (TNC), Maryland Department of Planning, and knowledgeable individuals such as the late Chandler Robbins of the Patuxent Wildlife Research Center and Elizabeth Hartline of the Maryland Ornithological Society. The eight sites are: Belt Woods, Hellen Creek Hemlock Preserve, Maryland Point, Mattawoman Creek Valley, Mayo Point, Patuxent Natural Area, Poplar Hill Creek Area, and Zekiah Swamp (Waggoner 1975).

Table 1: MD KEY WILDLIFE HABITATS WITHIN PWCA (MD DNR 2016)

	Terrestrial	County Distribution within Project Area
1	Montane-Piedmont Oak Pine	Howard
2	Oak Hickory	Howard
3	Basic and Mixed Mesic Forest	All counties
4	Coastal Plain Oak Pine	All counties
5	Coastal Plain Pitch Pine	Ann Arundel, Prince George's
6	Coastal Bluff	Calvert, Charles
7	Coastal Beach	Ann Arundel, St. Mary's, Calvert
8	Early Succession Forest	All counties
9	Managed Grassland	All counties
	Wetland and Aquatic	County Distribution within Project Area
1	Montane-Piedmont Floodplain	Howard, Montgomery
2	Coastal Plain Floodplain	All except Howard, Mont.
3	Montane Acidic Seepage Swamp	Howard
4	Piedmont Seepage	Howard, Montgomery
5	Piedmont Upland Depression	Howard, Montgomery
6	Coastal Plain Flatwood & Depression Swamp	All except Howard, Mont.
7-9	Coastal Plain Seepage Swamp, Bog/Fen, Magnolia Bogs	All except Howard, Mont.
10	Vernal Pool	All
11	Tidal Forest	All except Howard, Mont.
12	Tidal Freshwater Marsh/Shrubland	Ann Arundel, Calvert, Charles, Prince George's
13	Tidal Brackish Marsh/Shrubland	Ann Arundel, Calvert, Charles, St. Mary's
14	Tidal Saltmarsh/Shrubland	St. Mary's
15	Coldwater Streams	Ann Arundel, Howard, Montgomery
16	Piedmont Streams	Howard, Montgomery
17-18	Coastal Plain and Blackwater Streams	All except Howard, Mont.
19	Piedmont Rivers	Howard, Montgomery
20	Coastal Plain Rivers	All except Howard, Mont.



Blueberry understory in oak-dominated forest. Patuxent Research Refuge.

Open spaces dominated by native vegetation cover are vital in heavily populated areas for the ecosystem services and quality of life they provide, such as cleaner air and water via pollution/ nutrient uptake, ambient temperature regulation, groundwater recharge, stormwater management, soil protection and rebuilding, and for the public health benefits conferred to humans with access to nature. As the monetary valuation of these services becomes more scientifically based, measurable, and quantifiable on a cost per acre basis, particularly for forest cover types, the long- term cost savings to counties, cities, and taxpayers, using a conservation approach compared to artificial provisioning of these services becomes evident.

Nowak et al. (2014) quantified the cost of ecosystem services provided by forests in terms of impacts to human health. In 2010 in Maryland, the estimated removal of airborne pollutants by trees was 95,200 tons, or 37.5 kilograms/hectare (33 pounds per acre) and the value to human health for this quantity was \$134.9 million or \$53.3/ha (\$21.4/acre). The percent of tree cover in Maryland at the time was 42.8 percent. Pollution removal amounts and values are greatest in urban areas due to higher densities of pollutants and human populations (Nowak et al. 2014).

A report by U.S. Department of Agriculture Northern Research Station on the economic values of nature and the ecosystem services provided by forests and tree canopy in Prince George's County sheds light on their significant impact on ambient air temperatures. Direct shading of the ground and release of water through leaves can result in summertime reductions of 9 to 13 degrees F. and can reduce asphalt temperatures by up to 36 degrees F. (Prince George's County 2015). The report also identified areas of the county most in need of additional forest cover to increase protection from summertime heat. Not surprisingly, this area encompasses the most developed portion of the county (Prince George's County 2015).

Alternatively, natural areas could be valued for their stormwater abatement potential, another important ecosystem service. Recent research calculates this value at \$2,418 per ha (\$979/acre) per year for forests and \$3,107 per ha (\$1,257/acre) per year for freshwater wetlands in Maryland in avoided costs for treating stormwater (MD DNR 2016b, Campbell 2017 in review). Similarly, the forest and tree cover in the Mattawoman Creek watershed (also within the PWCA) captures and reduces 236.57 million gallons of polluted water, valued at \$698 million annually (Prince George's County 2015).

A landscape-scale conservation effort needs also to account for the contribution of working lands, such as croplands, pasture, fallow land, or managed timber. Maryland's roughly 2.3 million acres of agricultural lands (29 percent of the land base of the state) (<http://www.farmlandinfo.org/statistics/maryland>), provide many complementary ecosystem services—filtration or runoff management, carbon sequestration, habitat---aesthetic value for scenic by-ways, recreation, while producing food and other products and they hold the potential for restoration.

Historically, Maryland supported large expanses of natural grasslands and savannah-like habitat. Tens of thousands of acres of grassland dotted with blackjack and post oaks once stretched across northern Maryland. These were created and maintained by a combination of soil conditions, large grazing mammals (e.g.,

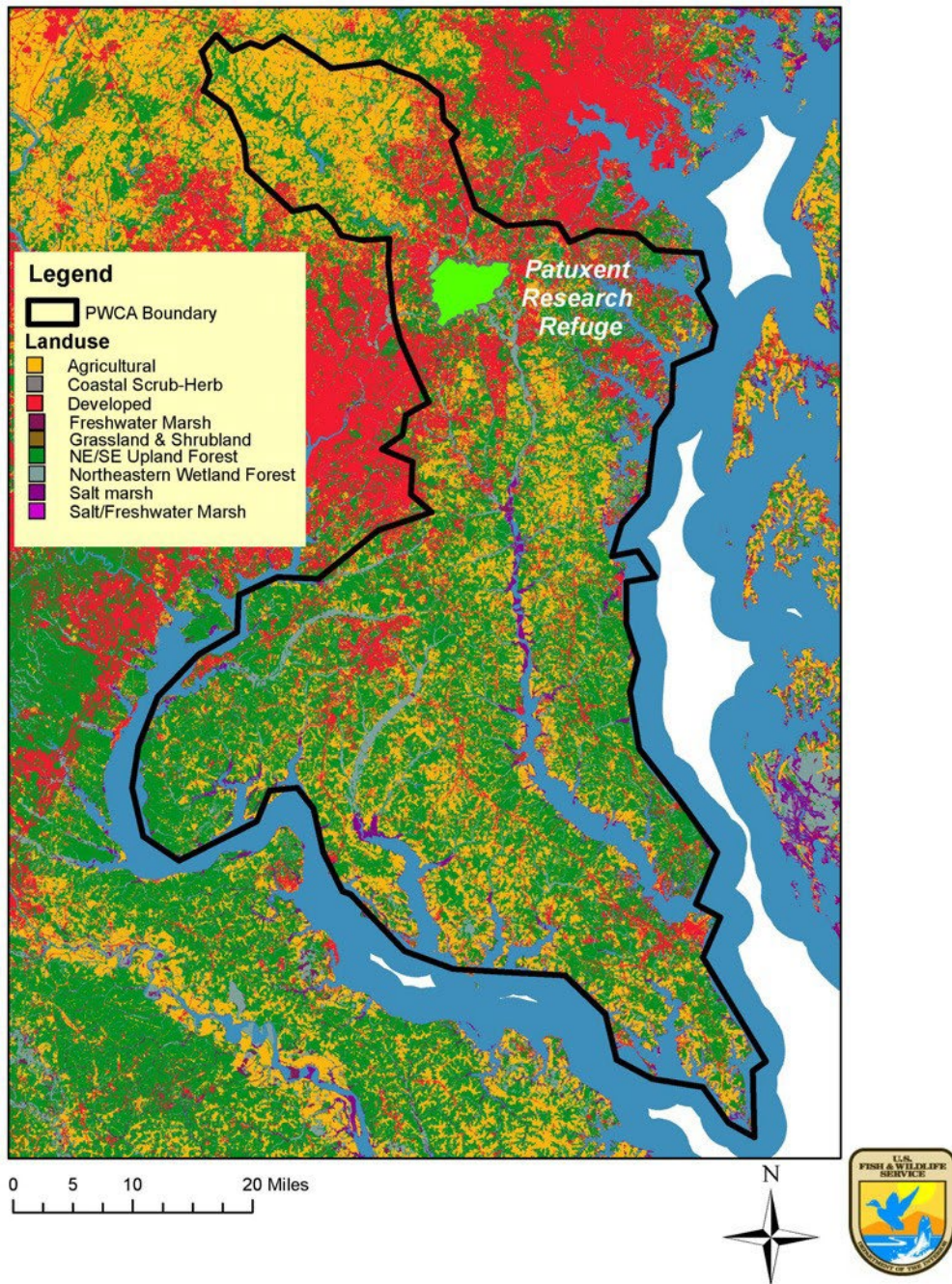
woodland bison and elk), and periodic fires (MD DNR 2016a). Little of these natural grasslands remain due to development, agriculture, fire suppression, and the disappearance of large ungulates. The grassland-dependent fauna now persist due to the occurrence of active pastures and hayfields, fallow fields and grass plantings, mowed edges of airports and military airfields, and rights of way (MD DNR 2016a). These highly variable open lands support many grassland birds of conservation concern--American kestrel, American woodcock, barn owl, eastern meadowlark, grasshopper sparrow, savannah sparrow, several bat species, herpetofauna such as eastern box turtle, spotted turtle, and eastern spadefoot toad, and numerous insect taxa (native bees, butterflies, moths, beetles) and spider species that are key to the food web.

At the beginning of European colonization, the Maryland landscape was 95 percent forest and 5 percent tidal wetland (MD DNR 2005). By 1993, the state's forests and wetlands were reduced by half. From 1972 to 2002, urban land use in Maryland nearly doubled. The population of the Chesapeake Bay watershed has doubled since 1950 and is expected to increase to 20 million people by 2030 (USDOJ 2009). The magnitude of land development to accommodate increased human populations has far exceeded requirements for space. For example, the Chesapeake Bay watershed's population grew by 8.2 percent between 1990 and 2000, but the acreage of forest and farms lost to development increased by 25 percent. The impervious cover associated with this development increased by 42 percent resulting in increases of polluted runoff flowing into the Bay and its rivers. Forests continue to be lost at a rate of 100 acres per day, while farmland is lost to development at a rate of almost 250 acres per day.

In the Baltimore-Washington corridor where population growth, development, infrastructure, and comparatively higher land cost challenges conservation, a constituency of stakeholders advocating for more local open space, protection of more natural resources, and greater equity with respect to access to nature for underserved populations, has been active in the central and southern portions of Maryland. For the most part, their coordination or collaborations have been at small scales or individually. This conservation design attempts to provide context to facilitate better connected and scalable collaborations at a landscape level and enable sharing of limited resources, particularly among like organizations with similar missions and goals. In the generations to come, a successful conservation effort would link with other similar landscape scale programs to support meta-populations or migrating populations of wildlife, provide redundancy and resiliency in the landscape, and access to nature and quality of life for communities.

Map 3 shows current landuse in central and southern Maryland. A Nature Conservancy land cover analysis (TNC 2002) for the Maryland portion of the coastal plain west of the Chesapeake Bay determined that the coarse land use breakdown is 56 percent natural land and 40 percent developed. A finer scale analysis of the same data reveals that the land cover is as follows: 49 percent upland forest; 6.7 percent forested and emergent wetland; 4 percent barren land, quarry, and grassland; 19 percent residential, industrial, and commercial development; and 21 percent agriculture.

Map 3. Patuxent Waters Conservation Area Landuse



IV. Surrogate Species

A total of 26 Surrogate or Representative Species (Table 2) were chosen in consultation with the Maryland Department of Natural Resources (MD DNR) Wildlife and Heritage Division to represent species using general habitat types found within the extent of the conservation design. Species for which the NALCC had developed species capability models are shown in bold. In addition to 26 single species, the group classification of FIDS also served to represent a category of surrogate species. Where capability models had not been developed for a species that we felt was an important representative of a given habitat type or rare community (not bolded), other datasets were used as guidance.

In constructing the Nature’s Network terrestrial core-connector network for the entire northeast region, the NALCC incorporated high quality habitat for 27 terrestrial and wetland species which served as surrogate or representative species which represent the habitat requirements of a larger number of species that use the same habitats. For the aquatic core network, lotic cores were identified using areas with a high probability of brook trout presence and stream reaches with known occurrences of Atlantic and shortnose sturgeon and brook trout and the top 5% of watersheds for the occurrence of alewife, American shad, and blueback herring. Although the Nature’s Network analyses already accounted for a suite of regional-scale surrogate species in identifying terrestrial and aquatic core networks, the PWCA conservation design group identified its own list of Nature’s Network and state-identified surrogate species for the central and southern Maryland landscape in order to compliment and reinforce known species occurrence and habitat capability against the Nature’s Network product.

TABLE 2. SURROGATE/REPRESENTATIVE SPECIES FOR THE GENERAL HABITAT TYPES OF THE PATUXENT WATERS CONSERVATION AREA

GENERAL HABITAT TYPES	INITIAL SURROGATE/REPRESENTATIVE SPECIES
FORESTS	
Upland mixed deciduous forest	Wood thrush, Eastern box turtle, ovenbird , FIDS layer
Floodplain and Riparian Forests	Louisiana waterthrush, wood duck , spotted turtle
Early Successional Forest	Prairie warbler, American woodcock
OPEN HABITATS	
Managed pasture-hay-grasslands	Eastern meadowlark
Old field, meadows, shrublands	Prairie warbler, American woodcock , Northern bobwhite
WETLANDS	
Freshwater & brackish marshes & shrub swamps	Diamond-back terrapin, American black duck, Virginia rail, marsh wren
Vernal pools, springs, seeps, depressions	Spotted salamander, Wood frog, Eastern spadefoot toad
STREAMS AND RIVERS	Dwarf wedge mussel, Triangle floater, American Brook lamprey, River herring
COASTAL BLUFFS AND BEACHES	Diamond-back terrapin , Northeastern beach tiger beetle, Puritan tiger beetle.

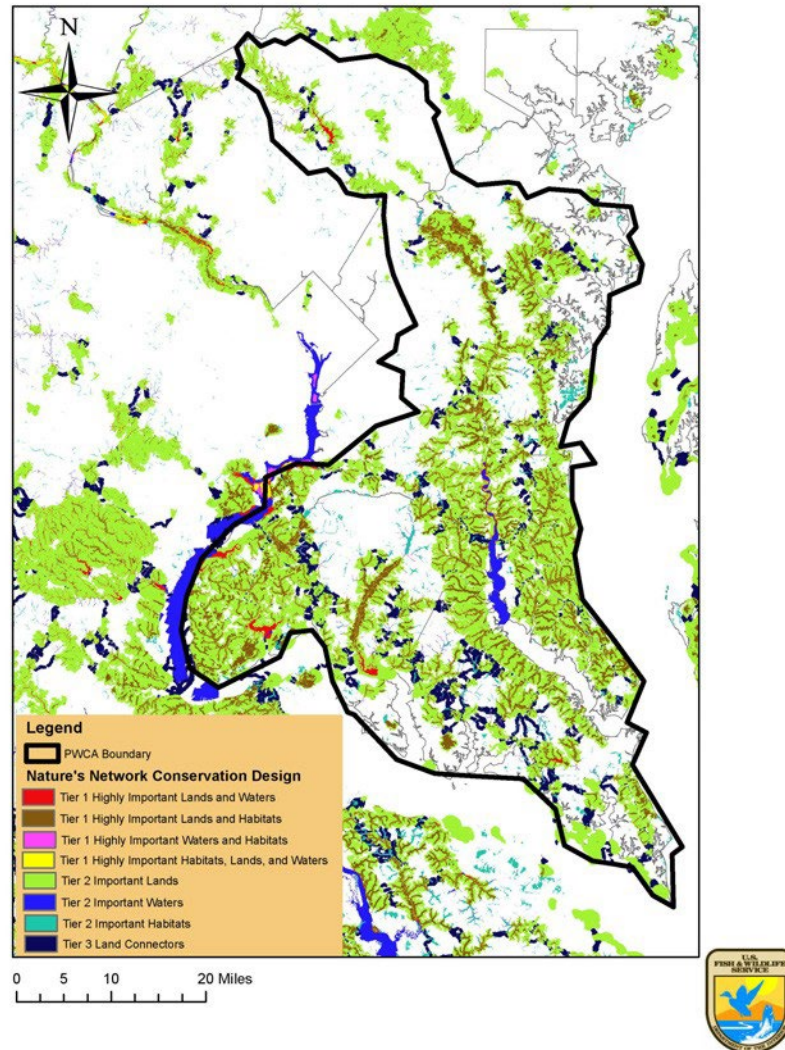
TABLE NOTES: FIDS layer = Forest Interior Dwelling Species; General habitat types and representative Mid-Atlantic species were obtained from the NALCC surrogate species list or the Maryland Wildlife Action Plan. **Species listed in bold are species with habitat capability models available from Nature’s Network.** Habitat categories are generalized, major types that are well represented across Maryland.

