August 19, 2025
Local Leadership Workgroup Quarterly Meeting Minutes

Theme: Land Use & Development: Tools and Strategies for Local Decision-Making

Meeting objectives:

1. Understand land use changes over time and impacts on natural resources and people
2. Explore existing tools, resources, and data that can support local governments in land use and development decision making
3. Discuss how to effectively get the tools, resources, and data into the hands of local governments in a way that increases their knowledge and capacity around economically viable and environmentally sustainable land use planning.

Agenda: *(minutes recorded according to their corresponding section)*

1. **Title: How and Where Land Use is Changing?... and Related Stuff**
    a. *Presenter: Peter Claggett, Research Geographer, US Geological Survey, Coordinator for the Healthy Watersheds GIT*
    b. Presentation Goal: To provide an overview of the Chesapeake Bay Program's land use decision-making tools, highlighting the updated high-resolution land use/land cover data, and exploring ways local governments can transform these resources into action.
    c. Important definitions:
        i. Land Cover: The physical characteristics of the land surface (e.g., impervious, tree canopy, herbaceous)
        ii. Land use: How humans use the land (e.g., residential, agriculture, recreation)
        iii. Land Use Land Cover:
            1. To get from land cover to land use, it requires leveraging ancillary data (e.g. tax parcels, ownership boundaries of properties, satellite imagery, etc.) from the entire Watershed.
            2. The combination of land use 28 classes and land cover 11 classes, reflecting both the physical surface and how humans make use of the land, equals the 56 LULC classes. (e.g. natural succession + shrubland = natural succession shrubland)
    d. Statistics for the Watershed & What the team has developed
        i. *Data produced in partnership with UMD, Baltimore County, University of Vermont Spatial Analysis Lab, and the Chesapeake Conservancy*
        ii. Over the past decade (2013 +) the team has mapped the entire CBW at 1 meter resolution. The original started with 16 classes, released in 2017. The team then released the 2017 data with 54 classes in 2022 and just recently released the 2021/22 data with 56 classes in 2024. Currently working on the 2025/26 data, classes tbd, set to be released in 2028. With each newly mapped year, the previous year(s) are remapped using the same methods for consistent change detection.
        iii. 2021/22 1 meter resolution imagery shows 62 percent natural, 18 percent agriculture, 12 percent developed, and 8 percent water
            1. Further break down classes of development into things like tress over turf, roads, structures, trees over impervious, turf grass, other pervious surface, and other impervious surface.

iv. Based on data from 2013 - 2022, we can see CBW losing farmland and natural forested area to development primarily in SE PA, NoVA, and even Richmond, VA.
v. All of this data is available to view and download using the Land use viewer (https://lulc-viewer.cicapps.org/)
1. Some important components to tool
a. Download all data
b. view change overtime
c. Can overlaw topography and filter transparency (e.g streams to estimate flow of potential pollutants)

e. Some Other Datasets & Capabilities
i. Parcel data attribution:
1. All property parcels were acquired for CBW
2. Areas of all 56 LULC classes were tabulated for all parcels
3. Rule based classification was applied to classify parcels into 5 Residential/ Commercial categories
a. USPS Delivery Codes
b. Commercial land uses from HIFLD and Overture
c. High resolution LULC
ii. Mapping Sanitary Sewer Service Areas
1. Parcel-scale map of areas connected to sewer for all counties within or adjacent to the Chesapeake Bay watershed
iii. Mapping Septic Systems
1. For areas where sewer isn't mapped
2. Parcel-scale map of septic footprint and septic point data for all counties within or adjacent to the Chesapeake Bay watershed
iv. Mapping Flooding based on Flood Recurrence Intervals
v. Local Inundation Visualization Capability

f. Tools/ Resources:
i. CBP Targeting Portal
1. https://gis.chesapeakebay.net/targeting
ii. Chesapeake Healthy Watershed Assessment App
1. https://gis.chesapeakebay.net/chwa

2. Title: Panel on Effective Land Use Decision Making

a. Presenter(s)
i. Deb Sward, MD DP - deborah.sward@maryland.gov
ii. KC Filippino, HRPDC - kfilippino@hrpdcva.gov

b. Panel Goal: Examples of local governments in the watershed utilizing land use planning tools, resources, and data to take action in their community.

c. Data and Tools for Land Use Planning (Sward) Presentation
i. Local planning in Maryland
1. Planning typically occurs at the local level through county and municipal planning and zoning authorities
2. However, at the state level, there are a set of overarching Guiding Principles that inform Comprehensive Plans at the local level
a. E.g. in presentation are the “sustainable growth policy and planning principles” that will be announced in October of this year.

