

TOOL 1: LOCAL PLANNING SYSTEM AUDIT

Greater Baltimore Wilderness Regional Resilience Green Infrastructure Network Local Implementation Toolkit



American Planning Association

Making Great Communities Happen

The Greater Baltimore Wilderness Coalition Coastal Resilience Project

The <u>Greater Baltimore Wilderness Coalition</u> is a voluntary alliance of public agencies, non-governmental organizations, professional associations, and conservation coalitions. The region it spans includes the area from the Chesapeake Bay on the east to the Piedmont in the west, and from Pennsylvania in the north to the suburbs of Washington, D.C., in the south. It includes the counties of Anne Arundel, Baltimore, Carroll, Harford, Howard, Montgomery, and Prince George's and the cities of Annapolis, Baltimore, Bowie, and others.

The goal of the resilience project is to develop a regional vision for climate resilience which will identify key green infrastructure investments across the Patapsco, Patuxent, and Gunpowder River watersheds. <u>The Conservation Fund</u> is leading the project team, with assistance from the <u>American Planning Association</u> (APA). Other team members include the <u>U.S. Geological Survey</u>, <u>Center for Chesapeake Communities</u>, and <u>Chesapeake Conservancy</u>.

About This Toolkit

This five-part toolkit is a companion to the Greater Baltimore Wilderness Region <u>Green Infrastructure Identification and Ranking</u> portal. The first tool presents a series of checklists to help planners and local officials evaluate the consistency of local plans and plan implementation methods with the opportunities for green infrastructure protection or enhancement highlighted in the portal. The second, third, and fourth tools provide guidance to help them begin the process of articulating policies and laying groundwork for action through locally adopted plans, land-use and development regulations, and public investments, respectively. The fifth, and final, tool briefly describes how three key private stakeholder groups can contribute to the implementation of the Greater Baltimore Wilderness Coalition's Regional Resilience Green Infrastructure Network.

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GREEN INFRASTRUCTURE IDENTIFICATION AND RANKING PORTAL

The Greater Baltimore Wilderness Region Green Infrastructure Identification and Ranking portal contains multiple data layers that collectively represent a Regional Resilience Green Infrastructure Network. This network is rooted in five green infrastructure strategies to maintain and increase regional resilience to coastal storms and other climate change impacts:

- Protect Natural Resources: Preserve, restore or enhance valuable and vulnerable land and water resources providing hazard mitigation and other co-benefits, including floodplains, wetlands, forest, stream systems, steep slopes, hydric and highly erodible soils, and important habitat areas. (NRP)
- Enhance and Restore Tree Canopy: Maintain, enhance, and restore tree canopy in urban and suburban communities to reduce stormwater runoff, ameliorate the urban heat island effect, and improve air quality. (TC)
- Implement Multi-Benefit Green Stormwater Infrastructure: Retrofit developed areas to reduce impervious surface and incorporate best management practices such as bioretention areas, green streets, and green roofs in order to reduce vulnerability to flooding and associated pollution. (GSI)
- Protect Critical Infrastructure: Use green infrastructure to buffer critical infrastructure from extreme weather impacts, including key transportation corridors, power production and transmission facilities, hospitals, and emergency management centers, water supply reservoirs, and waste water treatment facilities. (CIP)
- Defend the Coast: Preserve, restore, or enhance natural habitat and introduce nature-based practices (e.g., living shorelines) to buffer coastal areas from impacts of coastal flooding, storm surge, and sea-level rise. (CD)

This network is a potentially important tool for enhancing resilience to coastal storms and climate change throughout the Baltimore region. However, the realization of its vision depends largely on the policies and actions of the individual counties and municipalities that govern the region.

Across the U.S., each county and municipality has its own local planning system. This system is comprised of all of the local plans and associated plan implementation tools related to the growth and change of the locality over time. While state (and to some extent federal) laws do affect the scope and breadth of local policies and actions, these external limits and requirements leave most decisions related to the provision or protection of green infrastructure up to local officials.

This audit is designed to help counties and municipalities in Greater Baltimore examine the consistency of their plans, land-use regulations, and public investments with the five resilience strategies in the regional vision. It is divided into three broad sections. The first section includes a series of guestions about local comprehensive, functional, and subarea plans. The second section includes questions about land-use regulations, and the third section covers public investments. After completing this audit, a locality will have a clearer picture of areas where its local planning system is consistent with regional resilience strategies, as well as opportunities to enhance that consistency.

Defining Green Infrastructure and Climate Resilience

Green infrastructure is our natural life support system—an interconnected network of forests, wetlands, waterways, floodplains, and other natural areas; parks, greenways, and other conservation lands; forests, ranches, and farms; and other open spaces that support native species, maintain natural ecological processes, sustain air and water resources, and contribute to people's health and quality of life. At broad scales, it includes large blocks of forest, wetlands, stream networks, and other natural systems. Meanwhile, at local scales, smaller patches may be included, and at the site scale, green infrastructure may focus on natural or semi-natural solutions to reduce stormwater runoff or heat.

For purposes of this project, we use the term climate resilience to refer to the ability to resist or mitigate the negative impacts of the changing climate in Maryland's coastal zone, including watersheds that empty into the Chesapeake Bay. The negative effects primarily examined include rising sea levels, increased precipitation and corresponding increased stream flows and greater stormwater runoff, and coastal storm damage from wave erosion and storm surge. In looking to what services could be provided by green infrastructure—that is, natural features such as forests and wetlands as well bioengineered approaches, such as bioswales, raingardens, and green streets—the project team focused on how green infrastructure could buffer or mitigate physical damage to communities, built infrastructure such as roads and hospitals, and ecosystem features themselves. These mitigating services are examples of climate resilience. The term resilience is also used to refer to social and economic factors that can determine how well specific populations or neighborhoods can weather and recover from significant climate-caused impacts. While some social and economic factors were included in our green infrastructure analysis, these aspects were not the primary focus of the project.

