DRAFT 07/31/2026

Land Use Decision Support (LUDS) Management Strategy DRAFT

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 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 However, these use cases are for an outdated dataset and are not compiled in an easily accessible or well-communicated format, limiting their usefulness in demonstrating impact or supporting replication.

Commented [1]: LULC?

Commented [JP2R1]: The reason I chose “LUWG” instead of “LULC” is because I wanted to keep a broad definition of the types of data we produce at the CBP for the LUWG, beyond just the high-resolution LULC. For example, along with the LULC data, we produce hyper-resolution hydrography data and land use forecasts. Both of these could fall under the umbrella of useful information for local decision-making.
That being said, maybe instead of “LUWG data” I will change this to “land use data” to capture all types of useful information we produce.

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 LUWG 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, 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) - **Existing Indicator**
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) - **New Indicator**
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-

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Commented [JP4R3]: Agreed! I will incorporate this into our Management Approach below.

Commented [5]: I love it! It presents all the right questions.

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 - **New 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 - **New 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 - **Existing Indicator**
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 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, data application, and cross-jurisdictional coordination.

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 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.

Challenges	Within CBPs ability to influence	Outside of CBP's ability to influence
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

To enhance the quality, accessibility, and influence of land-use decision support across the Chesapeake Bay watershed, the Land Use Workgroup (LUWG) will expand and improve its existing use-case repository, transforming it into a comprehensive and accessible system that produces consistent, high-value case studies tailored to local planning needs and Chesapeake Bay restoration outcomes. This effort will support jurisdictions in discovering relevant examples and scaling successful approaches to address their own land-use challenges.

A key component of this strategy involves revising and refining the use-case intake process. LUWG will develop a concise follow-up survey designed to collect essential information that ensures completeness, clarity, and replicability. The survey will capture background and problem definitions, the decision context—including what decision was

Commented [6]: from claire: • For MA 3.3.2, would it make sense to consider coordinating with the ACEC workgroup to identify your 7 pilot areas in conjunction with their 7 focal watersheds? I see that as an opportunity for synergy and leveraging the partnership network in those locations to meet the goals of both workgroups.

Commented [JP7R6]: See edits to Management Approach 3.3.2 in updated near-final draft. Based on feedback from the LUWG, we decided to stray away from the 7 sub-watershed areas and instead focus on leveraging existing networks through the LGLWG and LGAC.

influenced and when—data sources used, project partners, analytical methods, and any outcomes or co-benefits achieved. It will also gather information on opportunities for replication or scaling and, where relevant, funding mechanisms. By streamlining the intake process, the LUWG aims to make it easy for local partners to contribute while still collecting the detail needed to develop meaningful, transferable use cases. Improving intake consistency will support uniform documentation across jurisdictions and enable other communities to more easily apply the examples.

To improve accessibility and usability of the growing set of case studies, the LUWG will build a public-facing online use-case viewer and story map platform. The platform will allow users to search by topic, tag, jurisdiction, or sub-watershed and explore case studies through multiple visualization formats such as maps and story-map narratives. The platform will also provide direct links to relevant datasets—including land-use/land-cover data, hyper-resolution hydrography, and indicator pages—ensuring that technical resources are easily accessible. Through this platform, jurisdictions will be able to quickly locate examples suited to their priorities, scale of analysis, or planning processes.

Commented [8]: from ken: 2. Page 7: In the description of the public facing online use-case viewer: we definitely need to work with state and local entities before we build this to ensure what we build is aligned with their needs and they will use it. Can we more specifically mention that we will allow partner feedback to drive how this viewer looks, feels and works – so that we know it will be useful?

Commented [JP9R8]: Yes! I will make this clear in the updated version.

To highlight progress and encourage continued contributions, LUWG will publish an annual "Impact Memo". Each year, the memo will feature at least five use cases that demonstrate measurable influence on decisions and two widely applicable use cases that offer strong models for replication. The LUWG leadership will work with the workgroup to establish guidelines for defining what constitutes an "impactful" use case. Every jurisdiction will contribute at least one example to the repository each year and will also "champion" a use case to be considered for inclusion in the Impact Memo.