3. Areas planned for growth and conservation inform:
    a. Zoning
    b. Infrastructure planning
    c. Development
4. Data & Models and Guidelines for Implementation provided at the state level to assist with local planning efforts

ii. Sustainable Growth Principles highlighted in presentation

1. Land Principle: Optimize productivity of working landscapes, including farms and forests, and fisheries, and prioritize development within population centers that are in proximity to existing infrastructure and facilities.
    a. MDPlanning will release a Land Use Map that covers the whole state; oftentimes this will show up in these local comprehensive plans; sometimes the localities will use this baseline and tailor it to make it more specific to their locality needs, etc.
    b. MD will reference the data from the CBP Land Use data. Currently the MD Land Use map is modeled after the former release of the 2022 CBP land use data. The main distinguishing factor between the two maps is that the CBP map is much more detailed within each land use parcel, as well as a slight difference in distinguishing between rural and urban developments.
    c. Use Cases for Land Use Map:
        i. Map existing developed and undeveloped areas
        ii. Rate of rural to urban land conversion
        iii. Identify opportunities for greenfield development, infill and redevelopment
        iv. Is there capacity for projected household growth in targeted areas?
        v. Will existing and proposed development patterns support transit and other infrastructure?
    d. Data and Tools
        i. State of md has centralized GIS portal: https://planning.maryland.gov/Pages/OurWork/GDA/Land-Use/statewide-land-use-map.aspx
            1. ArcGIS Story maps
            2. Statistics by county
            3. Download data with symbology
    e. MDP will also create custom tools (e.g. - Transit Station Area Profile Tool) https://maryland.maps.arcgis.com/apps/MapSeries/index.html?appid=5cc549f158954c259658a55ceadfdc6b
2. Housing principle

a. Closely related to land use principle to account for and enable a mix of quality housing types and affordability options to accommodate all who want to live in the state.
    i. Looking at varying housing costs and classifications of housing (e.g. workforce or low income housing)
b. Models and guidelines: https://planning.maryland.gov/Pages/OurWork/PBP/housing-element-mg/housing-element-home.aspx
c. Created Housing Dashboard Tool
    i. https://apps.planning.maryland.gov/hb1045/index.html

d. Use Cases for Land Use Data in Hampton Roads (Filippino)
    i. Hampton Roads Planning District Commission
        1. is a planning district commission
        2. 1 of 22 in the state of VA
        3. Work at local scale on regional level
        4. HR encompasses 17 localities - 15 within CBW
        5. Land Use classes
            a. Mostly natural - 48 percent
            b. Regulated urban - 25 percent
            c. Unregulated urban - 16 percent
            d. Agriculture - 9 percent
            e. Septic - 2 percent
    ii. 4 Examples of How & What the Data is Used for within HR: Providing information on Case Studies
        1. Parking lot analysis:
            a. In 2011 HRPDC identified policies and practices local governments could undertake to protect land and water quality, including assessing how localities were regulating parking
            b. Goals & Objectives:
                i. Assess current parking patterns in HR
                    1. Research locality parking regulations and current best practices
                    2. Analyze location, size, and land use of large parking lots using GIS
                    3. Analyze water quality impacts of large impervious surfaces
                ii. Develop recommendations and strategies for reducing negative impacts of parking
                    1. Policy changes
                    2. Opportunities for retrofits or other improvements
            c. PL analysis gathered data from:

i. LULC CBP
ii. Regional LULC
iii. Regional parcels
iv. Locality zoning
v. Locality land ordinances
vi. Locality parking specifications
vii. Google earth imagery

d. Case study: Military Circle Norfolk Va
    i. Conclusion that there were excess parking spaces equating to excess imperious surface. Parking is necessary but the parking that was present was not.
        1. Parking is driven by both regulatory requirements and private development decisions.
        2. Changes to local regulations, like reducing or eliminating minimums or implementing maximums, can reduce the amount of space devoted to parking
        3. Land cover data is an important tool for helping communities understand the impacts of development

2. HR Resilient Design Standards Guidance
    a. Utilizing CBP tools
        i. MARISA Intensity Duration and Frequency Tool
            1. https://midatlantic-idf.rcc-acis.org/
    b. Goal is to provide guidance to help localities amend ordinances and policies to include design standards reflecting future conditions under climate change
    c. Realized Current design standards are based on the past, not sea level rise or increased precipitation
    d. For development and stormwater management, standards should be future- proofed and incorporate sea level rise, tailwater elevations, precipitation, and joint probability events
    e. Adopted within the last year by the HRPDC
3. Refining Regional Greenhouse Gas Inventory
    a. HRPDC is developing the region's first Climate Action Plan,
        i. The first step is to develop a greenhouse gas (GHG) inventory.
        ii. Improved upon the NLCD (30m) data with higher resolution from LULC (1m) data and CAST for the Agriculture and Natural Lands sector to estimate

correct sources of GHGs

iii. Needed to crosswalk Land Use categories (e.g. cropland, natural succession, pasture/hay became cropland/grassland)

b. Findings

i. 650 MT of organic fertilizer application was not captured by the default method

ii. Annual carbon sequestration from urban trees was 157k MT CO2e less using the CBP data

iii. Wetlands would not have been analyzed for the GHG inventory without access to the high-res LULC data

iv. Using the Chesapeake Bay Program LULC data allowed for a higher resolution GHG inventory than downscaling other data sets

iii. Overall Data (2013 - 2021): What can be seen from Change Data?