V. University of Massachusetts/NALCC Nature's Network

Following is a brief description of the models and data sets created by UMass in partnership with the NALCC and employed by the PWCA conservation design group to form the basis for the conservation design. More detailed and comprehensive information on the development of the Nature's Network models can be found at www.naturesnetwork.org and www.connecttheconnecticut.org.

Three Nature's Network data sets form the nucleus of the Nature's Network Conservation Design (Map 4): 1) The Terrestrial Core-Connector Network; 2) Aquatic Core Areas; and 3) Core Habitat for Imperiled Species. Areas where these Nature's Network datasets coincide and overlap with state and local priorities may be important areas for conservation action. In Map 4, "Important Habitats" represent Imperiled Species Cores; "Important Lands" correspond to Terrestrial and Wetland Cores; and "Important Waters" represent Aquatic Cores. Areas where these designations overlap are considered to be Tier 1 locations for conservation efforts.

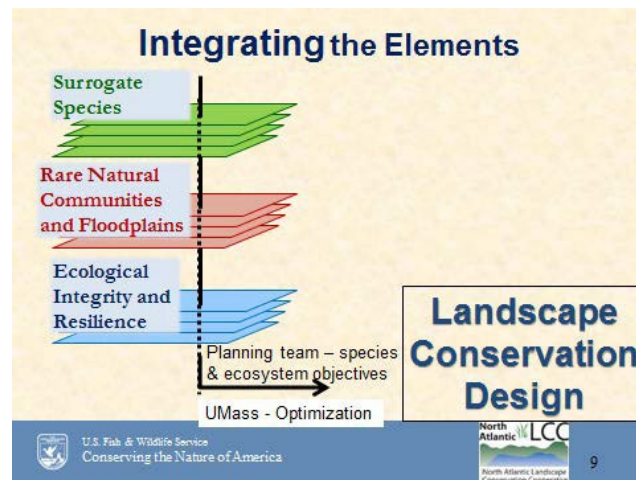
**Map 4. Patuxent Waters Conservation Area Conservation Design
Nature's Network Conservation Design**



1) Terrestrial and Wetland Cores, Connectors, Natural Blocks, and Grassland Bird Cores: If protected, terrestrial and wetland cores and connectors are expected to protect a high diversity of flora and fauna and ecosystems into the future despite changes brought about by climate change and development. For the purposes of the PWCA conservation design, it was decided to consider predicted climate change and development-related changes to the landscape from the present to 2080, since that is the timeframe that was used in the creation of the Nature’s Network datasets. Core areas represent intact, resilient examples of every major ecosystem in the northeast. Connectors are structured in a way as to enable movement of plants and animals between cores today and into the future. Core areas were identified by five characteristics, namely high ecological integrity, great potential to be resilient to changing conditions over time, rare natural communities as identified by state natural heritage programs, priority river floodplains, and current and predicted future high quality habitat for 27 surrogate species representing the habitat requirements of the majority of species in the northeast (Figure 1). Index of ecological integrity and surrogate species habitat capability datasets were created by UMass. The resilient sites dataset was prepared by TNC. Terrestrial and wetland cores were designed to cover approximately 25% of the Northeast Region of the U.S.

Ecological integrity, referring to the ability to sustain ecological function and biodiversity over a timeframe of years to decades is derived from intactness (intensity of habitat loss) and resilience (quantity of upstream impervious surface). Terrestrial resilience refers to adjustment or adaptation of living organisms over a much longer time horizon—decades to centuries—and depends on the geophysical features (geology, landforms, and elevation) in place. Rare natural communities are those ranked as critically imperiled, imperiled, or vulnerable, and since they exist at a much finer scale than ecosystem types, would be missed if not mapped by state natural heritage programs and added to the terrestrial core areas.

Figure 1. Landscape Conservation Design Elements and Process for Identifying Nature’s Network Habitat Cores and Connectors.

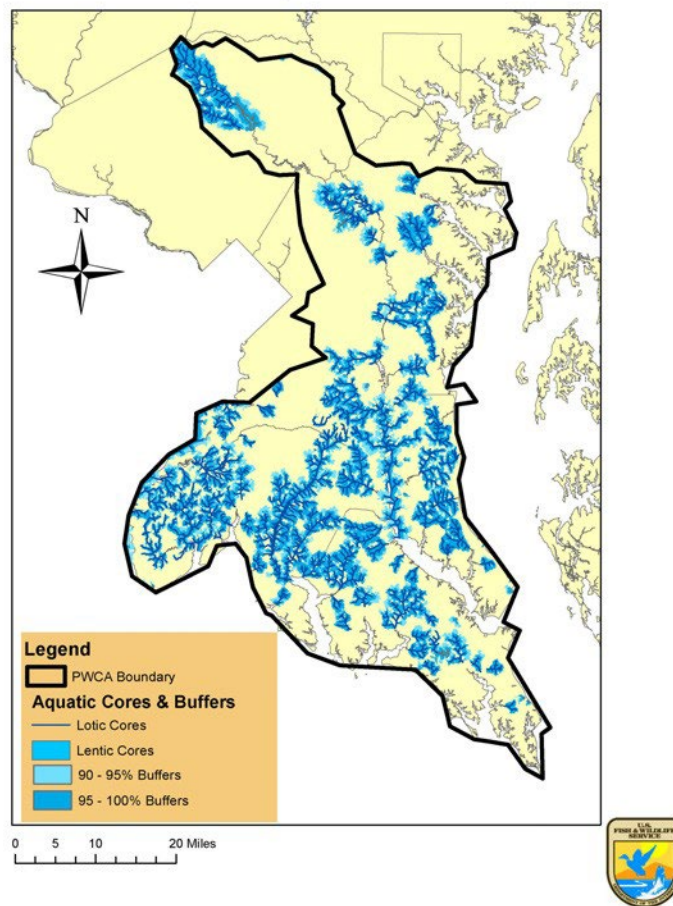


Road-bounded natural blocks are habitat zones that occur between the habitat cores and human development, typically roads. Like the connectors, these buffer zones permit the dispersal of plants and animals between cores and also are considered to be targets for conservation, particularly where other local conservation priorities also occur.

Based on habitat capability for the eastern meadowlark, grassland bird core areas were identified separately from the terrestrial and wetland cores and connectors, because the creators of Nature's Network found that grassland species were not sufficiently accounted for by those models. The Nature's Network design incorporates the top 10% of grassland bird habitat cores in the Northeast Region. Grassland bird cores included several open field land use types, including working farmland.

2) *Aquatic Core Networks*: Aquatic core networks are intact and connected stream segments, lakes, and ponds that, if protected, will support high aquatic species and habitat diversity across the landscape into the future. The aquatic core networks consist of the best examples of 21 stream habitat classes and 12 lake/pond classes mapped by TNC in each HUC 6 watershed in the northeast. Each system was analyzed for ecological integrity using the UMass index of ecological integrity. Stream reaches with Eastern brook trout occurrence but not identified by TNC were included to represent cold water headwater species, as were stream reaches with occurrences of Atlantic and shortnose sturgeon and the top 5% of occurrences of alewife, American shad, and blueback herring watersheds. Aquatic core networks also included headwaters upstream of core areas that must be protected in order to maintain habitat quality in the cores. By design, aquatic cores cover approximately 30% of the Region's stream and river miles and lake surface area.

Map 5. Patuxent Waters Conservation Area Conservation Design
Nature's Network Aquatic Cores and Buffers

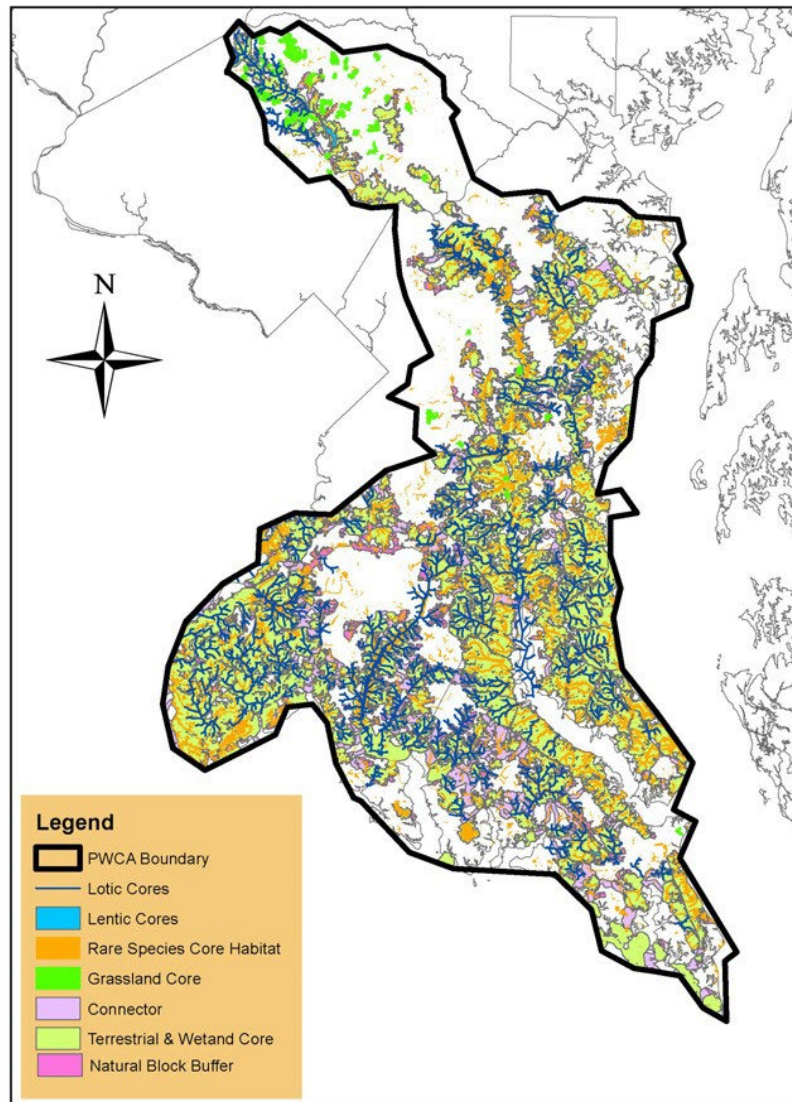


Aquatic buffers are areas that are expected to have a large influence on the condition of aquatic core areas. Controlling erosion, pollution, and other human inputs in the aquatic buffers benefits the aquatic cores.

3) *Core Habitat for Imperiled Species*: This dataset was created to account for habitat required to support over 600 terrestrial and aquatic Species of Greatest Conservation Need (SGCN) identified by state natural heritage programs. It incorporates TNC's Terrestrial Habitat Classification System, species occurrence tracked by NatureServe, a distance to water class, and the index of ecological integrity. The top 10% of core habitat necessary for sustaining imperiled species was incorporated into the Nature's Network design.

Map 6 illustrates how the three Nature's Network Core types are manifested within the PWCA boundary.

**Map 6. Patuxent Waters Conservation Area Conservation Design
Nature's Network Cores**



VI. State and Local Datasets Selected to Complement and Refine the Nature's Network Datasets to Create the Master Conservation Design Map

Since a total of 95 datasets were selected to be incorporated into the conservation design, the conservation design team decided to create a Master Map of select datasets to which all other datasets could be added based on the conservation needs of a partner organization or any combination of partner organizations. This conservation design Master Map (Maps 7 and 8) in many cases can stand alone as the primary or first tier landscape conservation design for the PWCA.

1) MD DNR Green Infrastructure: The Green Infrastructure Assessment was developed to provide decision support for the MD DNR's land conservation programs. To identify and prioritize Maryland's green infrastructure, the MD DNR developed a tool called the Green Infrastructure Assessment (GIA). The GIA is based on principles of landscape ecology and conservation biology and provides a consistent approach to evaluating land conservation and restoration efforts in Maryland. The GIA identified two types of important resource lands – "hubs" and "corridors." Hubs are typically large contiguous areas separated by major roads and/or human land uses that contain one or more of the following: large blocks of contiguous interior forest containing at least 250 acres; large wetland complexes with at least 250 acres of unmodified wetlands; important floral and faunal habitats of at least 100 acres, including rare, threatened, and endangered species locations, unique ecological communities, and migratory bird habitats; relatively pristine stream and river segments that support trout, mussels, and other sensitive aquatic organisms; and existing protected natural resource lands which contain one or more of the above. Corridors were identified using land cover, roads, streams, slope, flood plains, aquatic resource data, and fish blockages. Corridors connect hubs of similar type. For example, hubs containing forests are connected to one another; while those consisting primarily of wetlands are connected to others containing wetlands.

2) County Green Infrastructure Datasets:

- **Calvert County Forest Interior Dwelling Species Habitat**
 - This Layer identifies habitat for forest interior dwelling species of birds in Calvert County, MD.
- **Anne Arundel County Greenways**
 - Current adopted Greenways polygon GIS layer for Anne Arundel County, MD. The Purpose of this layer is to delineate an interconnected network of protected open space corridors in Anne Arundel County, MD.
- **Prince George's County Green Infrastructure**
 - Green Infrastructure Plan Network for Prince George's County, MD. Green infrastructure is defined as an interconnected network of waterways, wetlands, woodlands, wildlife habitats, and other natural areas of countywide significance.
- **Montgomery County Green Infrastructure**
 - The Montgomery County Green Infrastructure Network Map includes two basic land cover types, Natural Areas and Network Gaps between those areas. Natural Areas include streams, forests, wetlands, and non-forest habitat within the mapped network. These areas form the existing green infrastructure network elements that have the potential to be further connected, enhanced, conserved, and protected. Network Gaps are natural area discontinuities within and between natural areas within the green infrastructure network. These areas provide

potential sites for enhancements to the network. *Note: Montgomery County's Green Infrastructure was updated while this report was being drafted. The updated datasets are on the Databasin site.*

- **Howard County Green Infrastructure Network Hubs and Corridors**
 - The purpose of Howard County's Green Infrastructure Network Plan (GI Plan) is to define, protect and enhance a green infrastructure network that includes and links the most ecologically significant natural areas in Howard County. The GI Plan will enable planners to consider important natural resources when:
 - Preparing the General Plan, the Land Preservation, Recreation and Parks Plan, transportation plans, watershed management plans, and community plans
 - Making decisions about zoning and development proposals
 - Acquiring land for parks and public facilities
 - Obtaining agricultural, environmental and other land preservation easements
 - The GI Plan offers a comprehensive approach to land and water conservation that also takes into account the County's development plans.