PLANS

Local governments use plans to articulate goals and objectives (i.e., desired outcomes) and to recommend policies and actions in furtherance of those goals and objectives. There are three basic categories of local plans: comprehensive plans, functional plans, and subarea plans.

Comprehensive Plan

The comprehensive plan, sometimes referred to as the general plan or the master plan, is the foundational policy document for local governments, establishing a framework to guide decisions over the next 20 to 30 years. Comprehensive plans are named as such because they cover a broad range of topics of communitywide concern.

Audit Questions	Resilience Strategies	Yes	No	NA	Comments
Does your jurisdiction have a locally adopted comprehensive plan? (If "No" or "NA," skip to 10)	NRP, TC, GSI, CIP, CD				
2. Does this plan address green infrastructure as a system? (If "No" or "NA," skip to 3)	NRP, TC, GSI				
a. Does it include a map or description of any of the following?					
A green infrastructure network	NRP,TC				
• Tree canopy	TC				
Sites using low-impact development (LID) best management practices (BMPs)	GSI				
Sites suitable for LID BMPs	GSI				
Ecosystem service values provided by existing natural resources	NRP, TC, GSI				
b. Does it include policy recommendations that address any of the following?					
Discouraging new development in designated green infrastructure hubs and corridors	NRP				
Establishing a tree canopy goal	TC				
Supporting tree planting in designated green infrastructure hubs and corridors	TC				
Targeting stormwater management efforts on sites suitable for LID BMPs	GSI				
Targeting natural resource protection efforts based on ecosystem service value	NRP				
Targeting tree planting efforts based on ecosystem service value	TC				
Targeting LID BMP implementation based on ecosystem service value	GSI				
3. Does this plan address any state-designated areas of ecological significance? (If "No" or "NA" skip to 4)	NRP, TC, CD				

Audit Questions	Resilience Strategies	Yes	No	NA	Comments
a. Does it include a map or description of any of the following?					
 Any portion of Maryland's green infrastructure hubs and corridors located within your jurisdiction 	NRP, TC				
 Any portion of Maryland's Targeted Ecological Areas located within your jurisdiction 	NRP, TC				
 Any portion of Maryland's BioNet areas located within your jurisdiction 	NRP, TC				
 Any portion of Maryland's Natural Heritage Areas located within your jurisdiction 	NRP, TC				
 Any portion of Maryland's Wetlands of Special State Concern located within your jurisdiction 	NRP, TC				
 Any portion of Maryland's Blue Infrastructure Priority Watersheds located within your jurisdiction 	NRP, TC, CD				
 Any portion of Maryland's Forests of Recognized Importance located within your jurisdiction 	NRP,TC				
b. Does it include policy recommendations that address any of the following?					
 Protecting any portion of Maryland's green infrastructure hubs and corridors located within your jurisdiction from future development 	NRP				
 Planting trees within any portion of Maryland's green infrastructure hubs and corridors located within your jurisdiction 	TC				
 Protecting any portion of Maryland's Targeted Ecological Areas located within your jurisdiction from future development 	NRP				
 Planting trees within any portion of Maryland's Targeted Ecological Areas located within your jurisdiction 	TC				
 Protecting any portion of Maryland's BioNet areas located within your jurisdiction from future development 	NRP				
 Planting trees within any portion of Maryland's BioNet areas located within your jurisdiction 	TC				
Protecting any portion of Maryland's Natural Heritage Areas located within your jurisdiction from future development	NRP				

Audit Questions	Resilience Strategies	Yes	No	NA	Comments
 Planting trees within any portion of Maryland's Natural Heritage Areas located within your jurisdiction 	TC				
Protecting any portion of Maryland's Wetlands of Special State Concern located within your jurisdiction from future development	NRP				
Planting trees within any portion of Maryland's Wetlands of Special State Concern located within your jurisdiction	TC				
Protecting any portion of Maryland's Blue Infrastructure Priority Watersheds located within your jurisdiction from future development	NRP, CD				
Planting trees within any portion of Maryland's Blue Infrastructure Priority Watersheds located within your jurisdiction	TC, CD				
Protecting any portion of Maryland's Forests of Recognized Importance located within your jurisdiction from future development	NRP				
Planting trees within any portion of Maryland's Forests of Recognized Importance located within your jurisdiction	TC				
4. Does this plan address locally designated environmentally sensitive areas? (If"No" or "NA," skip to 5)	NRP, TC, GSI				
a. Does it include a map or description of any of the following?					
Wetlands and wetland buffers	NRP, TC				
• 100- or 500-year floodplains	NRP, TC, GSI				
Forests or forest patches	NRP				
Steep slopes and areas with highly erodible soils	NRP, TC, GSI				
Critical habitat	NRP, TC				
b. Does it include policy recommendations that address any of the following?					
Discouraging new development in existing wetlands and wetland buffers	NRP				
Supporting tree planting within wetland buffers	TC				
Discouraging new development in 100- or 500-year floodplains	NRP				
Supporting tree planting within 100- or 500- year floodplains	TC				

