



Local Review of P6 Land Use and Status Update

Peter Claggett, U.S. Geological Survey
Quentin Stubbs, U.S. Geological Survey

Land Use Workgroup Call
February 1, 2017



Summary of Comments

442 total comments from:

- 6 states
- 16 counties
- 20 institutions



Primary Concerns

- Mixed Open
- Cropland
- Turf
- Water

CBP CLASS	Count	Percent
CROP	13	3%
CROP/TURF	1	0%
FED	1	0%
FLOOD	1	0%
FOR	12	3%
IMP	1	0%
INR	11	3%
IR	5	1%
IR/INR	1	0%
MO	153	41%
MO/PASTURE	1	0%
NoMS4	1	0%
nonSSA	1	0%
NONTIDAL	10	3%
NTO	2	1%
PAST	5	1%
PASTURE	6	2%
SSA	4	1%
TC	2	1%
TCINR	2	1%
TCIR	11	3%
TCTURF	1	0%
TIDAL	9	2%
TURF	38	10%
TURF/MO	62	17%
WAT	4	1%
WATER	11	3%
WET	4	1%
WET/WAT	1	0%



Problems and Explanations

1. **Cropland classed as turf grass/mixed open**

- Introduced Census Urbanized Areas/Clusters and reduced buffer around rural structures to constrain extent of rural turf grass.

2. **Utility RoW classed as cropland or turf grass**

- Could not fix due to lack of local data on utility RoW

3. **Omission of minor streams and ponds**

- Caused by lack of local/fine scale hydrography
- CBT awarded research grant to Chesapeake Conservancy to develop high-res hydrography mapping protocol for the Chesapeake

4. **Omission of some parking and rooftops**

- Most likely a temporal issue- available leaf-off imagery for land cover production could have been 2011-2013 vintage.

5. **Silviculture and development mis-classed as cropland**

- Most likely a temporal issue (see #4 above)

6. **Omission and fragmentation of some tidal wetlands**

- Chesapeake Conservancy mapped wetlands that were missing from the National Wetlands Inventory. Through consultation with Wetlands Expert Panel, all such wetlands \leq 2m above Bay water surface were classed as tidal wetlands.



Other Issues

1. **Updates needed MS4/CSOs and Sewer Service Areas**

- Both datasets have been updated using the best available local and state data.

2. **Forested wetlands**

- Pennsylvania's "potential wetlands" mapped from high-res imagery and topography were only included for several PA counties due to an error in our script (a comma was needed in place of a semicolon). Wetlands load the same as forests so

3. **Shadow effect**

- Some shadows in the source imagery may have been mis-classed as mixed open or other classes. Such errors should have been identified and corrected during the review of the land cover products.

4. **Political boundaries**

- Changes to political boundaries post-2010 Census have not been included in the Phase 6 model because such edits (which occur annually) would impact the model segmentation.



Status of Phase 6 Land Use

November 2017: Produced 1m and 10m Phase 6 Land Use for all (206) counties

December 2017: WQGIT changed rules for mapping land uses on federal lands causing change in models;

1st QA/QC of initial land use products revealed misclassification of some tidal wetlands, overestimation of rural turf grass, and a variety of miscellaneous errors.

CBPO assumed responsibility for mapping VA land use from the Chesapeake Conservancy. VA models re-written.

New model runs initiated for all counties.

January 2017: Updated MS4/CSO and Sewer Service Areas
2nd QA/QC revealed problems in eight counties
3rd QA/QC revealed continued issues in 2 of these counties
Nodata cells corrected to the extent practicable.



Status of Phase 6 Land Use

February 2017: QA/QC of 1m and 10m Phase 6 Land Use complete.

Remaining steps (est completion 2/6/17):

Cell by cell proportional adjustments to ensure all cells add up to exactly 100%.

Incorporate Federal Facility Editor data.

Produce tabular land use dataset by 4925 Summary Units*

Backcast land use to 1984, 1992, 2001, 2006 for all summary units. Change land uses in proportion to changes in their macro-class:

Development = IR + INR + TG + TCI + TCT

Herbaceous = MO + CRP + PAS

Natural = FOR + WLF + WLO

Water = WAT

* Note omission of Tidal Wetlands (WLT)

Incorporate land use/cover error estimates

Assign "Turf Grass" and "Mixed Open" same error estimates as "Crop" and "Pasture".