Patuxent Waters Conservation Area Conservation Design Master Map

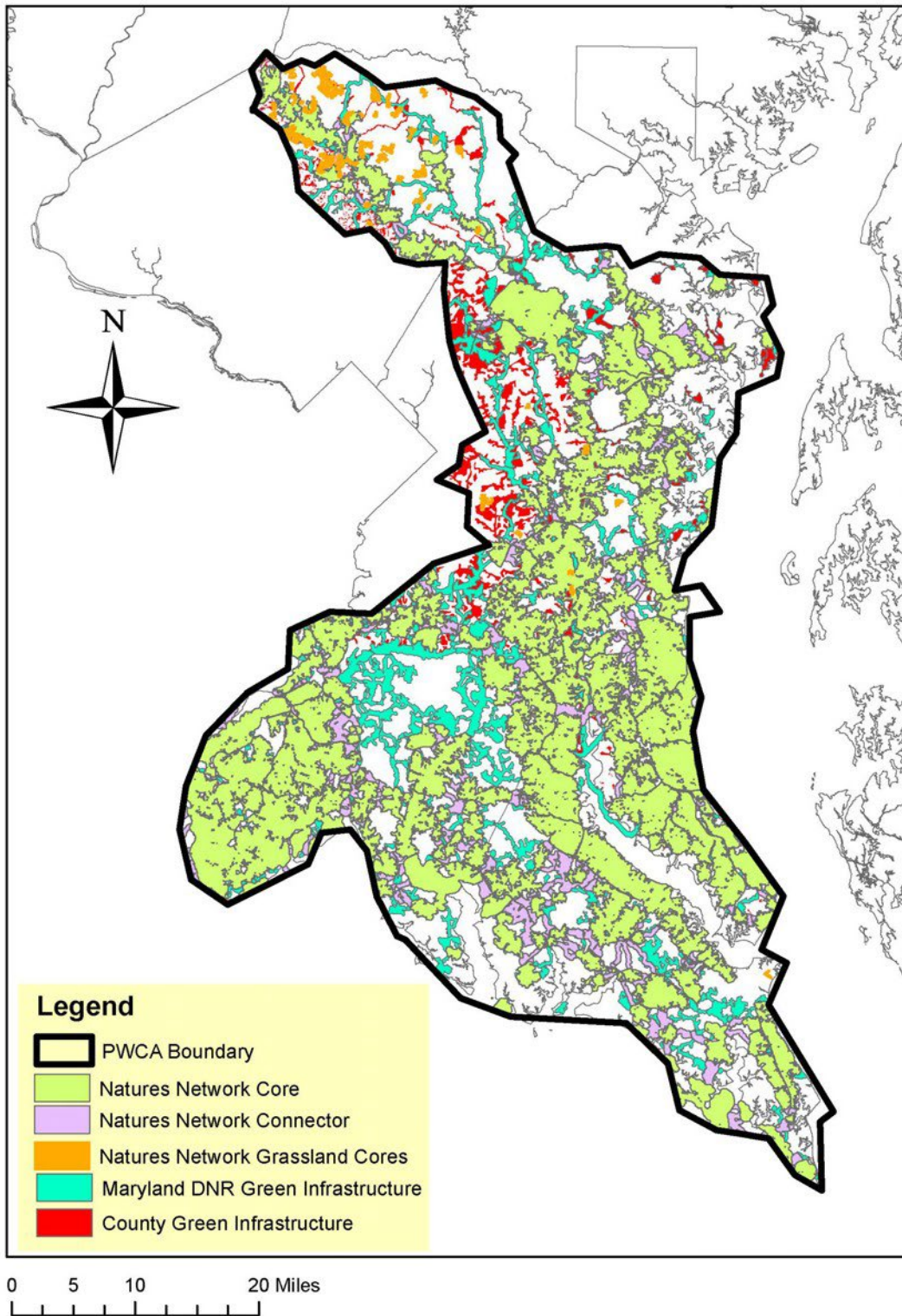
Examples of two PWCA Conservation Design Master Maps follow: Map 7 shows the entire conservation design geography and contains many of the datasets listed above. Map 8 is zoomed in to a smaller area of the conservation design and shows all of the above datasets. On the zoomed in Master Map, the utility of the Conservation Design Master Map for conservation planning within the PWCA becomes clearer.

Note: All users of the Databasin PWCA group site have the ability to manipulate the Master Map in order to address their specific conservation planning needs. Datasets can be added and removed, and colors can be changed to suit the eye of each individual.

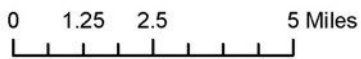
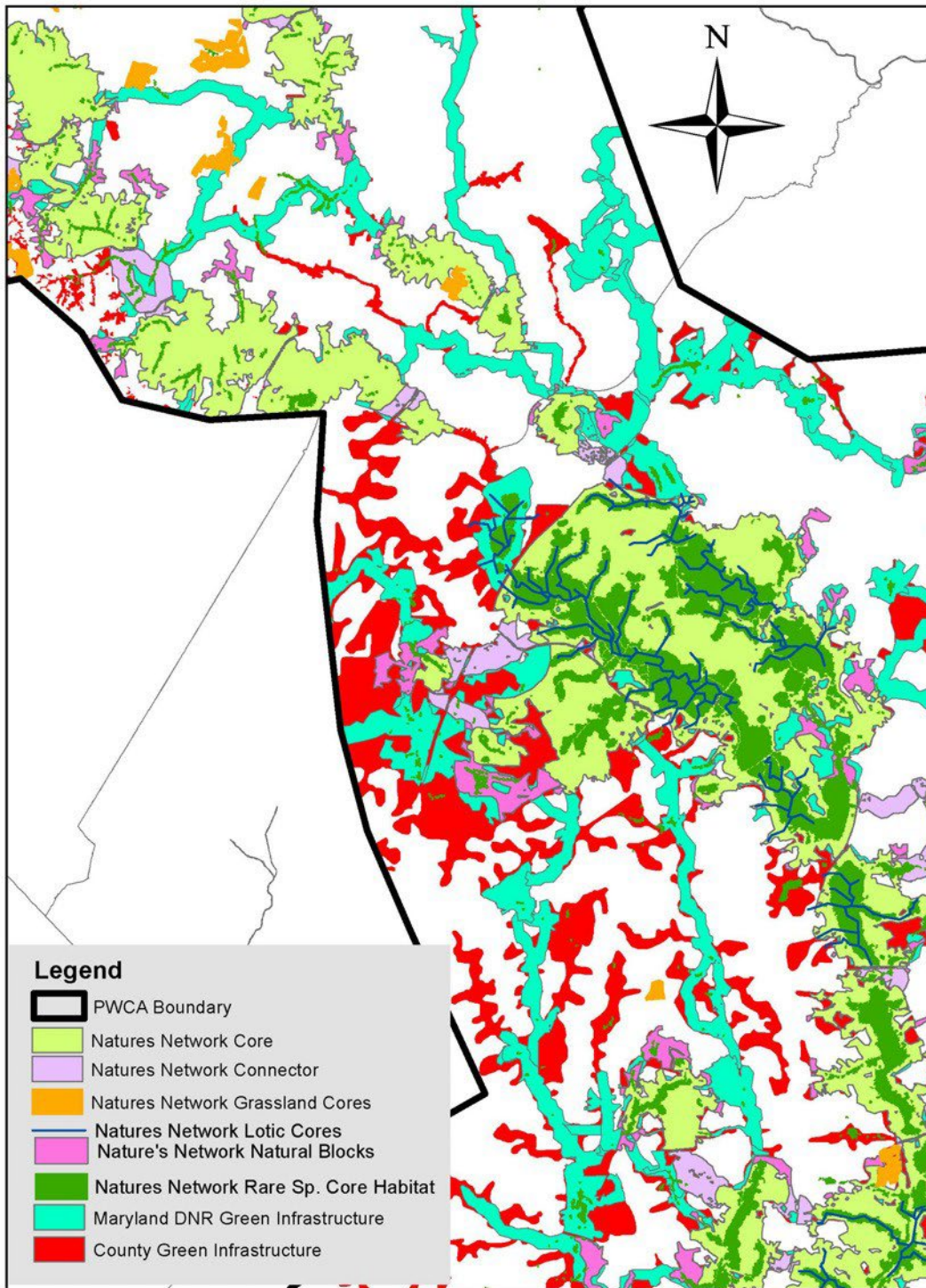
Additionally, shape files for all datasets are available for download into Arc GIS.

Map 7 incorporates the NALCC's Terrestrial and Wetland Core-Connector Network overlaid on the state and county Green Infrastructure datasets. It is an example of the importance of local information in fleshing out and refining the regional-scale Nature's Network datasets. It is evident, however, by the limited exposure of much of the underlying state and local information, that the Nature's Network Cores and Connectors compare closely to much of the state and local information. A tally of the combined Green Infrastructure/Core – Connector acres totals to approximately 641,000 acres, which is roughly 45% of the total PWCA conservation design land area. This is close to the ratio of core – connector acreage of 50% land area coverage that was used in the LCC models for Nature's Network and Connect the Connecticut, which is what the PWCA Core Team was aiming for in the PWCA conservation design. Within the conservation design land area, the goal, as determined by the NALCC, is a breakdown of 25% cores and connectors and 25% supporting landscapes within which cores and connectors are nested (e.g., road bounded natural blocks and aquatic buffers). The NALCC concluded that 50% of the land area was enough to build a landscape resilient to change and disturbance and still be realistic in terms of what could be protected over time with finite resources.

Map 7. Patuxent Waters Conservation Area Conservation Design Nature's Network Cores with State and County Green Infrastructure



Map 8. Patuxent Waters Conservation Area Conservation Design Nature's Network Cores, State GI & County GI Zoomed

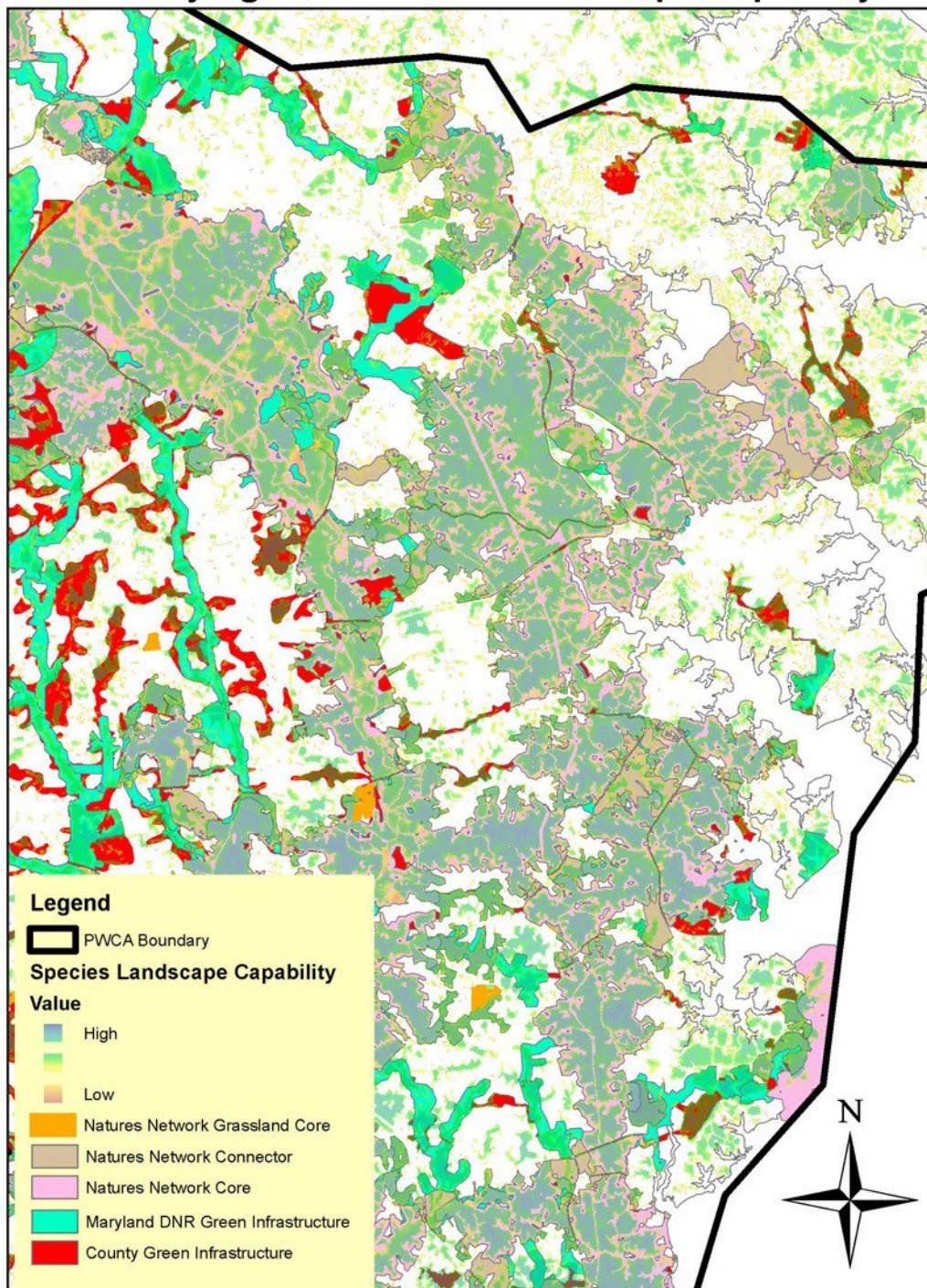


VII. Patuxent Waters Conservation Area Conservation Design Conservation Applications

The following pages show examples of the various potential conservation applications of the PWCA conservation design datasets. These examples are provided in Arc GIS but can also be created in Databasin on the PWCA group site.

Following are three maps comparing a merged dataset of the Nature's Network Terrestrial and Wetland Cores and Connectors and all of the state and county green infrastructure datasets overlaying Representative Species Landscape Capability maps for wood thrush in (Map 9), eastern meadowlark (Map 10), and woodcock (Map 11). It is an example of how it may be important to compare Nature's Network core-connector results to species maps, in order to satisfy the specific conservation goals and targets of the user. The eastern meadowlark and woodcock maps show plenty of habitat capability, but on the low end of the spectrum, suggesting opportunities for restoration.

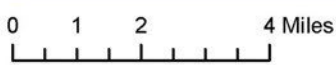
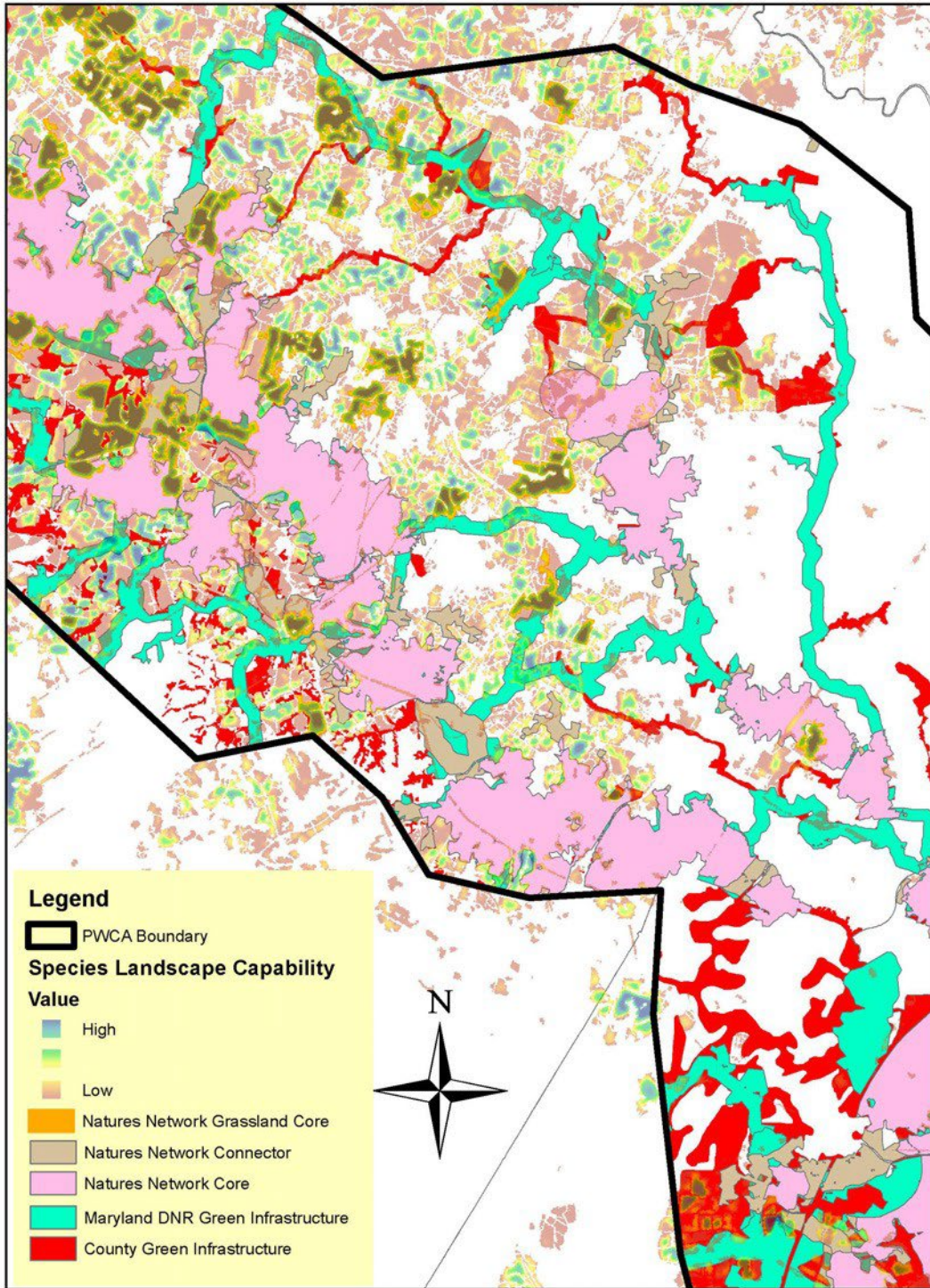
Map 9. PWCA Conservation Design Nature's Network Cores, & State & County Green Infrastructure Overlaying Wood Thrush Landscape Capability



