

Land Use Decision Support (LUDS) Management Strategy

NEAR-FINAL VERSION

Land Use Planning and Decision Support Outcome

Develop and disseminate relevant and actionable land use information in consultation with local governments, to organizations and communities involved in local and regional land use planning. This information should include past, present and future conditions, as well as the potential environmental and socioeconomic consequences of changing conditions.

- Develop at least five use cases annually, informed by and provided at the county, watershed or municipal scale to inform land use planning and decisions and maintain the ecological integrity of watersheds supporting good stream health. Use cases can include watershed protection, aquatic connectivity, stormwater, tree canopy, agricultural preservation or redevelopment.
- Highlight at least two widely applicable land use cases annually to showcase best practices and share this information with local governments and partners through diverse communications products.

Baseline and Current Condition

Land Use Planning and Decision Support Outcome

The Land Use Workgroup (LUWG) has made significant progress in generating foundational data to support land-use planning across the Chesapeake Bay watershed. High-resolution 1-meter land use/land cover (LULC) datasets have been produced for three points in time, giving partners an unprecedented level of detail on past and present landscape conditions. These datasets have proven highly valuable for analysis, communication, and planning, offering insight into development patterns, conservation needs, and environmental challenges. A fourth time step is under development and scheduled for release in 2028, which will further strengthen the ability to evaluate trends and change over time.

Despite these advances, the extent to which LUWG data are influencing actual land use decision-making remains only partially understood. While the LUWG has some awareness of how the data are being used, it lacks a comprehensive picture of the effectiveness, consistency, and depth of that use across jurisdictions. The current repository of LULC use cases includes approximately 39 examples documented in 2023 for the 2022 Edition of the LULC dataset. However, these use cases are for an outdated dataset and are not compiled in an easily accessible or well-communicated format, limiting their usefulness in demonstrating impact or supporting replication.

Outside of LUWG's own efforts, the Chesapeake Conservancy has independently collected more than 300 use cases involving hyper-resolution hydrography and land use/land cover data. These examples represent a promising body of evidence showing broad interest and application of high-resolution datasets. However, additional detail is needed for many of these cases to meet the specific requirements of the Land Use Planning and Decision Support Outcome—particularly around decision context, outcomes achieved, and opportunities for replication.

There have been some notable successes where land use data have been communicated effectively, such as the widely used [Tree Canopy Fact Sheets](#) and the Chesapeake Conservancy's development of a forest conservation [technical study](#) that supported reauthorization of [Maryland's forest conservation act](#). These products demonstrated the potential for accessible, well-designed materials to reach local planners and decision-makers. However, the initiative was supported by one-time funding and was not tied to a broader, sustained strategy for delivering information to trusted local sources. As a result, while individual projects have shown promise, the LUWG lacks a systematic approach to ensuring that land-use data consistently reach the people and processes where they can shape decisions.

Overall, the baseline condition for the Land Use Planning and Decision Support Outcome reflects meaningful progress in data development and early communication efforts, but also a clear need for improved structure, accessibility, and sustained engagement. Strengthening the use-case repository, improving understanding of decision impacts, and building reliable pathways to trusted local entities are essential next steps in evolving from high-quality data creation to high-value decision support.

Monitoring Progress and Indicators

All of the following indicators will be reported at the watershed, state, county, and sub-watershed scales, as determined by the LUWG.

Indicator: [Impervious Surface Cover](#) (Net Change)

The Impervious Surface Cover Net Change indicator reports the extent of the Chesapeake Bay watershed that is covered by impervious surfaces, the net change in impervious cover over time and the types of impervious cover that most contributed to these changes. This indicator will also track increases in impervious cover associated with energy infrastructure (e.g., solar fields), road widening and new roads, and agricultural intensification.