Audit Questions	Resilience Strategies	Yes	No	NA	Comments
 Targeting LID BMP implementation in 100- or 500-year floodplains 	GSI				
Discouraging development in forested areas	NRP				
 Discouraging development on steep slopes and areas with highly erodible soils 	NRP				
Supporting tree planting on steep slopes and within areas with highly erodible soils	TC				
 Targeting LID BMP implementation on steep slopes and in areas with highly erodible soils 	GSI				
 Discouraging development in critical habitat areas 	NRP				
Supporting tree planting in critical habitat areas	TC				
5. Does this plan address watershed conditions? (If "No" or "NA," skip to 6)	NRP, TC, GSI				
 a. Does it include a map or description of any of the following? 					
Forest cover by watershed	NRP				
Tree canopy by watershed	TC				
Impervious cover by watershed	NRP, TC, GSI				
Existing LID BMPs by watershed	GSI				
Nutrient loading by watershed	GSI				
b. Does it include any policy recommendations that address any of the following?					
Protecting existing forest cover within each watershed	NRP				
 Discouraging additional impervious cover within watersheds with less than 20% impervious cover 	NRP				
 Supporting tree planting within watersheds with 5 to 20% impervious cover 	TC				
Supporting tree planting within watersheds with more than 20% impervious cover	TC				
Targeting LID BMP implementation within watersheds with more than 5% impervious cover	GSI				
Targeting LID BMP implementation within watersheds that exceed permissible nutrient- loading levels	GSI				
6. Does this plan address critical infrastructure? (If"No" or "NA," skip to 7)	CIP				

Audit Questions	Resilience Strategies	Yes	No	NA	Comments
a. Does it include a map or description of any of the following?					
 Critical infrastructure sites (e.g., Maryland Emergency Management Agency (MEMA) critical infrastructure sites, wastewater treatment plants, and power plants) 	CIP				
Linear critical infrastructure (e.g., hurricane evacuation routes and rail lines)	CIP				
b. Does it include policy recommendations that address any of the following?					
 Protecting forests, marshes, dunes, underwater grasses, and oyster reefs near critical infrastructure sites located in 500-year floodplains or storm surge zones 	CIP, CD				
 Restoring wetlands or reforestation near critical infrastructure sites located in 500-year floodplains or storm surge zones 	CIP, CD				
 Protecting forests, marshes, dunes, underwater grasses, and oyster reefs near linear critical infrastructure located in 500-year floodplains or storm surge zones 	CIP, CD				
 Restoring wetlands or reforestation near linear critical infrastructure located in 500-year floodplains or storm surge zones 	CIP, CD				
7. Does this plan address coastal hazard mitigation? (If "No" or "NA," skip to 8)	CD, CIP				
a. Does it include a map or description of any of the following?					
Coastal habitat (i.e., forests, marshes, dunes, underwater grasses, and oyster reefs)	CD				
Coastal high-hazard areas (i.e., storm surge zones)	CD, CIP				
b. Does it include policy recommendations that address any of the following?					
Targeting habitat protection within high-hazard shoreline segments	CD				
Targeting habitat restoration within high-hazard shoreline segments	CD				
Targeting habitat creation within high-hazard shoreline segments	CD				
8. Does this plan address land ownership? (If"No" or "NA," skip to 9)	NRP, TC, GSI				
a. Does it include a map or description of any of the following?					

Audit Questions	Resilience Strategies	Yes	No	NA	Comments
Public and private land ownership by parcel	TC, GSI				
Private land subject to conservation easements	NRP, TC, GSI				
b. Does it include policy recommendations that address any of the following?					
Targeting tree planting efforts on publicly owned land and private lands protected by conservation easements	TC				
 Targeting LID BMP implementation on publicly owned land and private lands protected by conservation easements 	GSI				
9. Does this plan address the potential effects of coastal storms and climate change on vulnerable populations? (If "No" or "NA," skip to 10)	NRP, TC, GSI				
a. Does it include a map or description of any of the following?					
 Population density by block group, census tract, zip code, traffic analysis zone, or planning area 	NRP, TC, GSI				
 Percentage of households with income below poverty level by block group, census tract, zip code, traffic analysis zone, or planning area 	NRP, TC, GSI				
 Percentage of population with limited English proficiency by block group, census tract, zip code, traffic analysis zone, or planning area 	NRP, TC, GSI				
Percentage of population under the age of 18 or over the age of 65 by block group, census tract, zip code, traffic analysis zone, or planning area	NRP, TC, GSI				
b. Does it include policy recommendations that address any of the following?					
Targeting natural resource protection efforts in areas with high concentrations of vulnerable populations	NRP				
Targeting tree planting efforts in areas with high concentrations of vulnerable populations	TC				
Targeting LID BMP implementation in areas with high concentrations of vulnerable populations	GSI				

Functional Plans

Functional plans include policy recommendations for systems or special topics that have spatial planning implications but are not, fundamentally, rooted in a single subarea of a local jurisdiction. Localities typically develop these plans independently from the local comprehensive plan, and they may or may not adopt these plans as comprehensive plan amendments. Examples include green infrastructure, hazard mitigation, and climate action plans.