0 1.25 2.5 5 Miles



Map 10. PWCA Conservation Design Eastern Meadowlark Landscape Capability Overlaying Nature's Network Cores, & State & County Green Infrastructure

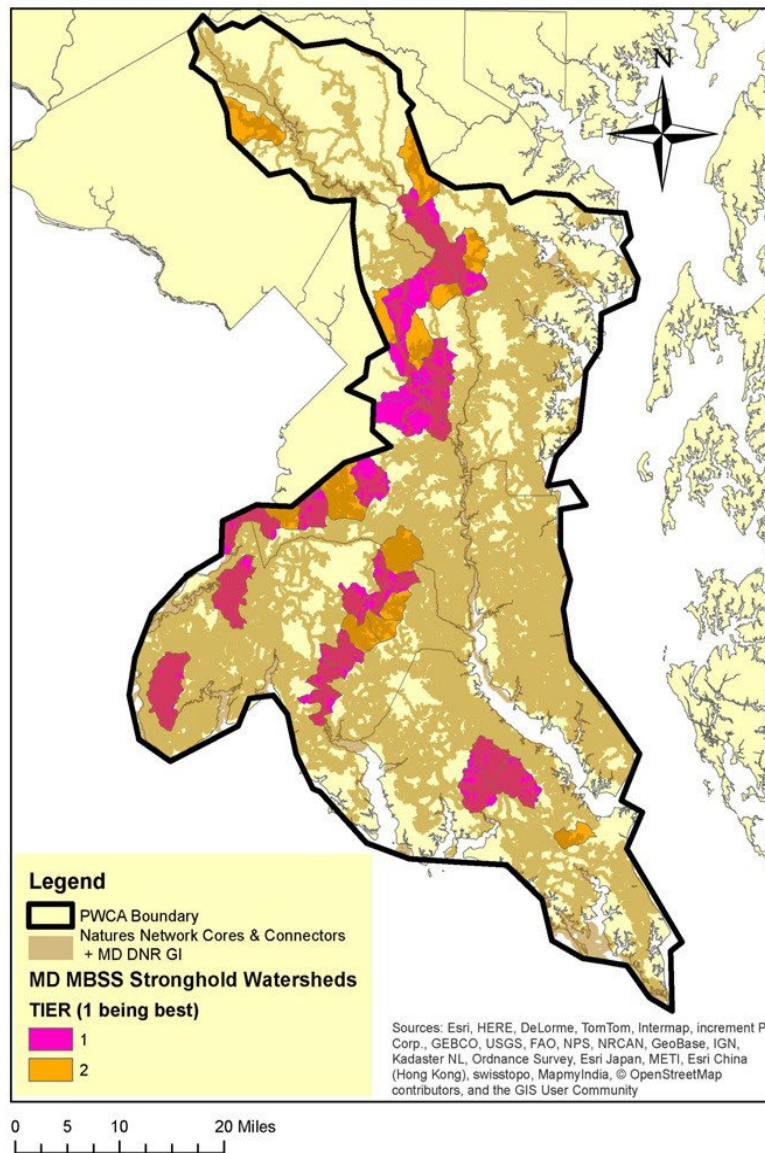


Map 11. PWCA Conservation Design Nature's Network Cores, & State & County Green Infrastructure Overlaying American Woodcock Landscape Capability



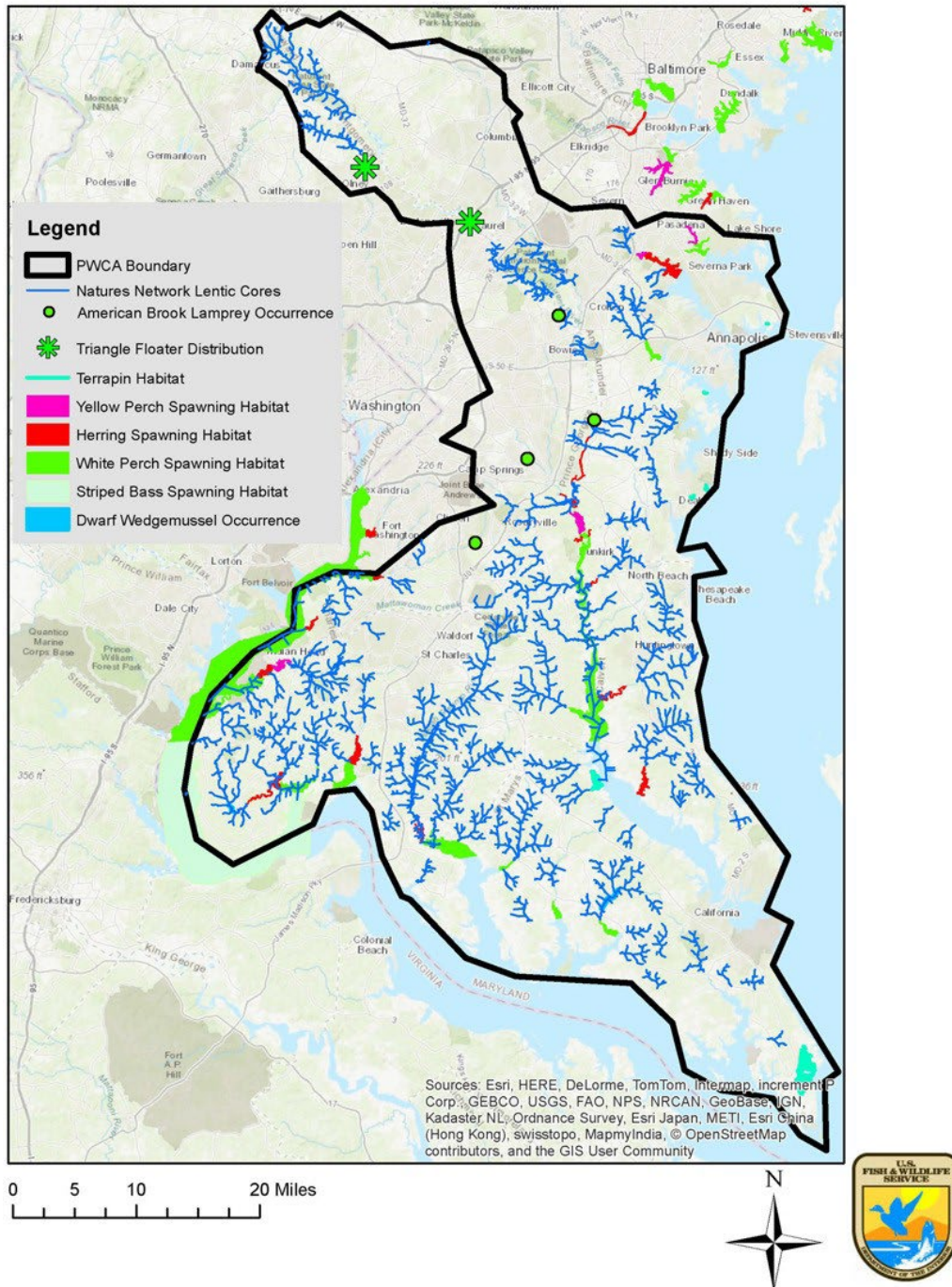
Following are two maps that identify important habitats for aquatic species. Map 12 shows the results of multiple analyses for conserving watersheds that are important for the conservation of freshwater aquatic biodiversity in Maryland. The MD DNR Maryland Biological Stream Survey and Natural Heritage Program analyzed watershed-level data to determine stronghold watersheds for individual rare, threatened or endangered freshwater aquatic species. Additionally, watershed-level data were analyzed to determine stronghold watersheds based on species richness, rarity-weighted richness, and the location of strongholds for stream-related amphibians and reptiles. This map also contains the Nature's Network Terrestrial and Wetland Cores and Connectors merged with the MD DNR Green Infrastructure dataset to show how well terrestrial and wetland cores and connectors account for important habitat for aquatic species.

Map 12. PWCA Conservation Design Nature's Network Cores & Connectors MD DNR GI Overlaying Biological Stream Survey Stronghold Watersheds for the Protection of Aquatic Biodiversity



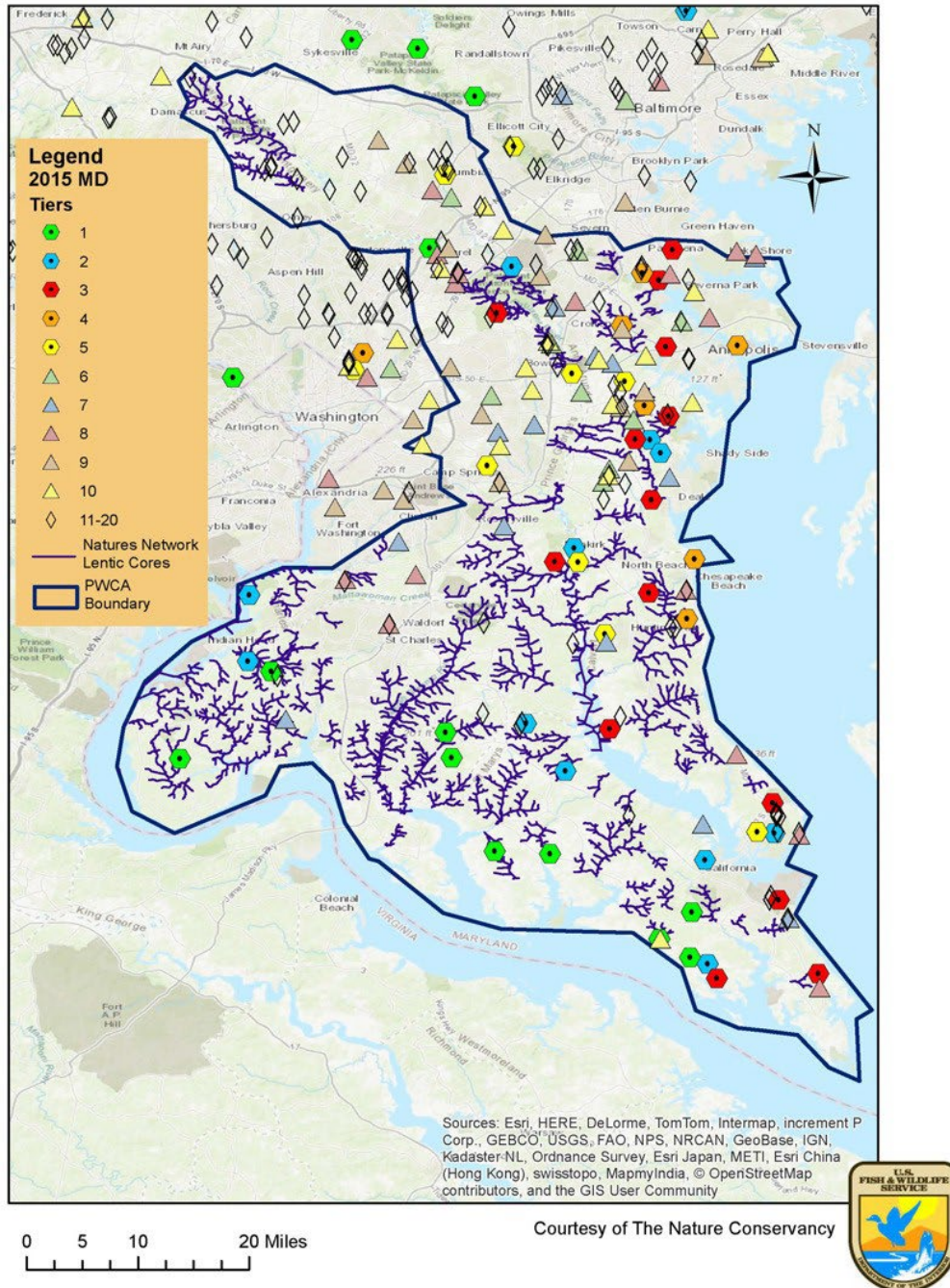
Map 13 shows the locations of occurrences and habitat of several aquatic species of concern to the conservation design team, including state and federally listed species and anadromous fish, overlaying the Nature's Network Aquatic Cores and Buffers. Several of these species, triangle floater, dwarf wedgemussel, diamond-back terrapin, American brook lamprey, and river herring serve as representative species for the conservation design.

Map 13. Aquatic Species of Concern Habitat

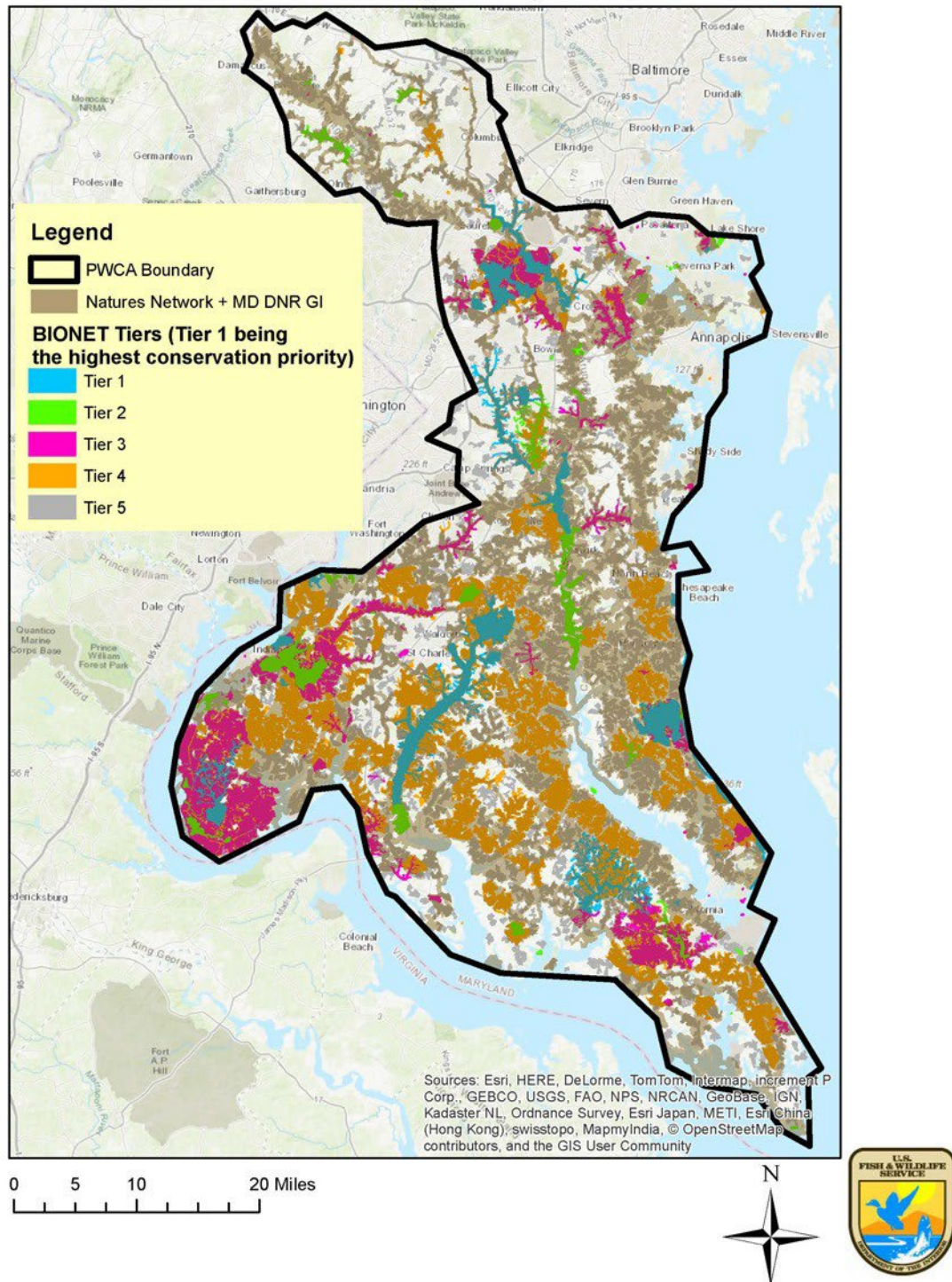


Map 14 shows Nature’s Network Aquatic Cores overlaid by data from the Chesapeake Bay Fish Passage Prioritization Tool, which assesses the ecological benefit of removing or bypassing dams (Martin and Apse 2013). This particular dataset prioritizes dam removals for the benefit of diadromous fish. The results are presented in Tiers where each Tier includes 5 percent of the dams in the Maryland portion of the Chesapeake Bay watershed. Removal of Tier 1 dams provides the greatest ecological benefit and removal of Tier 20 dams provides the least ecological benefit.