The Impact Memo may also feature state-submitted land-use policies and achievements, providing a broader view of land-use progress across the watershed. The memo could summarize metrics that demonstrate influence and utility, such as jurisdictions referencing use cases in plans or codes, documented changes in decisions or policies, and co-benefits achieved. These metrics will help LUWG track where use-case insights are taking root and provide evidence of how shared examples are shaping land-use outcomes across the watershed.

Taken together, this strategy will transform the use-case repository into a robust, user-friendly system that strengthens local decision-making, accelerates the replication of successful practices, and deepens the connection between local land-use planning and Chesapeake Bay restoration goals.

Management Approach 3.3.2: Develop Local Land Use Decision Support Pathways Through Sub-Watershed Engagement

Commented [10]: The Local Government Leadership Workgroup is happy to help support this effort!

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To strengthen the alignment between regional land use products and the realities of local decision-making, the Land Use Workgroup (LUWG) will identify seven pilot areas across the Chesapeake Bay watershed and use them to develop a place-based Land Use Decision Support (LUDS) roadmap. Each jurisdiction will select an area of particular interest—whether defined by growth pressure, land conversion risk, or other emerging challenges such as transportation expansion, energy development, or stormwater concerns. By working through these diverse pilot locations, the LUWG will establish a structured, replicable engagement model that builds two-way communication pathways with trusted local partners.

Within each pilot area, LUWG state representatives, LUWG leadership, and relevant at-large members will work together to identify existing networks and trusted sources of information. These sources will not necessarily be limited to local government staff; in many communities, ally organizations, watershed groups, agricultural partners, or regional NGOs serve as the most influential conduits for technical information. Understanding and engaging such networks will support the creation of a locally tailored LUDS roadmap that meets communities where they already seek information.

Each pilot location will function as a "planning unit" where the LUWG will conduct a sub-watershed inventory to establish a foundation for engagement. This inventory will document the key actors, priorities, pressures, and decision cycles that shape land use choices. LUWG will identify the local governments and ally organizations most involved in land use issues, learn what information they need or already use to make decisions, and determine how they prefer to receive technical content. Priority issues may range widely—from development pressure to solar siting, pluvial flooding, data center expansion, and housing affordability.

The inventory will also map individual decision-makers and trusted entities, including planners, zoning officials, public works departments, advisory boards, watershed groups, and nonprofit partners. Understanding both "who needs to see the information" and "who they listen to" will be critical to creating effective communication and support pathways. LUWG will also document existing trusted data sources and communication channels, ensuring that the initiative strengthens rather than duplicates locally established relationships.

A core component of the inventory will involve characterizing each jurisdiction's decision cadence and workflow. Through brief interviews or one-on-one conversations, the LUWG will outline the timing of comprehensive plan updates, zoning or ordinance revisions, MS4/TMDL program cycles, hazard mitigation planning, and state-specific processes, for example, updates to Local Land Preservation and Parks & Recreation Plans and the Whole Watershed Act in Maryland. Understanding these timelines will allow the LUWG to deliver information when it is most actionable.

Using the insights gathered from the inventory, the LUWG will co-develop a sub-watershed-specific LUDS roadmap with local partners. This roadmap will tailor information products, analyses, and messaging to the unique priorities of each pilot area. In some cases, this may involve creating additional data products, while in others it may involve updating already-existing data products to meet local 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. A key component of this step is to look for opportunities to adapt or replicate existing use cases to support local projects, helping jurisdictions apply established examples of success, rather than beginning from scratch.

The LUWG will maintain consistent two-way communication throughout this process, establishing mechanisms for regular check-ins, feedback loops, and co-production of new data products. These engagements will support shared refinement of land-use-related data, tools, and classifications.

The outcome of this approach will be a repeatable, sub-watershed-based engagement model that enhances trust, relevance, and actionable support for local land use decisions throughout the Chesapeake Bay watershed. By grounding regional products in local priorities, timelines, and communication networks, the LUDS pilot project will help communities make informed choices that support long-term watershed health.

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
  - 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]	
[Signatory Name]	
[Signatory Name]	
[Signatory Name]	
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