Audit Questions	Resilience Strategies	Yes	No	NA	Comments
10. Does your jurisdiction have any locally adopted functional plans? (If"No" or "NA," skip to 19)	NRP, TC, GSI, CIP, CD				
11. Do any of these plans address green infrastructure as a system? (If "No" or "NA," skip to 12)	NRP, TC, GSI				
a. Do any include a map or description of any of the following?					
A green infrastructure network	NRP,TC				
• Tree canopy	TC				
Sites using LID BMPs	GSI				
Sites suitable for LID BMPs	GSI				
Ecosystem service values provided by existing natural resources	NRP, TC, GSI				
b. Do any include policy recommendations that address any of the following?					
Discouraging new development in designated green infrastructure hubs and corridors	NRP				
Establishing a tree canopy goal	TC				
Supporting tree planting in designated green infrastructure hubs and corridors	TC				
Targeting stormwater management efforts on sites suitable for LID BMPs	GSI				
Targeting natural resource protection efforts based on ecosystem service value	NRP				
Targeting tree planting efforts based on ecosystem service value	TC				
Targeting LID BMP implementation based on ecosystem service value	GSI				
12. Do any of these plans address any state- designated areas of ecological significance? (If "No" or "NA," skip to 13)	NRP, TC, CD				
a. Do any include a map or description of any of the following?					
 Any portion of Maryland's green infrastructure hubs and corridors located within your jurisdiction 	NRP,TC				

Audit Questions	Resilience Strategies	Yes	No	NA	Comments
Any portion of Maryland's Targeted Ecological Areas located within your jurisdiction	NRP, TC				
Any portion of Maryland's BioNet areas located within your jurisdiction	NRP, TC				
Any portion of Maryland's Natural Heritage Areas located within your jurisdiction	NRP, TC				
Any portion of Maryland's Wetlands of Special State Concern located within your jurisdiction	NRP, TC				
 Any portion of Maryland's Blue Infrastructure Priority Watersheds located within your jurisdiction 	NRP, TC, CD				
 Any portion of Maryland's Forests of Recognized Importance located within your jurisdiction 	NRP,TC				
b. Do any include policy recommendations that address any of the following?					
Protecting any portion of Maryland's green infrastructure hubs and corridors located within your jurisdiction from future development	NRP				
 Planting trees within any portion of Maryland's green infrastructure hubs and corridors located within your jurisdiction 	TC				
 Protecting any portion of Maryland's Targeted Ecological Areas located within your jurisdiction from future development 	NRP				
 Planting trees within any portion of Maryland's Targeted Ecological Areas located within your jurisdiction 	TC				
 Protecting any portion of Maryland's BioNet areas located within your jurisdiction from future development 	NRP				
Planting trees within any portion of Maryland's BioNet areas located within your jurisdiction	TC				
 Protecting any portion of Maryland's Natural Heritage Areas located within your jurisdiction from future development 	NRP				
Planting trees within any portion of Maryland's Natural Heritage Areas located within your jurisdiction	TC				
Protecting any portion of Maryland's Wetlands of Special State Concern located within your jurisdiction from future development	NRP				

Audit Questions	Resilience Strategies	Yes	No	NA	Comments
Planting trees within any portion of Maryland's Wetlands of Special State Concern located within your jurisdiction	TC				
Protecting any portion of Maryland's Blue Infrastructure Priority Watersheds located within your jurisdiction from future development	NRP, CD				
Planting trees within any portion of Maryland's Blue Infrastructure Priority Watersheds located within your jurisdiction	TC, CD				
 Protecting any portion of Maryland's Forests of Recognized Importance located within your jurisdiction from future development 	NRP				
Planting trees within any portion of Maryland's Forests of Recognized Importance located within your jurisdiction	TC				
13. Do any of these plans address locally designated environmentally sensitive areas? (If "No" or "NA," skip to 14)	NRP, TC, GSI				
a. Do any include a map or description of any of the following?					
Wetlands and wetland buffers	NRP,TC				
• 100- or 500-year floodplains	NRP, TC, GSI				
Forests or forest patches	NRP				
Steep slopes and areas with highly erodible soils	NRP, TC, GSI				
Critical habitat	NRP,TC				
b. Do any include policy recommendations that address any of the following?					
Discouraging new development in existing wetlands and wetland buffers	NRP				
Supporting tree planting within wetland buffers	TC				
Discouraging new development in 100- or 500-year floodplains	NRP				
Supporting tree planting within 100- or 500- year floodplains	TC				
Targeting LID BMP implementation in 100- or 500-year floodplains	GSI				
Discouraging development in forested areas	NRP				
Discouraging development on steep slopes and areas with highly erodible soils	NRP				

Audit Questions	Resilience Strategies	Yes	No	NA	Comments
Supporting tree planting on steep slopes and within areas with highly erodible soils	TC				
Targeting LID BMP implementation on steep slopes and in areas with highly erodible soils	GSI				
Discouraging development in critical habitat areas	NRP				
Supporting tree planting in critical habitat areas	TC				
14. Do any of these plans address watershed conditions? (If "No" or "NA," skip to 15)	NRP, TC, GSI				
a. Do any include a map or description of any of the following?					
Forest cover by watershed	NRP				
Tree canopy by watershed	TC				
Impervious cover by watershed	NRP, TC, GSI				
Existing LID BMPs by watershed	GSI				
Nutrient loading by watershed	GSI				
b. Do any include any policy recommendations that address any of the following?					
Protecting existing forest cover within each watershed	NRP				
Discouraging additional impervious cover within watersheds with less than 20% impervious cover	NRP				
 Supporting tree planting within watersheds with 5 to 20% impervious cover 	TC				
Supporting tree planting within watersheds with more than 20% impervious cover	TC				
Targeting LID BMP implementation within watersheds with more than 5% impervious cover	GSI				
 Targeting LID BMP implementation within watersheds that exceed permissible nutrient- loading levels 	GSI				
15. Do any of these plans address critical infrastructure? (If "No" or "NA," skip to 16)	CIP				
a. Do any include a map or description of any of the following?					
 Critical infrastructure sites (e.g., MEMA critical infrastructure sites, wastewater treatment plants, and power plants) 	CIP				