Map 14. Chesapeake Bay Fish Passage Prioritization Tool: Each Tier includes 5% of the dams in the study area. Tier 1 dams would provide the greatest benefit to diadromous fish if removed.

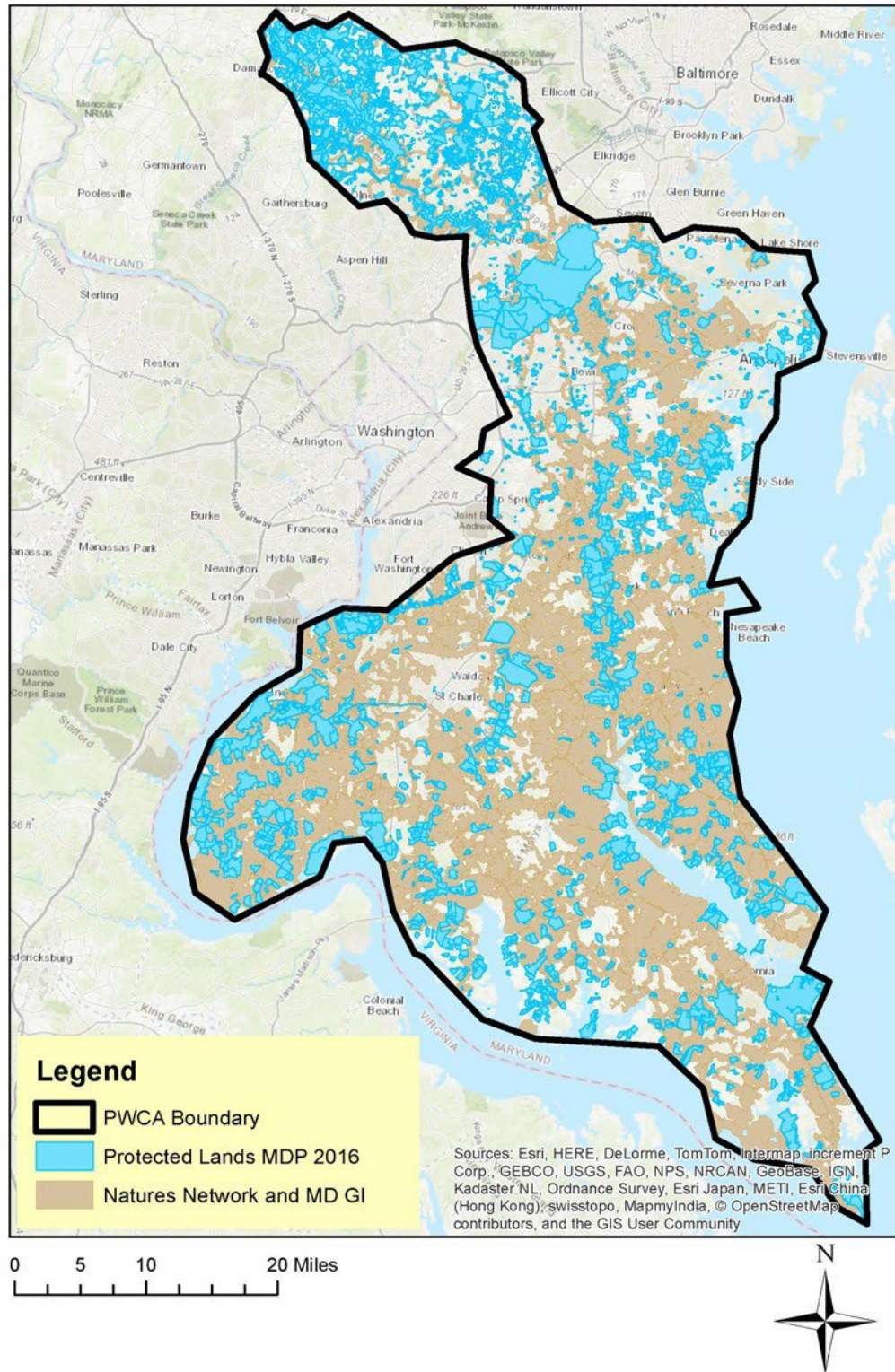


Map 15. Nature's Network Cores & Connectors + MD DNR GI Overlaying MD DNR Biodiversity Conservation Network (BioNet)



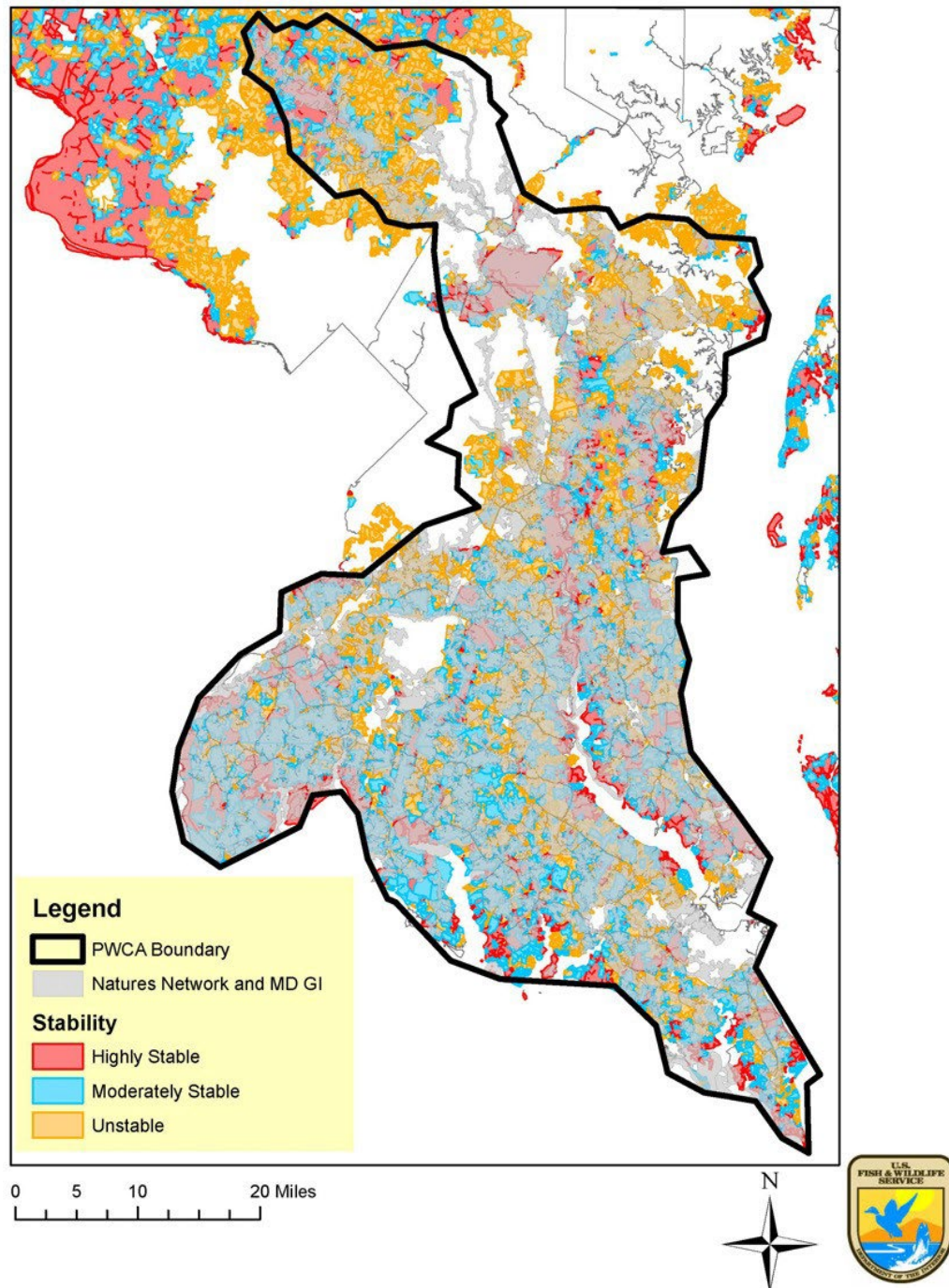
Map 15 shows a comparison of the Nature's Network Terrestrial and Wetland Cores and Connectors merged with the MD DNR's Green Infrastructure and the MD DNR's Biodiversity Conservation Network (or BioNet) dataset which identifies and prioritizes ecologically important lands to conserve Maryland's biodiversity (i.e., plants, animals, habitats, and landscapes). This dataset aggregates numerous separate data layers hierarchically according to a criteria matrix. These data were needed to maximize the influence and effectiveness of public and private conservation investments; promote shared responsibilities for land conservation between public and private sectors; and guide and encourage compatible land uses and land management practices.

Map 16. MD Department of Planning Protected Lands Overlaying Nature's Network Cores & Connectors + MD DNR GI



Map 16 shows a comparison between the Natures Network Terrestrial and Wetland Cores and Connectors merged with the MD DNR’s Green Infrastructure and the Maryland Department of Planning’s Protected Lands dataset. The Protected Lands dataset is updated yearly and contains all properties protected in fee or through conservation easements, as well as local, state, and federally owned conservation lands. This is an example of a map that can be used to target conservation lands in order to connect or build upon existing protected lands.

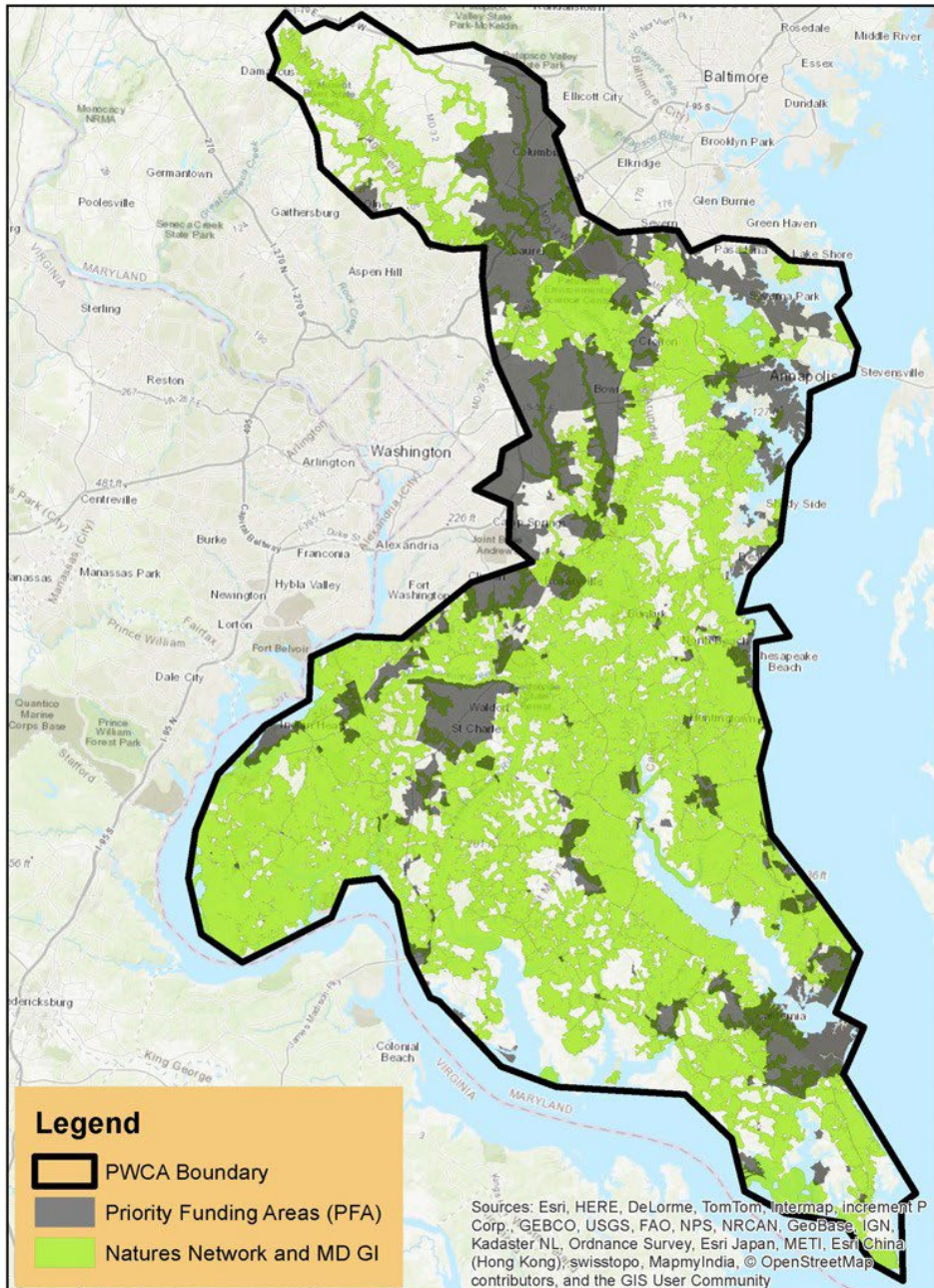
**Map 17. Nature's Network Cores & Connectors + MD DNR GI
Overlaying Rural Land Stability (Development Threat)**



The Stability metric is a qualitatively aggregated measurement of the land use stability of Maryland's rural resource land. In order to achieve these results Status (fragmentation), Vulnerability to development, and Threat of development metrics are combined to identify land, which is considered Highly Stable, Moderately Stable, or Unstable, due to present and predicted future development impacts. The Status metric is a quantitative measurement of the fragmentation, also known as subdivision, of Maryland's rural resource land. The Vulnerability metric is a quantitative measurement of the amount of possible development under current land use policies of Maryland's rural resource land. The Threat metric is a quantitative measurement of past development trends of Maryland's rural resource land. This dataset can be used along with Nature's Network datasets (as in Map 17 above) to protect important habitat that is under threat of development or avoid creating preserves in areas that are under high development threat, depending on the goals of the user.

Map 18 shows another example of a dataset that can be used to avoid placing reserves in areas that will most likely undergo future intense development. The Maryland Department of Planning's Priority Funding Area dataset shows the areas targeted by the counties to encourage development and therefore are areas that are expected to undergo conversion in the future.