Indicator: [Impervious Surface Cover](#) (Per Capita)

The Impervious Surface Cover Per Capita indicator tracks changes in impervious surface cover per capita within residential areas. By normalizing impervious cover relative to population, this measure helps evaluate land use policies and the impact of growth

patterns on watershed health. Higher impervious surface per capita may indicate low-density or inadequate smart growth implementation. Conversely, declining impervious surface cover per capita may indicate more efficient land use, infill development, redevelopment or policy success in guiding growth toward areas with existing infrastructure.

Indicator: Natural Land Conversion Indicator

This indicator tracks the conversion of natural land cover – primarily forests and wetlands – to development. It reflects both ongoing development pressure and the effectiveness of conservation, zoning, and mitigation strategies intended to protect ecological integrity.

Indicator: Farmland Conversion Indicator

This indicator measures the rate at which farmland transitions to developed land uses. Farmland conversion is an important proxy for loss of rural open space character, changes in local economics, and shifts toward more land-intensive development patterns.

Indicator: Watershed Population

This indicator is an influencing factor, not a measure of performance. The decline in the health of the Chesapeake Bay is correlated to the rise in population in the watershed from 1950 through the 1980's. Projections through 2050 show continued population growth, loss of natural areas and increases in urban development, which are all challenges to protecting and restoring the Chesapeake. Population growth has correlated with the decline of the Chesapeake Bay.

Monitoring: Use Cases

The Land Use Workgroup (LUWG) will maintain an actively updated, publicly accessible repository of use cases for relevant land use data. This repository will serve as a centralized reference for local governments, planners, and partners seeking examples of effective planning, policy, and data application.

Every year, the LUWG will produce an “Impact Memo” that highlights at least five use cases that demonstrate impact and at least two widely applicable use cases. The document may summarize metrics, such as jurisdictions referencing use cases in plans or codes, documented changes to decisions or policies, co-benefits achieved, etc. The Impact Memo is intended to showcase successful land use data applications, support scalable adoption, and demonstrate progress toward maintaining watershed ecological integrity.

Land Use Planning and Decision Support Situation Analysis

The following table identifies challenges that will impact progress towards attaining this outcome and its targets. This analysis considers scientific, environmental, fiscal or policy-related developments that have already or may influence work during the upcoming six-year Management Strategy cycle. Consideration is given to which challenges are within and

outside of CBP's ability to influence. Challenges associated with Changing Environmental Conditions are denoted with an asterisk (*). Challenges listed in bold font have been identified by the Goal Team and its Workgroups as being priorities for the Workgroup to seek to address or make progress against through the development and implementation of Management Approaches.

	Within CBPs ability to influence	Outside of CBP's ability to influence
Challenges		
Wide variation in who makes land-use decisions, when they're made, and what data they use makes it hard to deliver consistent, targeted support across the watershed.		X
Building trust and recognition for the LUWG (and CBP data) among audiences that decision-makers already rely on as trusted sources.	X	
Identifying and addressing local priorities effectively and communicating CBP data so that it is relevant to local priorities and needs.	X	
Getting representative feedback on what information and formats would be most useful to a diversity of stakeholders.	X	
Diminished scientific capacity/workforce/expertise of federal agencies.		X
Adapting to rapidly evolving landscape-monitoring technologies.	X	
Strengthening our approach to collecting use cases and sharing information.	X	
Continued long-term financial support to monitor the landscape over time, as well as create tools and resources based on updated data.	X	
Changing technology to monitor the landscape.		X
Population growth.		X
Vulnerability of high-value watersheds/habitats to development due to growth pressure.		X
Legislative authority to shape growth patterns can be difficult to obtain.		X
Dynamic permitting landscape.		X

Lack of strong communication between those creating the data and those who use it.	X	
Time lag of monitoring the landscape and producing the data.		X
Local government capacity to use the products produced.		X
Maintaining confidence in the data as it changes with new methods and data sources.	X	
Lack of network of translators and trusted sources to deliver relevant land use information to local decision makers.		X
Rapid expansion of emergent phenomena (e.g., data centers, warehouses, solar fields, and agricultural intensification).		X