1. 42,787 forest acres lost
2. 1,907 agriculture acres lost
3. 9,455 impervious and turf grass acres gained
4. 25,275 harvested forest acres gained

iv. Shady Stops Case Study

1. https://storymaps.arcgis.com/stories/4abc58214ecf43d3bc670550afd867f7

3. Discussion on Land Use Decision Making Tools
   a. Moderator: Les Knapp -MDE-
   b. Mentimeter Link (Responder) | Full list of feedback
   c. How can we effectively get land use decision-making tools, data, and resources into the hands of local governments?
   d. **Key Takeaways**
      i. **What Drives Adoption?**
         1. **Clear Value** – Show benefits and real-world impact.
         2. **Ease of Use** – Simple, affordable, easy to integrate.
         3. **Local Relevance** – Customizable, relatable to community needs.
         4. **Support** – Guidance, training, and help interpreting data.
         5. **Communication** – Easy to explain to officials/constituents.
         6. **Peer Examples** – Success stories build confidence
      ii. **How Does Messaging Influence Use?**
         1. **Trusted Messengers** – Peer-to-peer, associations, and councils resonate.
         2. **Local Relevance** – Tie tools to local priorities, not Bay jargon.
         3. **Solution-Oriented** – Show how tools save time, money, effort.
         4. **Accessible Formats** – Webinars, online instructions, hands-on training.

5. **Conferences & Workshops** – Present where officials already gather.
6. **Process Connection** – Link directly to planning/regulatory requirements.\

iii. **What's Missing?**

1. **Centralized Access** – One-stop shop for tools, data, and examples.
2. **Economic Development Link** – Stronger ties to local/state priorities.
3. **Trusted Networks & Support** – Experts, translators, circuit riders.
4. **Practical Guidance** – Examples, case studies, clarity on best tools.
5. **Capacity Gaps** – Time, staffing, and analytical support for small localities.
6. **Customization** – Open-source methods for local data integration.
7. **State–Local Alignment** – Coordination to support, not override, local planning.

iv. **What's the Potential?**

1. **Flooding & Stormwater** – Identify risks, inform ditch/BMP fixes, plan regionally.
2. **Comprehensive Planning** – Support updates, annexations, and progress tracking.
3. **Growth & Suitability** – Pinpoint areas best/least suited for development.
4. **Climate & Resilience** – Address heat islands and climate risks.
5. **Balancing Priorities** – Weigh ag preservation, land conservation, solar, and economic development.
6. **Policy Updates** – Modernize local requirements (e.g., parking).

4. Revised Watershed Agreement Update
   a. *Presenter: Maura Christain, VA DEQ*
   b. Background Information:
      i. Proposed Outcome Language: Continually increase the knowledge and capacity of local government leaders to empower them to make decisions and implement local actions that support the Chesapeake Bay Watershed Agreement.
         1. Proposed Target: Increase the percentage of local government leaders reporting water resource management actions biannually.
      ii. Feedback: General feedback across the agreement and to the Local Leadership Outcome is to make targets more SMART
         1. Status: We are working on reviewing potential targets proposed back in May in preparation for the scenario where we need to propose a "SMART"er target. The two we are focusing on are

Direct and Indirect engagement with local government leaders annually.

c. Public Feedback Period
    i. Feedback accepted until September 1, 2025
    ii. Feedback must be submitted via email to:comments@chesapeakebay.net

    iii. **Planning for 2025 and Beyond** - Website contains Draft revised Chesapeake Bay Watershed Agreement, informational Webinar recordings/slides, the Revised Watershed Agreement: What Local Leaders Need to Know one-pager, a communications toolkit to support sharing with your network, and a Public Feedback Period FAQ

5. Key Takeaways from Les Knapp, LLWG Chair
    a. Recent datasets and tools now provide impressive detail and granularity for local use.
    b. Collaboration across LLWG and other CBP groups is essential to deliver this information in ways local officials can easily understand.
    c. Data shared through trusted sources has the greatest impact.
    d. Highlighting the relevance and co-benefits of land use/land cover (LULC) decisions is critical, even if it requires additional support to help officials interpret the data.

6. Next Steps and Action Items
    a. Next Step: LLWG Leadership to share minutes with resources next week.
    b. Next Step: Erin to share menti meter answers out along with meeting minutes.
    c. Next Step: LLWG to share a more detailed description of the Chair/Vice Chair with the meeting notes.
    d. Action Item: Please email Rick Mittler know if you are interested or want more information on the VC position by Sep 30, 2025