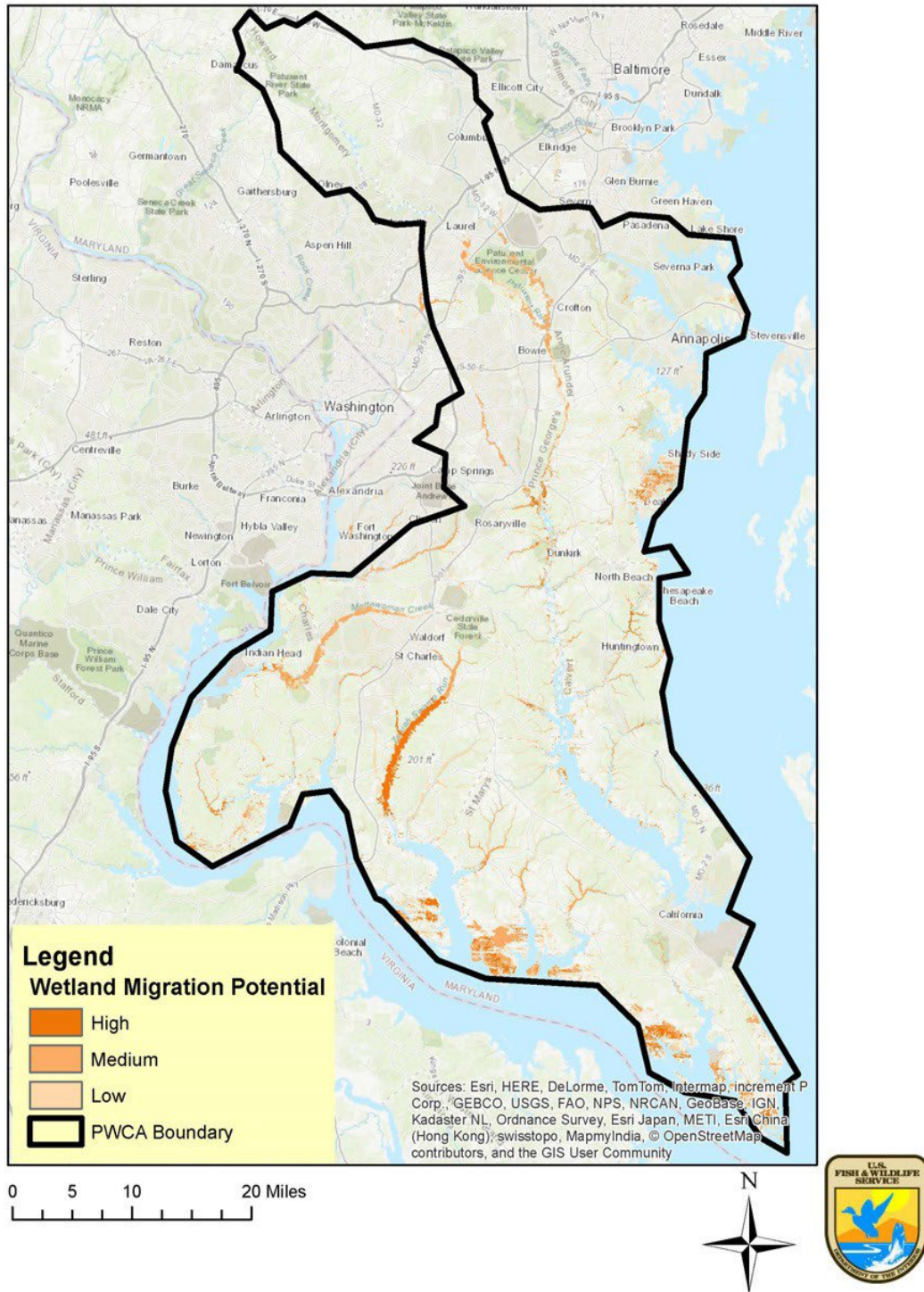
Map 18. Priority Funding Areas (Where Counties Direct Development) Overlaying Nature's Network Cores & Connectors + MD DNR GI



0 5 10 20 Miles



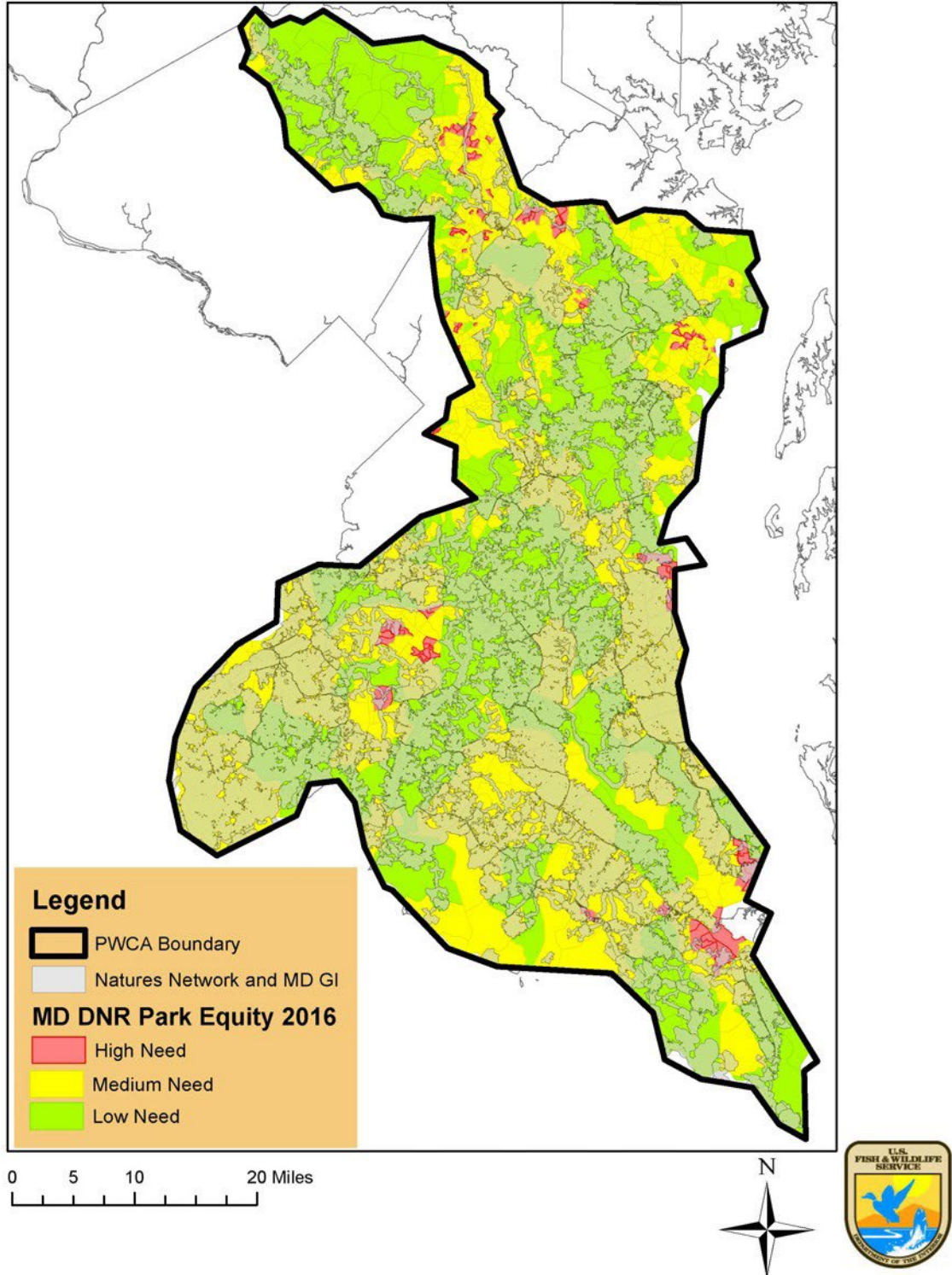
Map 19. Sea-level Rise Wetland Migration Zones



In the Chesapeake Bay relative sea level rise is impacting coastal lands at twice the global average rate. Climate driven sea level rise will pose an increased threat to Chesapeake Bay fish and wildlife habitat over time by submerging low level islands, forests, beaches and wetlands. Other potential impacts from climate change include changes in temperature and precipitation that could lead to changes in habitat composition and species ranges.

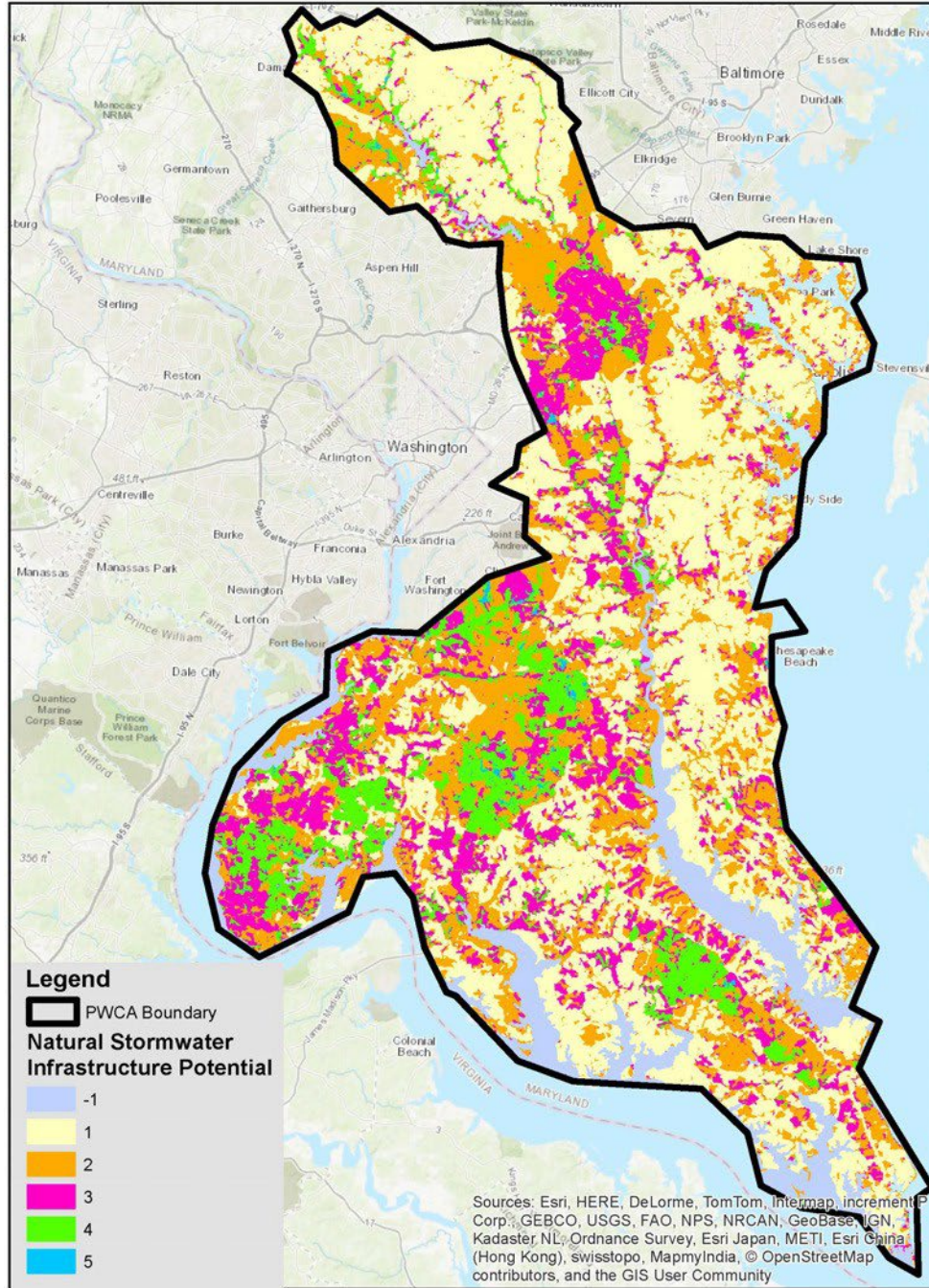
Identifying long-term planning options to increase resiliency against coastal storm surge, flooding, and erosion is an important step in protecting Maryland's coastal zone. Much of the natural buffering capacity against these coastal hazards comes from coastal wetlands. Map 19 shows a MD DNR dataset that identifies areas that, if protected from development, will allow wetlands to migrate up gradient as sea-level rises during the next 50 to 100 years.

Map 20. Nature's Network Cores & Connectors + MD DNR GI Overlaying MD DNR Park Equity (need for public access to nature)



The MD DNR's Park Equity analysis, shown in Map 20, is built upon the combination of four data layers, and prioritizes areas in need of park space by the high concentration of children under the age of 17, high concentration of populations below the poverty line, high population density, and low access to public park space. This analysis was developed to provide a quantitative tool to help expand public access to nature for underserved communities and is an example of a dataset that can be used to account for socio-economic needs in conservation planning.

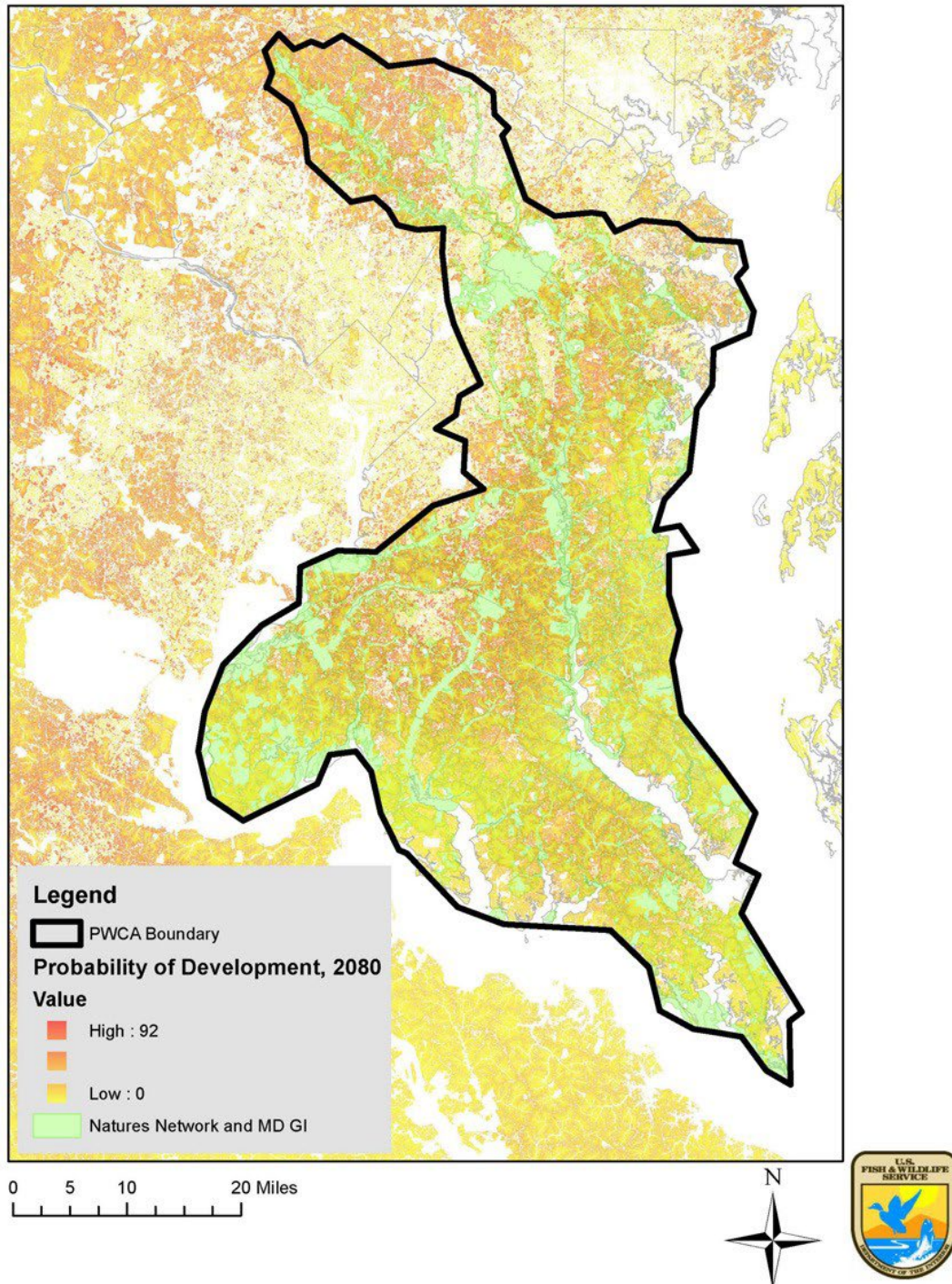
Map 21. Locations for the Preservation of Natural Stormwater Infrastructure Score of 5 has Greatest Potential



The Preservation of Natural Stormwater Infrastructure Suitability Analysis maps and scores those natural areas where current conditions support maximum groundwater recharge and/or minimal stormwater runoff, with the idea that these areas would be targeted for protection. Among other factors, these areas are located in Blue Infrastructure watersheds, areas with well-drained soils, in a 100-year or 500-year flood plain, in a Stronghold Watershed, in a Green Infrastructure hub or corridor, and are forests or forested riparian buffers. Map 21 is an example of a dataset that accounts for the ecological services provided by habitat, in this case recharging groundwater and preventing nutrient and sediment laden runoff from entering the Chesapeake Bay.