Audit Questions	Resilience Strategies	Yes	No	NA	Comments
Linear critical infrastructure (e.g., hurricane evacuation routes and rail lines)	CIP				
b. Do any include policy recommendations that address any of the following?					
Protecting forests, marshes, dunes, underwater grasses, and oyster reefs near critical infrastructure sites located in 500-year floodplains or storm surge zones	CIP, CD				
 Restoring wetlands or reforestation near critical infrastructure sites located in 500-year floodplains or storm surge zones 	CIP, CD				
Protecting forests, marshes, dunes, underwater grasses, and oyster reefs near linear critical infrastructure located in 500-year floodplains or storm surge zones	CIP, CD				
Restoring wetlands or reforestation near linear critical infrastructure located in 500-year floodplains or storm surge zones	CIP, CD				
16. Do any of these plans address coastal hazard mitigation? (If "No" or "NA," skip to 17)	CD, CIP				
a. Do any include a map or description of any of the following?					
Coastal habitat (i.e., forests, marshes, dunes, underwater grasses, and oyster reefs)	CD				
Coastal high-hazard areas (i.e., storm surge zones)	CD, CIP				
b. Do any include policy recommendations that address any of the following?					
Targeting habitat protection within high- hazard shoreline segments	CD				
Targeting habitat restoration within high- hazard shoreline segments	CD				
Targeting habitat creation within high-hazard shoreline segments	CD				
17. Do any of these plans address land ownership? (If "No" or "NA," skip to 18)	NRP, TC, GSI				
a. Do any include a map or description of any of the following?					
Public and private land ownership by parcel	TC, GSI				
Private land subject to conservation easements	NRP, TC, GSI				
b. Do any include policy recommendations that address any of the following?					

Audit Questions	Resilience Strategies	Yes	No	NA	Comments
 Targeting tree planting efforts on publicly owned land and private lands protected by conservation easements 	TC				
 Targeting LID BMP implementation on publicly owned land and private lands protected by conservation easements 	GSI				
18. Do any of these plans address the potential effects of coastal storms and climate change on vulnerable populations? (If"No" or "NA," skip to 19)	NRP, TC, GSI				
 a. Do any include a map or description of any of the following? 					
 Population density by block group, census tract, zip code, traffic analysis zone, or planning area 	NRP, TC, GSI				
 Percentage of households with income below poverty level by block group, census tract, zip code, traffic analysis zone, or planning area 	NRP, TC, GSI				
 Percentage of population with limited English proficiency by block group, census tract, zip code, traffic analysis zone, or planning area 	NRP, TC, GSI				
 Percentage of population under the age of 18 or over the age of 65 by block group, census tract, zip code, traffic analysis zone, or planning area 	NRP, TC, GSI				
b. Do any include policy recommendations that address any of the following?					
Targeting natural resource protection efforts in areas with high concentrations of vulnerable populations	NRP				
Targeting tree planting efforts in areas with high concentrations of vulnerable populations	TC				
Targeting LID BMP implementation in areas with high concentrations of vulnerable populations	GSI				

Subarea Plans

Subarea plans include policy recommendations for a discrete subarea of a local jurisdiction. These plans may cover a wide range of topics relevant to the plan area, or they may be more strategic in nature, focusing on a subset of high-priority topics. Some common types of subarea plans include plans for specific sectors, neighborhoods, corridors, or watersheds.

Audit Questions	Resilience Strategies	Yes	No	NA	Comments
19. Does your jurisdiction have any locally adopted subarea plans? (If "No" or "NA," skip to 28)	NRP, TC, GSI, CIP, CD				
20. Do any of these plans address green infrastructure as a system? (If "No" or "NA," skip to 21)	NRP, TC, GSI				
a. Do any include a map or description of any of the following within a subarea of your jurisdiction?					
A green infrastructure network	NRP,TC				
• Tree canopy	TC				
Sites using LID BMPs	GSI				
Sites suitable for LID BMPs	GSI				
Ecosystem service values provided by existing natural resources	NRP, TC, GSI				
b. Do any include policy recommendations that address any of the following within a subarea of your jurisdiction?					
Discouraging new development in designated green infrastructure hubs and corridors	NRP				
Establishing a tree canopy goal	TC				
Supporting tree planting in designated green infrastructure hubs and corridors	TC				
Targeting stormwater management efforts on sites suitable for LID BMPs	GSI				
Targeting natural resource protection efforts based on ecosystem service value	NRP				
Targeting tree planting efforts based on ecosystem service value	TC				
Targeting LID BMP implementation based on ecosystem service value	GSI				
21. Do any of these plans address any state- designated areas of ecological significance? (If "No" or "NA," skip to 22)	NRP, TC, CD				
a. Do any include a map or description of any of the following within a subarea of your jurisdiction?					