Snapshot of Signatory Programs

Managing a large and difficult restoration and conservation program with “no assurance about the level of funds that may be available beyond the short term” (GAO, 2028) is a challenging undertaking that requires individual and collaborative action from signatory partners, as well as the many communities and individuals who live, work, play and learn in our region. This “Snapshot of Signatory Resources” seeks to better recognize the significant contribution that individual signatory partners and federal agencies make towards outcome attainment. The existing programs and funding spotlighted below are not intended to represent the full range of resources available or required to support progress towards outcome attainment; only the “biggest ticket” programs are included for each outcome and signatory partner. It is important to note that funding is reported from a single point in time (fiscal year 2025) and is not representative of future investments. Identifying the most critical programs and resources that exist at a particular moment in time can help the partnership focus its collaborative efforts on activities that have the greatest impact, and which don’t duplicate the work of existing programs.

District of Columbia

- *[Featured Program with hyperlink] ([Appropriations for Fiscal Year 2025]) [one sentence max description of how program relates to Outcome attainment]*

Delaware

- Chesapeake Implementation Program
<https://dnrec.delaware.gov/watershed-stewardship/chesapeake/> (FY25 ~ \$200,000)
 - The Chesapeake Implementation Program oversees several funding programs while working closely with related programs to help local governments, community groups and landowners in the Chesapeake Bay Watershed take actions and make changes to protect and improve water quality in the watershed through planning and implementation.

Maryland

- *[Featured Program with hyperlink] ([Appropriations for Fiscal Year 2025]) [one sentence max description of how program relates to Outcome attainment]*

New York

- *[Featured Program with hyperlink] ([Appropriations for Fiscal Year 2025]) [one sentence max description of how program relates to Outcome attainment]*

Pennsylvania

- *[Featured Program with hyperlink] ([Appropriations for Fiscal Year 2025]) [one sentence max description of how program relates to Outcome attainment]*

Virginia

- *[Featured Program with hyperlink] ([Appropriations for Fiscal Year 2025]) [one sentence max description of how program relates to Outcome attainment]*

West Virginia

- *[Featured Program with hyperlink] ([Appropriations for Fiscal Year 2025]) [one sentence max description of how program relates to Outcome attainment]*

Chesapeake Bay Commission

- *[Featured Program with hyperlink] ([Appropriations for Fiscal Year 2025]) [one sentence max description of how program relates to Outcome attainment]*

U.S. Environmental Protection Agency

- [Interagency agreement with USGS](#) (~ \$1.5M Appropriations for Fiscal Year 2025).
 - This agreement provided the Chesapeake Bay Program with technical expertise to investigate and communicate land use related information to address relevant topics.
- [Agreement with the Chesapeake Conservancy](#) (~ \$1.3M Appropriations for Fiscal Year 2025)
 - This agreement provides the Chesapeake Bay Program decision-makers and partners with the data and tools needed to support protection and restoration efforts impacting the Chesapeake Bay watershed.

Management Approaches for Outcome 3: Land Use Planning and Decision Support

Management Approach 3.3.1: Expand and Improve the Land Use Decision Support Use-Case Repository

The LUWG will enhance its use case repository by transforming it into a more accessible system that supports local planning and Chesapeake Bay restoration goals. The LUWG will refine the current use case survey, or create a follow-up survey, to collect essential details, such as problem framing, decision context, data sources, partners, methods, outcomes, and opportunities for replication. The LUWG will also develop a public-facing online viewer or story-map platform that allows users to search case studies by topic, jurisdiction, or watershed and explore examples through visual formats and links to relevant datasets. The viewer will be developed with extensive feedback from state and local partners to ensure it is useful and aligned with their needs.