Map 22 shows the probability of development within the PWCA between 2010 and 2080. It is based on urban growth patterns in the Northeast and is informed by geophysical conditions, protected lands, and proximity to roads, towns, and cities.

Map 22. Probability of Development by 2080 Overlaying Nature's Network Cores & Connectors + MD DNR GI



VIII. Characteristics of LCC Conservation Designs and the Patuxent Waters Conservation Area Conservation Design

The LCC Network defines the conservation design process as *“A partner-driven approach to achieve a sustainable, resilient socioecological landscape. It is an iterative, collaborative, and holistic process resulting in strategic and spatial products that provide information, analytical tools, maps, and strategies to achieve landscape goals collectively held among partners.”*

In August 2016, the LCC Network developed a list of eight key characteristics that conservation designs should demonstrate. This section of the report will show how the PWCA conservation design demonstrates these characteristics.

Consulting the Connect the Connecticut project report as a guide and using Nature’s Network conservation design tools, as well as state and local information, the PWCA conservation design teams acquired and produced 95 datasets that can be used by the PWCA partnership for conservation planning and design within the proposed expanded acquisition boundary for PRR. As with Connect the Connecticut, the nucleus of the PWCA conservation design is a network of resilient, intact habitat cores connected by corridors of similar habitat and embedded in supporting rural landscapes. This conservation design network is housed on the PWCA conservation design Databasin group site and will serve as a “roadmap for conservation action” in the present and in the future within the PWCA conservation design boundary in dynamic and adaptive response to changes brought about due to climate change and development pressure.

Characteristic 1: The partnership is cross-jurisdictional and multi-sector and operates using collaborative, partner-driven processes.

The PWCA conservation design collaborative partnership consisted of 51 conservation practitioners from 33 organizations and was facilitated by the Service’s Chesapeake Bay Field Office Coastal Program and the Refuge. Partnership membership included planners from all seven counties located within the conservation design; four state government entities including the MD DNR; four local and regional land trusts; eight national and worldwide conservation organizations including American Forests, The Conservation Fund, National Fish and Wildlife Foundation, The Nature Conservancy, Audubon MD-DC, Ducks Unlimited, The Trust for Public Land, and the Land Trust Alliance; and four federal agencies including the Service, U.S. Forest Service, U.S. Geological Survey, and U.S. Navy.

Characteristic 2: Partners collectively develop a shared vision, shared goals, and fundamental objectives for long-term, landscape-scale conservation in the subject geography.

Beginning in April 2016, the PWCA conservation design team met monthly to come to consensus on a shared conservation vision, three conservation goals, and four objectives; agree on the geographic extent of the conservation design; choose surrogate species to represent the diverse habitats and floral and faunal assemblages within the conservation design; decide which datasets to use in the design; and review and revise interim conservation design products.

Characteristic 3: The Design reflects a holistic or systems-level look at the landscape over a specified time frame.

The landscape within the proposed project boundary contains 29 of Maryland’s 59 Key Wildlife Habitats as identified in the State Wildlife Action Plan. The NALCC concluded that 50% of the land area was enough to build a landscape resilient to change and disturbance and still be realistic in terms of what could be protected over time with finite resources. Between the Nature’s Network Terrestrial and Wetland Cores and Connectors, grassland cores, aquatic cores, and rare species cores, and the MD DNR and county Green Infrastructure datasets, approximately 50% of the landscape within the conservation design boundary is prioritized for protection.

Nature's Network terrestrial and wetland habitat cores within the conservation design boundary ranged from 110 acres to 52,656 acres in size and were dominated by southern Atlantic Coastal Plain mesic hardwood forest and north Atlantic Coastal Plain basin swamp and wet hardwood forest, and also consisted of nine other Nature's Network habitat types, supporting 15 Nature's Network surrogate species, including 10 Nature's Network surrogate species chosen by the PWCA conservation design team, namely wood thrush, eastern box turtle, Louisiana waterthrush, wood duck, prairie warbler, American woodcock, diamond-back terrapin, American black duck, Virginia rail, and marsh wren. The grassland cores will account for Eastern meadowlark, another PWCA conservation design surrogate.

For the purposes of the PWCA conservation design, it was decided to consider predicted climate change and development-related changes to the landscape from the present to 2080, since that is the timeframe that was used for the Nature's Network datasets.

Characteristic 4: The partnership identifies conservation features (such as elements of biodiversity, ecosystem processes, human well-being targets, etc.) as the most valued and or urgent elements around which the design is constructed. Identifying conservation features allows partners to link goals to specific factors driving change and to propose strategies to monitor these features as measures of progress towards goals.

The vision and resulting goals of the PWCA is to create a network of intact, resilient, and connected natural areas and working lands sustaining healthy and diverse populations of fish, wildlife, and plants that provide clean water and air, flood protection, recreation, and quality of life for the people of Maryland, the Chesapeake Bay watershed, and beyond. Using the Nature's Network tools, complemented with state and local datasets, the PWCA partnership has created a conservation design that will contribute to the protection and enhancement of these resources.

Using Nature's Network and state and local ecosystem-scale and species-scale tools, the PWCA team mapped and prioritized the resources we value throughout the Patuxent Waters landscape. A total of 95 datasets were uploaded on the PWCA Databasin group site in order for partners to modify the conservation design master map to address specific conservation and socio-economic landscape design needs. The conservation design Databasin group site is a living conservation information repository and workspace that will be updated and added to over time as new information becomes available. This will enable partners to monitor positive (habitat protection and enhancement) and negative (climate change and development impacts) over time in order to judge progress and make mid-course corrections to the conservation design as needed.

Characteristic 5: The design includes a spatial and/or narrative expression of the desired future trajectories or conditions of the landscape.

Within the 1,413,000-acre PWCA landscape, the conservation design targets approximately 50%, or 706,500 acres, of the land area to be maintained as terrestrial, wetland, and aquatic habitat cores connected by habitat corridors and embedded in a supporting rural landscape of healthy forests, wetlands, fields, and vibrant towns. This landscape will support genetically diverse, species rich, healthy populations of fish and wildlife, in dynamic adaptive response to future changes brought about by climate change and development.

Characteristic 6: The Design includes an assessment of current and projected future conditions of the landscape, of the factors driving change (e.g., climate change, land use, etc.) and of the economic, social, and/or ecological trends and opportunities affecting shared goals and desired future conditions within the landscape.

The major drivers of landscape change in the PWCA are and will continue to be human development and climate change. Land protection strategies developed using the PWCA conservation design will help to reduce impacts of climate change and development by increasing the extent of protected areas,

improving representation and replication within a protected-area network, and protecting movement corridors, steppingstones, and refugia.

A total of 95 datasets are housed on the PWCA conservation design Databasin group site. Taken together and in various combinations, these datasets provide a clear picture of existing conditions in the PWCA. Future conditions in the landscape are predicted using tools from Nature's Network, including the ecological integrity index, resiliency, species capability, probability of development, and climate stress tools, which provide an indication of where the most resilient habitat and most change-impacted landscapes will be in 2080. In addition to the Nature's Network tools, the PWCA conservation design team selected state and local datasets to predict future conditions, including climate change-related sea-level rise wetland migration maps, the Maryland Coastal Atlas and coastal resiliency maps, coastal hazard maps, the Maryland Blue Infrastructure Assessment; and development-predicting priority funding area maps and rural land stability maps.

Characteristic 7: The partnership collaboratively provides recommendations on strategies to achieve the vision, goals, and objectives of the design.

The PWCA conservation design Master Map in many cases will serve as the primary or first iteration conservation design for the PWCA. The conservation design Master Map combines seven Nature's Network datasets, including terrestrial and wetland cores and connectors and the aquatic core network, with seven state and county green infrastructure datasets. Additional datasets can be added on the Databasin site depending on the conservation planning and design goals of individual partners and various combinations of partners and also to refine and prioritize various cores for protection. The PWCA conservation design team concurs with the assessment in the Connect the Connecticut report that the terrestrial and wetland cores and connectors and the aquatic core network are "the best places to start for the protection and management of lands and waters in their natural state." When combined with state and county green infrastructure datasets, the Nature's Network core and connector datasets identify the areas of the highest biodiversity in a connected network that provide the greatest resiliency to climate and development-driven change. This connected network of high biodiversity, resilient, core areas represent the highest conservation priorities for the PWCA conservation design partnership.

Established recommendations for using the LCC tools to develop strategies to achieve conservation goals were consulted in the development of strategies to create a PWCA conservation design that is a connected system of intact and resilient natural areas and working rural lands. PWCA conservation design conservation strategies include:

- *Protect lands through fee or easement purchase based on their relative ecological value and importance.*
- *Prioritize conservation efforts in areas where aquatic and terrestrial cores overlap.*
- *Prioritize areas where Nature's Network datasets coincide and overlap with state and local priorities for conservation action.*
- *Protect and restore streams and riparian habitat at or near areas identified as aquatic cores.*
- *Promote private landowner stewardship and best management practices in or near core areas.*
- *Promote working farms and agricultural techniques that protect habitat for grassland species in addition to achieving food production targets.*
- *Refine the ranking of core areas by using additional Nature's Network ecosystem- scale and species capability datasets, as well as state and local information.*
- *Protect places where cores and connectors intersect with natural stormwater infrastructure.*
- *Protect places where cores and connectors intersect with Park Equity zones to provide open space access to underserved communities.*
- *Institute climate change adaptation strategies including:*

- *Protect and enhance habitat connectivity*
- *Increase the number and size of protected areas*
- *Protect areas that are least likely to change due to climate*
- *Conserve geophysical diversity in order to maintain biodiversity*
- *Reduce non-climate threats, such as habitat fragmentation, from development*
- *Protect sea-level rise habitat migration zones*

Characteristic 8: *The Design products and processes are developed and managed iteratively, incorporate uncertainty, are adaptive to events and responsive to change, and are periodically evaluated and refined.*

The PWCA conservation design process began in February 2015 when a small group of conservation partners met to discuss the possibility of a conservation design for an expanded Refuge acquisition boundary. In February 2016 and March 2016 meetings were held with an expanded group of partners that eventually formed the PWCA conservation design Core and Extended Teams, whose monthly meetings began in April 2016. It was in the monthly meetings that conservation design partners came to consensus on the geographic extent of the conservation design; vision, goals, and objectives; surrogate species; and which ecosystem-scale, species-scale, and landscape change-predicting datasets to use in the conservation design.

The Nature's Network datasets prepared by the NALCC in many cases incorporate uncertainty and predicted response of species and ecosystems to change over time and also include climate change response modelling and datasets that predict landscape change due to development. State and local datasets were also employed to account for predicted landscape changes over time, and include sea-level rise wetland migration datasets, rural land stability maps, and maps of priority funding areas where the counties plan to direct future development.

As new datasets become available they will be incorporated into the conservation design and in many cases used to monitor change over time. For example, the Maryland Department of Planning updates protected lands maps on a yearly basis. These maps can assist conservation design partners with monitoring success in terms of lands protected over time to judge whether conservation targets are being met.

Work is currently in progress in consultation with the U.S. Geological Survey to develop measurable biological outcomes for avian species, as well as protocols for monitoring populations over time. Section XIII provides an example of this work, which will be built upon in order to understand population shifts in all of the PWCA surrogate species, where enough data exists.

IX. Patuxent Waters Conservation Area Conservation Design and the U.S. Fish and Wildlife Service Refuge Management Strategic Growth Policy

The ultimate goal for the Refuge in engaging in the PWCA conservation design is to inform conservation decisions and investment by the partnership and support the attainment of the vision for future landscape conditions in the PWCA. Secondly, the Refuge can take the partner-driven conservation design and apply it to land protection planning, the outcome of which will be an expanded Refuge boundary and a greater Refuge contribution to conservation partnerships on the western shore of the Chesapeake Bay in Maryland. The Refuge System's Strategic Growth Policy (602 FW 5; 2014) and Interim Land Protection Planning Guidance (2016) were not available during the development of the 2011 PPP for the expansion of the Refuge boundary. Consequently, the 2011 PPP was completed under the old system where, since the PPP was approved by the Service's Director in 2011, would have led to the LPP phase. The transition from the Refuge's PPP to the LPP phase was ultimately put on hold when it became evident that there was a new step in the process for establishing or expanding a refuge, the conservation design, which was being developed and which involved close coordination between refuges, partners, and stakeholders. Additionally, the PPP was to be replaced by a Land Protection Strategy (LPS) which was to be informed by a conservation design. Thus, the Refuge planning team reversed the new process by completing a LPS prior to completing a conservation design. This section of the report is an effort to briefly (since there is an approved PPP) address the LPS step, as a supplement to this

conservation design document.

According to the Service Director's May 18, 2016, Land Protection Planning Interim Guidance, Service personnel engaged in the conservation design process should evaluate any potential priority conservation areas against the priority conservation targets and the science-based criteria in 602 FW 5. Once conservation areas are confirmed to satisfy the Strategic Growth Policy, the LPS process can begin. The priority conservation targets for the growth of the Refuge System, previously listed in Section V, are recovery of threatened and endangered species, implementing NAWMP, and conserving birds of conservation concern Map 23.

In terms of listed species, Map 23 shows that there are six federally listed species that occur within the PWCA boundary. Three of these species, the federally endangered dwarf wedgemussel and the federally threatened Puritan tiger beetle and Northeastern beach tiger beetle; have land acquisition listed as recovery actions in their recovery plans.

Two NAWMP Atlantic Coast Joint Venture Bird Conservation Region (BCR) 30 Waterfowl Focus Areas occur within the boundary, as does a portion of one of Ducks Unlimited's Chesapeake Bay Waterfowl Focus Areas. Furthermore, MD DNR Waterfowl Concentration Areas also coincide with the boundary.

Focus Areas for BCR 30 priority waterbirds and land birds, seven Audubon Important Bird Areas, and at least 130 active bald eagle nests confirm the importance of the Patuxent Waters landscape for birds of conservation concern, including bald eagles, peregrine falcons, rails, bitterns, snowy egrets, saltmarsh sparrows, sedge wrens, least terns, lesser yellowlegs, semipalmated sandpipers, and FIDs.

Listed below are the science-based criteria under the Refuge System's Strategic Growth Policy and descriptions of how the PWCA conservation design addresses those criteria.

A. Identify priority conservation species or surrogate species that represent them. In addition to identifying the federally listed species, waterfowl, and species of conservation concern that will benefit from an expanded PRR acquisition boundary, the PWCA conservation design identified and mapped habitat capability or presence for 26 surrogate species representing nine major habitat types found within the conservation design boundary.

B. Explain how a project or combination of projects contributes to achieving stated population objectives. Many of the decision support tools employed for the PWCA conservation design were developed by UMass initially for the Connect the Connecticut conservation design project. These tools were then expanded to cover the entire Northeast Region as part of the Nature's Network project. The Connect the Connecticut report does not identify specific population objectives for particular species, but states that the best habitat for the non-fish species was identified using landscape capability models "that relate characteristics of the landscape to those places where populations are most abundant or successful." Migratory aquatic species, including American shad, river herring, and shortnose sturgeon, were addressed by identifying the full extent of unblocked river and stream reaches as aquatic cores, because these segments provide the habitat needs of these species. In addition to creating the ability to refer to the species capability maps individually depending on a specific conservation objective, the species capability information was incorporated into the terrestrial and wetland cores connectors and aquatic cores as part of the optimization process targeting the best places to protect based on the needs of populations of the various representative species in order to maintain those populations in light of present and future development and climate-related change.