Audit Questions	Resilience Strategies	Yes	No	NA	Comments
 Any portion of Maryland's green infrastructure hubs and corridors located within your jurisdiction 	NRP,TC				
Any portion of Maryland's Targeted Ecological Areas located within your jurisdiction	NRP, TC				
Any portion of Maryland's BioNet areas located within your jurisdiction	NRP, TC				
 Any portion of Maryland's Natural Heritage Areas located within your jurisdiction 	NRP, TC				
 Any portion of Maryland's Wetlands of Special State Concern located within your jurisdiction 	NRP, TC				
 Any portion of Maryland's Blue Infrastructure Priority Watersheds located within your jurisdiction 	NRP, TC, CD				
Any portion of Maryland's Forests of Recognized Importance located within your jurisdiction	NRP,TC				
b. Do any include policy recommendations that address any of the following within a subarea of your jurisdiction?					
 Protecting any portion of Maryland's green infrastructure hubs and corridors located within your jurisdiction from future development 	NRP				
Planting trees within any portion of Maryland's green infrastructure hubs and corridors located within your jurisdiction	TC				
 Protecting any portion of Maryland's Targeted Ecological Areas located within your jurisdiction from future development 	NRP				
 Planting trees within any portion of Maryland's Targeted Ecological Areas located within your jurisdiction 	TC				
Protecting any portion of Maryland's BioNet areas located within your jurisdiction from future development	NRP				
Planting trees within any portion of Maryland's BioNet areas located within your jurisdiction	TC				
Protecting any portion of Maryland's Natural Heritage Areas located within your jurisdiction from future development	NRP				
Planting trees within any portion of Maryland's Natural Heritage Areas located within your jurisdiction	TC				

Audit Questions	Resilience Strategies	Yes	No	NA	Comments
 Protecting any portion of Maryland's Wetlands of Special State Concern located within your jurisdiction from future development 	NRP				
 Planting trees within any portion of Maryland's Wetlands of Special State Concern located within your jurisdiction 	TC				
 Protecting any portion of Maryland's Blue Infrastructure Priority Watersheds located within your jurisdiction from future development 	NRP, CD				
 Planting trees within any portion of Maryland's Blue Infrastructure Priority Watersheds located within your jurisdiction 	TC, CD				
 Protecting any portion of Maryland's Forests of Recognized Importance located within your jurisdiction from future development 	NRP				
 Planting trees within any portion of Maryland's Forests of Recognized Importance located within your jurisdiction 	TC				
22. Do any of these plans address locally designated environmentally sensitive areas? (If"No" or "NA," skip to 23)	NRP, TC, GSI				
a. Do any include a map or description of any of the following within a subarea of your jurisdiction?					
Wetlands and wetland buffers	NRP,TC				
• 100- or 500-year floodplains	NRP, TC, GSI				
Forests or forest patches	NRP				
Steep slopes and areas with highly erodible soils	NRP, TC, GSI				
Critical habitat	NRP,TC				
 b. Do any include policy recommendations that address any of the following within a subarea of your jurisdiction? 					
Discouraging new development in existing wetlands and wetland buffers	NRP				
Supporting tree planting within wetland buffers	TC				
 Discouraging new development in 100- or 500-year floodplains 	NRP				
Supporting tree planting within 100- or 500- year floodplains	TC				

Audit Questions	Resilience Strategies	Yes	No	NA	Comments
Targeting LID BMP implementation in 100- or 500-year floodplains	GSI				
Discouraging development in forested areas	NRP				
Discouraging development on steep slopes and areas with highly erodible soils	NRP				
Supporting tree planting on steep slopes and within areas with highly erodible soils	TC				
Targeting LID BMP implementation on steep slopes and in areas with highly erodible soils	GSI				
Discouraging development in critical habitat areas	NRP				
Supporting tree planting in critical habitat areas	TC				
23. Do any of these plans address watershed conditions? (If "No" or "NA," skip to 24)	NRP, TC, GSI				
a. Do any include a map or description of any of the following within a subarea of your jurisdiction?					
Forest cover by watershed	NRP				
Tree canopy by watershed	TC				
Impervious cover by watershed	NRP, TC, GSI				
Existing LID BMPs by watershed	GSI				
Nutrient loading by watershed	GSI				
b. Do any include any policy recommendations that address any of the following within a subarea of your jurisdiction?					
 Protecting existing forest cover within each watershed 	NRP				
Discouraging additional impervious cover within watersheds with less than 20% impervious cover	NRP				
Supporting tree planting within watersheds with 5 to 20% impervious cover	TC				
Supporting tree planting within watersheds with more than 20% impervious cover	TC				
Targeting LID BMP implementation within watersheds with more than 5% impervious cover	GSI				
 Targeting LID BMP implementation within watersheds that exceed permissible nutrient- loading levels 	GSI				

Audit Questions	Resilience Strategies	Yes	No	NA	Comments
24. Do any of these plans address critical infrastructure? (If "No" or "NA," skip to 25)	CIP				
a. Do any include a map or description of any of the following within a subarea of your jurisdiction?					
 Critical infrastructure sites (e.g., MEMA critical infrastructure sites, wastewater treatment plants, and power plants) 	CIP				
 Linear critical infrastructure (e.g., hurricane evacuation routes and rail lines) 	CIP				
b. Do any include policy recommendations that address any of the following within a subarea of your jurisdiction?					
 Protecting forests, marshes, dunes, underwater grasses, and oyster reefs near critical infrastructure sites located in 500-year floodplains or storm surge zones 	CIP, CD				
Restoring wetlands or reforestation near critical infrastructure sites located in 500-year floodplains or storm surge zones	CIP, CD				
 Protecting forests, marshes, dunes, underwater grasses, and oyster reefs near linear critical infrastructure located in 500-year floodplains or storm surge zones 	CIP, CD				
Restoring wetlands or reforestation near linear critical infrastructure located in 500-year floodplains or storm surge zones	CIP, CD				
25. Do any of these plans address coastal hazard mitigation? (If "No" or "NA," skip to 26)	CD, CIP				
a. Do any include a map or description of any of the following within a subarea of your jurisdiction?					
Coastal habitat (i.e., forests, marshes, dunes, underwater grasses, and oyster reefs)	CD				
Coastal high-hazard areas (i.e., storm surge zones)	CD, CIP				
b. Do any include policy recommendations that address any of the following within a subarea of your jurisdiction?					
Targeting habitat protection within high- hazard shoreline segments	CD				
Targeting habitat restoration within high- hazard shoreline segments	CD				