To highlight progress, LUWG will publish an annual “Impact Memo” featuring at least five influential use cases and two broadly applicable examples. Jurisdictions will be encouraged to contribute and champion use cases for inclusion each year. The memo could also summarize metrics demonstrating how examples influence decisions, policies, and environmental outcomes across the watershed.

Management Approach 3.3.2: Strengthen Local Land Use Decisions Through Trusted Networks

The LUWG will work to strengthen local land use decisions through trusted networks by utilizing concepts from the Local Engagement Strategy, developed in coordination with the Local Government Leadership Workgroup (LGLW). The LUWG will leverage the Local Government Leadership Workgroup (LGLW) and the Local Government Advisory Committee (LGAC) to identify local priorities, gather structured feedback on data products, and understand which information formats are most useful to local governments. This partnership will also help reveal the trusted communication channels that already exist with local governments. In addition to trusted sources represented on LGLW and LGAC, the LUWG will identify and engage influential networks such as watershed organizations, agricultural partners, non-profits, universities, or regional planning organizations that often serve as key conduits for land use information. Using insights from these networks, LUWG will update existing products or develop new communication materials to meet locally defined needs. Some examples of this may include creating impervious surface change summaries, updating tree canopy analyses, integrating parcel-level data with Chesapeake Bay Program land use datasets, identifying flood-prone areas, or mapping future development probability using land use forecasting tools.

Whenever possible, the LUWG will adapt, replicate, or promote existing use cases to help jurisdictions or trusted sources apply proven approaches without starting from scratch. Throughout this process, the LUWG will maintain consistent two-way communication with LGLW, LGAC and other trusted sources, creating regular opportunities for feedback and collaborative refinement of land use-related data and tools.

Participating Partners

The following partners participated in the creation of this Management Strategy and expressed their intention to collaborate on Management Strategy implementation over the next six years. Per the Chesapeake Bay Watershed Agreement, “participation in developing Management Strategies or in the achievement of Outcomes varies by signatory based on differing priorities across the watershed. This participation may include commitments such as sharing knowledge, data or information, educating the public, working on future legislation and developing or implementing programs or verified practices” (2025). Signatory partners may join implementation efforts at any time. Partners also recognize that Signatory participation is voluntary and may vary accordingly.

- **Signatory Partners**

- District of Columbia Department of Energy & Environment
- Delaware Department of Natural Resources and Environmental Control
- New York State Department of Environmental Conservation
- Maryland Department of Planning
- Pennsylvania Department of Environmental Protection
- West Virginia Department of Environmental Protection
- Chesapeake Bay Commission
- U.S. Environmental Protection Agency

- **Other Partners**

- Hampton Roads Planning District Commission
- Northern Virginia Regional Commission
- Eastern Shore Land Conservancy
- Chesapeake Conservancy
- Choose Clean Water Coalition
- U.S. Geological Survey

Appendix 1. Signatory Statutory Authorities Driving Outcome Attainment

The law and regulation of signatory partners may support, justify or motivate their participation in the collaborative work of the Chesapeake Bay Program related to the attainment of specific Outcomes and Targets of the Watershed Agreement.

The following documentation identifies core statutory authorities that provide part of the impetus for the attainment of Chesapeake Bay Watershed Agreement Outcomes and their related Targets. While Chesapeake Bay Program partners acknowledge that the Chesapeake Bay Watershed Agreement is voluntary, subject to the availability of appropriated funds, and does not preempt, supersede or override any other law or regulation applicable to each signatory, they also acknowledge that the law or regulation of individual signatories can support each partner’s participation in outcome attainment. The table below is not an exhaustive list of all relevant laws and regulations. Rather, this appendix identifies the driving motivators that can bring about signatory partner engagement in efforts described in this Strategic Plan, associated Management Strategies, and Workplans.

Goal [#]: Healthy Landscapes

Outcome: Land Use Planning and Decision Support	
Signatory	Statutory Authority
[Signatory Name]	

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