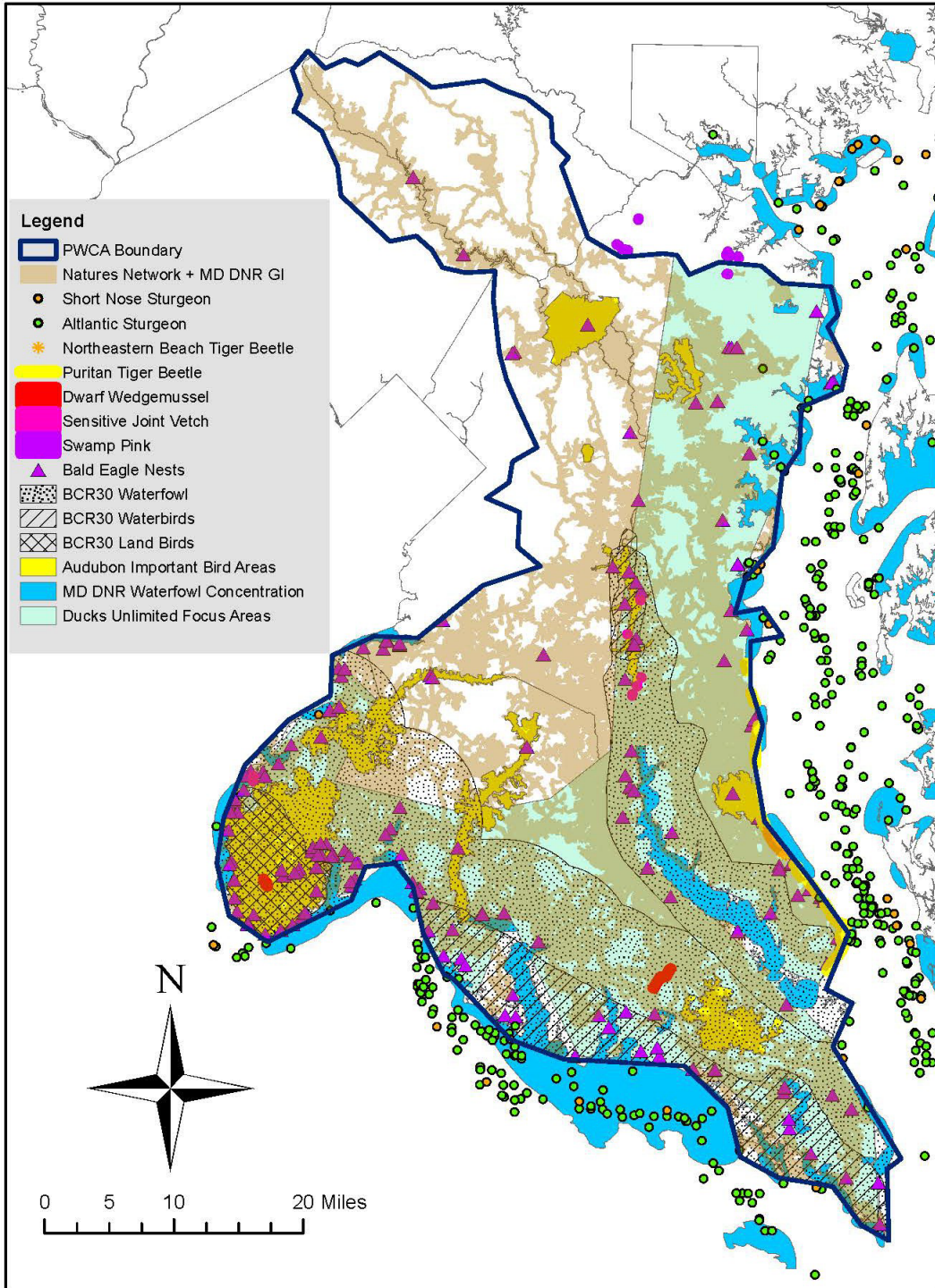
Work is currently in progress in consultation with the U.S. Geological Survey to develop measurable biological outcomes for avian species, as well as protocols for monitoring populations over time. Section XIII provides an example of this work, which will be built upon in order to understand population shifts in all of the PWCA surrogate species, where enough data exists.

A. Identify priority conservation areas. Taken in concert, particularly maps combining the Nature's Network with state and county green infrastructure data sets, the 95 datasets prepared and agreed

upon for use by the PWCA conservation partners in the conservation design have identified priority conservation targets important to the Service and different combinations of partners with a variety of conservation objectives.

B. Identify vulnerability and resiliency. As noted in Section XI, in addition to the Nature's Network tools, the PWCA conservation design team used state and local datasets to predict future conditions, including climate change-related sea-level rise wetland migration maps, the Maryland Coastal Atlas and coastal resiliency maps, coastal hazard maps, the Maryland Blue Infrastructure Assessment; and development-predicting priority funding area maps and rural land stability maps.

Map 23. PWCA Conservation Design and USFWS Refuges Strategic Growth Characteristics



X. Population Monitoring

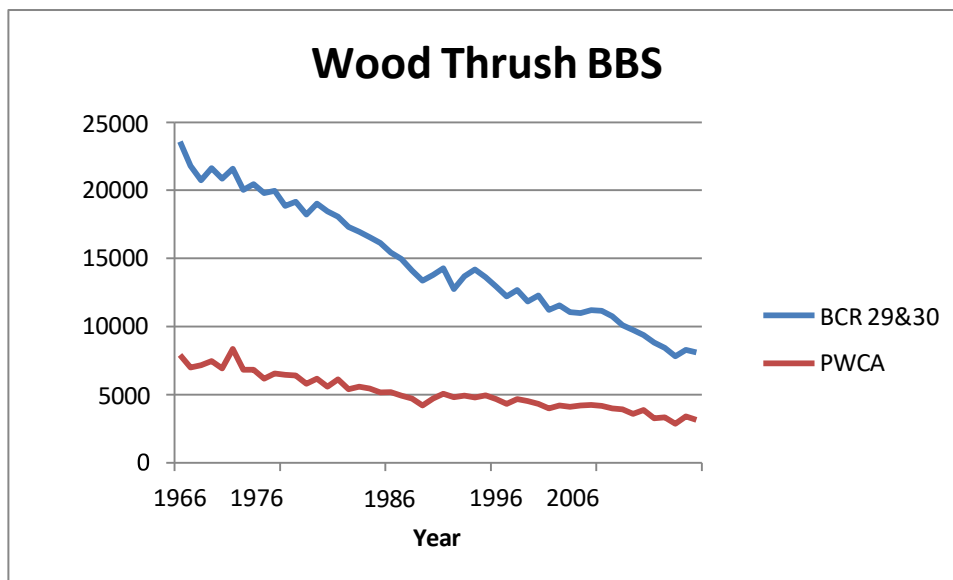
Patuxent Waters Conservation Area Bird Monitoring Program Employing Breeding Bird Survey (BBS) Data – Prepared by John Sauer, USGS Patuxent Wildlife Research Center (PWRC)

In order to establish population objectives for the species representing the various habitat types found within the PWCA (listed in Table 2) and to determine whether we are achieving those objectives, it is important to establish landscape-scale monitoring protocols. For the PWCA, this work has begun. Following is a protocol for using BBS data to understand the status of bird populations throughout the PWCA over time, by comparing PWCA BBS results to BBS data for the two bird conservation regions (BCRs) that encompass the PWCA in Maryland. Using the available data, it is expected that similar protocols will be prepared for representative reptile, amphibian, tiger beetle, and aquatic species.

In order to understand the contribution, the conservation goals of the PWCA would make and to develop a monitoring plan to understand bird population changes over time within the PWCA, John Sauer of the USGS Patuxent Wildlife Research Center (2017) used BBS data to construct annual indices of abundance for 14 bird species that occur within and outside the PWCA boundary as follows:

1. The PWCA area - This is the 1,413,000 acres encompassed by the PWCA boundary. Results from all of the BBS routes falling within the PWCA were used for the analysis. It includes parts of two BCRs, BCR 30 and BCR 29.
2. The rest of BCR 30 in MD, excluding the PWCA area.
3. BCRs 29 and 30 in MD combined, inclusive of the PWCA area.

Below is a plot of the PWCA area annual index (red line) and combined BCRs 29 and 30 in MD (blue line) for Wood Thrush.



To compute these numbers, Dr. Sauer used PWRC's population change model to compute predicted numbers of wood thrush/BBS route, divide that number by the area (in km²) to get birds per km², then multiply by the total number of km² to get a total. This number is an index. It is not an actual population total, but it is a number that is comparable among regions that can be used to compute the status, trends, and relative importance.

1. Trends from 1966 - 2015: These are the ratios of the value of the indexes in 2015 divided by the values in 1966 (e.g., for the PWCA area, that trend is -1.86%/yr. for wood thrush).
2. Relative importance: This number is a ratio of the annual indices (e.g., the ratio of the red line to the blue line is 2015 = 0.3889). Note that the ratio of the areas is: 0.266. In other words, 26.6% of the area is in the PWCA, but 38.9% of the wood thrush are there.
3. This analysis does not tell us anything about reasonable population objectives for the species based on number of habitats saved. For that we will need to use habitat data. Here is one way to do that:

Estimate the proportion of the area presently in habitat suitable for the species, and the amount of additional habitat that could be saved based on acquisition of new land converted to these habitats, then estimate proportional change in that habitat and say that it would create a commensurate number of new birds. Hypothetical example: The forest acreage in the PWCA area is 10,000 acres, and the current abundance index for wood thrush is 3,149. That translates to 3.1 wood thrush per acre. If you add 100 acres of habitat, you could expect to add 31 wood thrush (Sauer 2017 pers. com.). This translates to considerable reproductive potential for the species.

Example population objectives include:

- PWCA BBS counts attain 1966 PWCA BBS count levels;
- The PWCA abundance index shows a positive or stable trend over time;
- The PWCA abundance index trend is equal to or better than the BCR 29 and 30 trend.

XI. Acknowledgements

The authors would like to thank our USFWS supervisors, Brad Knudsen and Genevieve LaRouche for their support and guidance in the creation of the PWCA partnership and the preparation of this document. We also would like to recognize our USFWS colleagues, Mike Slattery, Nancy McGarigal, Scott Schwenck, and Andrew Milliken for, in various combinations, providing assistance with the science and policy intricacies of Conservation Design, and reviewing an early draft of this report. Joe McCauley, of the Chesapeake Conservancy and formerly with the USFWS, was an important early guide and contributor to this project. Finally, we would like to thank all of our partners on the PWCA Core and Extended Teams for their important contributions to this project. We would specifically like to recognize Christine Conn (MD DNR), Rick Leader (Scenic Rivers Land Trust), Jeff Lerner, Jeannie Bellina, Kevin Compton, and Jennifer Hill (USFWS) for their work on the Core Team. County partners Susan Overstreet (Howard), Lynn Miller (Anne Arundel), Fatima Hasan (Prince Georges), Mark Symborski (Montgomery), Charles Rice (Charles), Sue Veith (Saint Mary's), and David Brownlee (Calvert) provided helpful local input and many of the datasets that validated and improved on the regional-scale Nature's Network tools.

This was a monumental task; however, the hard work is just beginning. We are inspired by those who came before us, who overcame the political and economic odds, even during the Great Depression, to protect and restore millions of acres for future Americans and the wild creatures who share this country with us.

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Appendix I.

Patuxent Waters Conservation Area Conservation Design – January 2017

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Appendix II. Master Data Set List (10/4/2017):

Datasets Mapped and Uploaded on Data Basin

- MD DNR BioNet
- MD DNR Targeted Ecological Areas
- MD DNR FIDS
- MD DNR MD Biological Stream Survey (MBSS) Sites
- MD DNR Stronghold Watersheds (MBSS)
- MD DNR Stream Health (MBSS)
- MD DNR Sea-level Rise Wetland Migration Maps (5 Counties)
- Four Coastal Shoreline Hazard Maps from MD Coastal Atlas
- MD Community Flood Risk Areas
- MD DNR Park Equity Maps
- MD DNR Green Infrastructure
- MD DNR Rural Legacy Areas
- MD DNR Coastal Resiliency Maps (via coastal atlas)
- MD DNR Blue Infrastructure Assessment
- MD DNR Stream Segments on Protected Land that need Riparian Restoration
- MD Department of the Environment (MDE) Tier II anti-degradation waters
- MDE Use class designations... Use III – cold water trout streams are a priority
- MD Wetlands of Special State Concern
- MD Statewide Sensitive Species Project Review Areas
- MD Natural Heritage Areas
- MD Ecosystem Services Assessment Stormwater Abatement Layer
- MD DNR Forest Economic Model
- MD Agricultural Priority Preservation Areas
- Protected Lands from Maryland Department of Planning (MDP)
- Priority Funding Areas from MDP
- MDP Land Use Stability, Fragmentation Status, Vulnerability to Development, Threat of Development
- Nature's Network Terrestrial and Wetland Cores and Connectors
- Nature's Network Lotic and Lentic Aquatic Cores
- Nature's Network Aquatic Buffers
- Nature's Network Grassland Cores
- Nature's Network Natural Blocks
- Nature's Network Rare Species Cores
- Nature's Network Conservation Design
- Nature's Network Future Development
- Nature's Network Terrestrial Ecosystem-based Selection Index
- Nature's Network Important Habitats for Terrestrial Species
- Nature's Network Important Habitats for Aquatic Species
- Nature's Network Ecological Integrity
- Nature's Network TNC Resiliency
- Nature's Network Impervious Surface
- Nature's Network Land Cover
 - Nature's Network Species Capability Maps
 - Wood Thrush, Ovenbird, Louisiana Waterthrush, Wood Duck, Prairie Warbler,

American Woodcock, Eastern Meadowlark, American Black Duck, Virginia Rail, Marsh Wren, Eastern Box Turtle, Diamond-back Terrapin

- Other Species Capability Maps
 - Spotted Turtle, Northern Bobwhite, Spotted Salamander, Wood Frog, Eastern Spadefoot Toad, Dwarf Wedge Mussel, Triangle Floater, American Brook Lamprey, River Herring, Northeastern Beach Tiger Beetle, Puritan Tiger Beetle, Diamond-back Terrapin
- White Perch, Yellow Perch, Striped Bass, and Herring Spawning Areas
- Fish Passage Blockages
- Chesapeake Bay Fish Passage Prioritization Tool
- Waterfowl Conservation Areas
- Charles County Mattawoman Stream Valley
- Calvert County FIDs Habitat
- Prince Georges County Green Infrastructure
- Prince Georges County Priority Preservation Area
- Prince Georges County Special Conservation Areas
- Howard County Habitat Hubs
- Howard County Habitat Corridors
- Montgomery County Green Infrastructure
- Anne Arundel County Greenways
- Anne Arundel County Ag. Preservation Areas
- Generalized Zoning Resource Conservation Areas
- County Priority Preservation Areas
- Audubon's Important Bird Areas
- Ducks Unlimited Focus Areas
- Jug Bay National Estuarine Research Reserve
- Mallows Bay National Marine Protection Area
- Indigenous Landscapes
- Piscataway Areas of Interest
- Maryland Historical Trust Historical Easements
- MD Inventory of Historic Places
- MD National Register of Historic Places

Datasets to be Added

- MD DNR Ecosystem Services Study:
 - Biodiversity/wildlife habitat
 - Carbon sequestration
 - Nutrient uptake
 - Groundwater recharge
 - Air pollutant removal
- Prince Georges County Forest Ecosystem Services
- Montgomery County Ecologically Important Areas
- Chesapeake Conservancy Land Use based on 1 meter Lidar

Appendix III.

Databasin Instructions:

Go to <https://nalcc.databasin.org/> and click on "Sign up" in the upper right-hand corner and follow the instructions to create an account on Databasin. Once you create an account, send an email to dan_murphy@fws.gov and Dan Murphy will add you to the Patuxent Waters Group to give you access to the conservation design map, data sets, and gallery. After your name is added to the Patuxent Waters Group on Databasin, you can login to Databasin, click on "My Workspace" and then click on "My Groups". After you click on My Groups, you should see the link to the Group titled "Patuxent Waters Conservation Area Conservation Design Team." Once in the Group space you will have access to the Map, Data sets, and the Gallery, which houses this report, the PPP, meeting agendas, meeting minutes, and other project related documents.

Once on the Group page, click on "Content" and then click on the Map entitled "Patuxent Waters Conservation Area Landscape Conservation Design". This is the Master map for the conservation design. Once in this map, you can add and remove data sets and explore the conservation design under different scenarios of your choice.

Note: You will find that only 20 data sets can be loaded on the map at one time.