Audit Questions	Resilience Strategies	Yes	No	NA	Comments
Targeting habitat creation within high-hazard shoreline segments	CD				
26. Do any of these plans address land ownership? (If "No" or "NA," skip to 27)	NRP, TC, GSI				
a. Do any include a map or description of any of the following within a subarea of your jurisdiction?					
Public and private land ownership by parcel	TC, GSI				
Private land subject to conservation easements	NRP, TC, GSI				
b. Do any include policy recommendations that address any of the following within a subarea of your jurisdiction?					
 Targeting tree-planting efforts on publicly owned land and private lands protected by conservation easements 	TC				
Targeting LID BMP implementation on publicly owned land and private lands protected by conservation easements	GSI				
27. Do any of these plans address the potential effects of coastal storms and climate change on vulnerable populations? (If "No" or "NA," skip to 28)	NRP, TC, GSI				
a. Do any include a map or description of any of the following within a subarea of your jurisdiction?					
 Population density by block group, census tract, zip code, traffic analysis zone, or planning area 	NRP, TC, GSI				
 Percentage of households with income below poverty level by block group, census tract, zip code, traffic analysis zone, or planning area 	NRP, TC, GSI				
 Percentage of population with limited English proficiency by block group, census tract, zip code, traffic analysis zone, or planning area 	NRP, TC, GSI				
 Percentage of population under the age of 18 or over the age of 65 by block group, census tract, zip code, traffic analysis zone, or planning area 	NRP, TC, GSI				
b. Do any include policy recommendations that address any of the following within a subarea of your jurisdiction?					

Audit Questions	Resilience Strategies	Yes	No	NA	Comments
Targeting natural resource protection efforts in areas with high concentrations of vulnerable populations	NRP				
Targeting tree-planting efforts in areas with high concentrations of vulnerable populations	TC				
Targeting LID BMP implementation in areas with high concentrations of vulnerable populations	GSI				

LAND-USE REGULATIONS

Local governments adopt land-use regulations and other local ordinances to help implement the recommendations of local plans. Broadly defined, land-use regulations include zoning and subdivision codes as well as a wide range of other regulations that control the location and nature of real property disturbance, development, or use.

Audit Questions	Resilience Strategies	Yes	No	NA	Comments
28. Does your jurisdiction have a natural resource conservation zoning district or overlay? (If "No" or "NA," skip to 29)	NRP, CD				
a. Does this district have any of the following characteristics?					
Prohibits by-right residential development	NRP, CD				
Prohibits by-right agricultural development	NRP, CD				
 Is mapped to areas designated as green infrastructure hubs or corridors 	NRP				
Is mapped to state-designated areas of ecological significance	NRP				
 Is mapped to locally designated environmentally sensitive areas 	NRP				
• Is mapped to coastal habitat	NRP, CD				
29. Do your jurisdiction's development regulations address LID BMPs? (If "No" or "NA," skip to 30)	GSI				
a. Do these regulations have any of the following characteristics?					
Require LID BMPs for all site development located in 100- or 500-year floodplains	GSI				
Require LID BMPs for all site development involving steep slopes or highly erodible soils	GSI				
Require or incentivize LID BMPs for all site development located in watersheds with more than 5% impervious cover	GSI				

Audit Questions	Resilience Strategies	Yes	No	NA	Comments
Require or incentivize LID BMPs for all site development located in watersheds that exceed nutrient-loading limits	GSI				
Require or incentivize LID BMPs for all other site development	GSI				
30. Do your jurisdiction's development regulations address tree preservation and planting? (lf"No" or "NA," skip to 31)	TC, GSI, CIP, CD				
a. Do these regulations have any of the following characteristics?					
Require a minimum percent of tree canopy for all development subject to subdivision or site plan approval	TC				
 Prohibit or require a permit for the removal of any tree over a certain size or any historic, landmark, or specimen tree 	TC				
Prohibit tree removal in state-designated areas of ecological significance	TC				
Prohibit tree removal in locally designated environmentally sensitive areas	TC				
Prohibit tree removal within a certain distance of critical infrastructure sites or corridors	TC, CIP				
Prohibit tree removal in coastal high-hazard areas	TC, CD				
Incentivize tree planting in areas designated as green infrastructure hubs or corridors, statedesignated areas of ecological significance, locally designated environmentally sensitive areas, watersheds that exceed nutrient-loading limits, areas near critical infrastructure, or coastal high-hazard areas	GSI, TC, CIP, CD				
32. Do your jurisdiction's development regulations address site design? (If "No" or "NA," skip to 32)	NRP, TC, CD				
a. Do these regulations have any of the following characteristics?					
Require a minimum percentage of open space for all greenfield development	NRP,TC				
Require or incentivize conservation design for all greenfield development	NRP, TC, CD				
32. Do your jurisdiction's development regulations address transfer of development rights (TDR)? (If "No" or "NA," skip to 33)	NRP				

Audit Questions	Resilience Strategies	Yes	No	NA	Comments
a. Do these regulations have any of the following characteristics?					
Permit TDR for natural resource conservation	NRP				
Incentivize TDR for natural resource protection	NRP				

PUBLIC INVESTMENTS

Local governments invest public resources to help implement the recommendations of local plans. Broadly defined, public investments include both capital and programmatic investments. Capital investments include public expenditures on any physical asset, including construction, landscaping, and maintenance projects. Programmatic investments include public expenditures (or revenue deferment) for resource (or asset) management; direct financial assistance (e.g., rebates, grants, and loans); financial incentives (e.g., tax abatements or credits); technical assistance; or public education.

