2022 EPA GIT Funding Ideas

Table 1	
Goal Implementation Team (GIT)	Habitat Goal Implementation Team (GIT 2)
Proposed GIT Technical Lead	Tentatively: Peter Claggett, U.S. Geological Survey, pclaggett@usgs.gov
Annual Weighting Factors to Consider	- Project addresses a Climate Change need. - Project addresses an outcome that is lagging in attainability (Wetlands).
CBP Functional Areas	Yes - GIS Team
Preparers	Peter Claggett, U.S. Geological Survey, pclaggett@usgs.gov
Project Title	**Mapping non-tidal wetlands in areas with outdated wetland maps**
Project Type	Support for science needed to develop metrics Metric/indicator development
Proposed Project Outcomes	Awareness of the extent and distribution of non-tidal wetlands throughout the Bay watershed.
Project Justification	Most of the non-tidal wetlands in the Bay watershed west of the fall line in the Piedmont, Ridge and Valley, and Appalachian Plateau physiographic provinces were mapped in the 1980's. This fact, combined with information from field studies over the past several decades, indicate that non-tidal wetlands are grossly under-represented in the National Wetlands Inventory (NWI) in the mid-Atlantic states. Non-tidal wetlands are highly valued for habitat, nutrient processing, sediment retention, flood attenuation, and other ecosystem services. While mapping non-tidal wetlands remotely with the same level of precision and criteria used in the field is not possible, mapping potential wetlands with high-resolution multi-spectral and LiDAR imagery is possible and has been demonstrated in the Pennsylvania and New York portions of the watershed. When overlaid on land use/land cover, potential wetlands in cropland and pasture fields represent opportunities for restoration whereas potential wetlands in natural landscapes represent opportunities for conservation to maintain ecosystem services. Expanding this type of analysis to Maryland, West Virginia, and Virginia is the focus of this proposal. Recent advances in machine learning show promise for identifying unique landscape features and land use configurations. By developing a variety of LiDAR-derivatives (e.g., landforms, intensity) and leveraging the CBP's 1-meter land use/land cover and hydrography data, there is potential to improve on past methods for mapping potential non-tidal wetlands. Techniques developed as part of this project can be incorporated into future updates of the high-resolution land use/land cover dataset anticipated for the years 2025 and 2030. This project will address one of the data gaps identified in the Wetlands Outcome management strategy- the need for updated wetland inventories.
Proposed Project Steps and Timeline	1. Meet with Wetlands Workgroup and Habitat GIT to review potential wetlands data for Pennsylvania and clarify deliverable expectations. 2. Define the study area (1980's NWI in the watershed), compile training and validation data, and identify predictor variables.

	3. Develop variable data and a model to predict the presence of non-tidal wetlands. 4. Map all potential non-tidal wetlands in areas with outdated NWI wetland data.
Estimated Costs	$100,000
Cross-Outcome Benefits	- Wetlands Outcome (Primary) - Climate Monitoring and Assessment Outcome (Secondary) - Forest Buffer Outcome (Secondary) - Land Use Methods and Metrics Development Outcome (Secondary)