Audit Questions	Resilience	Yes	No	NA	Comments
	Strategies				
33. Does your jurisdiction's capital improvement program or budget address land conservation? (If "No" or "NA," skip to 34)	NRP, CIP, CD				
a. Does it include allocations for any of the following?					
Fee-simple land acquisition for natural resource conservation	NRP, CIP, CD				
 Purchase of development rights for natural resource conservation 	NRP, CIP, CD				
Public natural resource management	NRP, CIP, CD				
Direct financial assistance for private natural resource conservation	NRP, CIP, CD				
Financial incentives for private natural resource conservation	NRP, CIP, CD				
Technical assistance for private natural resource conservation	NRP, CIP, CD				
Public education for private natural resource conservation	NRP, CIP, CD				
b. Does it target these investments in any of the following areas?					
 Locally designated green infrastructure hubs or corridors 	NRP				
 State-designated areas of ecological significance 	NRP				
Locally designated environmentally sensitive areas	NRP				
Watersheds with less than 20% impervious cover	NRP				

Audit Questions	Resilience Strategies	Yes	No	NA	Comments
Near critical infrastructure	NRP, CIP				
Coastal high-hazard areas	NRP, CD				
34. Does your jurisdiction's capital improvement program or budget address trees? (If "No" or "NA," skip to 35)	TC, CIP				
a. Does it include allocations for any of the following?					
Public tree planting or maintenance	TC, CIP				
Direct financial assistance for private tree planting or maintenance	TC, CIP				
Financial incentives for private tree planting or maintenance	TC, CIP				
Technical assistance for private tree planting or maintenance	TC, CIP				
 Public education for private tree planting or maintenance 	TC, CIP				
b. Does it target these investments in any of the following areas?					
 Locally designated green infrastructure hubs or corridors 	TC				
State-designated areas of ecological significance	TC				
 Locally designated environmentally sensitive areas 	TC				
Watersheds that have more than 5% impervious cover or exceed nutrient-loading limits	TC				
Near critical infrastructure	TC, CIP				
35. Does your jurisdiction's capital improvement program or budget address stormwater infrastructure? (If"No" or "NA," skip to 36)	GSI, CIP				
a. Does it include allocations for any of the following?					
LID BMP implementation on public land	GSI, CIP				
Direct financial assistance for private LID BMP implementation	GSI, CIP				
Financial incentives for private LID BMP implementation	GSI, CIP				
Technical assistance for private LID BMP implementation	GSI, CIP				
Public education for private LID BMP implementation	GSI, CIP				

Audit Questions	Resilience Strategies	Yes	No	NA	Comments
b. Does it target these investments in any of the following areas?					
 Locally designated green infrastructure hubs or corridors 	GSI				
Locally designated environmentally sensitive areas	GSI				
Watersheds that have more than 5% impervious cover or exceed nutrient-loading limits	GSI				
Near critical infrastructure	GSI, CIP				
36. Does your jurisdiction's capital improvement program or budget address ecological restoration or enhancement?	NRP, CIP, CD				
a. Does it include allocations for any of the following?					
Forest restoration or enhancement on public land	NRP				
Direct financial assistance for private forest restoration or enhancement	NRP				
Financial incentives for private forest restoration or enhancement	NRP				
Technical assistance for private forest restoration or enhancement	NRP				
 Public education for private forest restoration or enhancement 	NRP				
Wetland restoration or enhancement on public land	NRP				
 Direct financial assistance for private wetland restoration or enhancement 	NRP				
 Financial incentives for private wetland restoration or enhancement 	NRP				
Technical assistance for private wetland restoration or enhancement	NRP				
Public education for private wetland restoration or enhancement	NRP				
Watershed restoration or enhancement on public land	NRP				
Direct financial assistance for private watershed restoration or enhancement	NRP				
Financial incentives for private watershed restoration or enhancement	NRP				

Audit Questions	Resilience Strategies	Yes	No	NA	Comments
Technical assistance for private watershed restoration or enhancement	NRP				
Public education for private watershed restoration or enhancement	NRP				
Coastal habitat restoration or enhancement on public land	NRP, CD				
Direct financial assistance for private coastal habitat restoration or enhancement	NRP, CD				
Financial incentives for private coastal habitat restoration or enhancement	NRP, CD				
Technical assistance for private coastal habitat restoration or enhancement	NRP, CD				
Public education for private coastal habitat restoration or enhancement	NRP, CD				
b. Does it target these investments in any of the following areas?					
 Locally designated green infrastructure hubs or corridors 	NRP				
Locally designated environmentally sensitive areas	NRP				
Watersheds that have more than 5% impervious cover or exceed nutrient-loading limits	NRP				
Near critical infrastructure	NRP, CIP				
Coastal high-hazard areas	NRP, CD				

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