

PHASE 7 Land Use: CONSTRUCTION

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Watershed Technical Workgroup**



Proposed Rollup of High-Res Land Use Classes for Phase 7

1. Impervious, Roads

20 Roads

2. Impervious, Non-Roads

21 Structures

22 Other Impervious (Parking lots, driveways)

31 Extractive Impervious

3. Tree Canopy Over Impervious

23 TC over Roads

24 TC over Structures

25 TC over Other Impervious

4. Turf Grass

27 Turf Grass

5. Tree Canopy over Turf Grass

26 Tree Canopy over Turf Grass

6. Solar Infrastructure

32 Solar Field Panel Arrays

7. Solar Pervious

34 Solar Field Herbaceous

35 Solar Field Shrubland

8. Compacted Pervious

30 Extractive Barren

36 Suspended Succession Barren

37 Suspended Succession Herbaceous

38 Suspended Succession Shrubland

43 Natural Succession Herbaceous (urban areas)

9. Construction

28 Bare Developed

33 Solar Field Barren

42 Natural Succession Barren (Urban areas)

Reported Data from States

9. Forest

40 Forest

41 Tree Canopy, Other

43 Natural Succession Herbaceous (rural areas)

44 Natural Succession Shrubland

53 Riverine Wetlands Tree Canopy

54 Riverine Wetlands Forest

63 Terrene Wetlands Tree Canopy

64 Terrene Wetlands Forest

15. Harvested Forest (2)

45 Harvested Forest Barren

46 Harvested Forest Herbaceous

42 Natural Succession Barren (Rural areas)

Reported Data from States

10. Wetlands, Riverine Non-forested

50 Riverine Wetlands Barren

51 Riverine Wetlands Herbaceous

52 Riverine Wetlands Shrubland

55 Riverine Wetlands Harvested Forest

11. Wetlands, Terrene Non-forested

60 Terrene Wetlands Barren

61 Terrene Wetlands Herbaceous

62 Terrene Wetlands Shrubland

65 Terrene Wetlands Harvested Forest

12. Cropland

80 Cropland Barren

81 Cropland Herbaceous

82 Orchards and Vineyards Barren

83 Orchards and Vineyards Herbaceous

84 Orchards and Vineyards Shrubland

13. Pasture and Hay

85 Pasture and Hay Barren

86 Pasture and Hay Herbaceous

14. Water

11 Lakes & Reservoirs

12 Riverine Ponds

13 Terrene Ponds

14 Streams and Rivers (visible water)

15 Bare Shore- adjacent to lakes

Blue = mapped 56-class schema

White = Phase 7 schema



Natural Succession Barren

Only ~28,500 acres in the watershed, 0.07% of total land area.

Phase 6 Construction

Option 1: Reported by states

- Permitted (E&S) disturbed area per year per county;
- Allocated from county to land-river segments in proportion to mapped developed area;
- Subtracted from mapped developed area in each land-river segment

Option 2: Mapped by CBPO

- $1.29 *$ (estimated annual change in impervious surfaces in each land-river segment)
- Subtracted from mapped developed area in each land-river segment

Phase 7 Construction

Option 1: Reported by states

- Permitted (E&S) disturbed area per year per county;
- Allocated from county to land-river segments in proportion to mapped developed area;
- Subtracted from mapped developed area in each land-river segment.

Option 2: Mapped by CBPO

- $1.29 * (\text{estimated annual change in impervious surfaces in each land-river segment})$ in non-mapped years;
- Mapped bare construction + natural succession-barren acres for mapping years;
- Subtracted from mapped developed area in each land-river segment.

Phase 7 Construction - considerations

Why map construction?

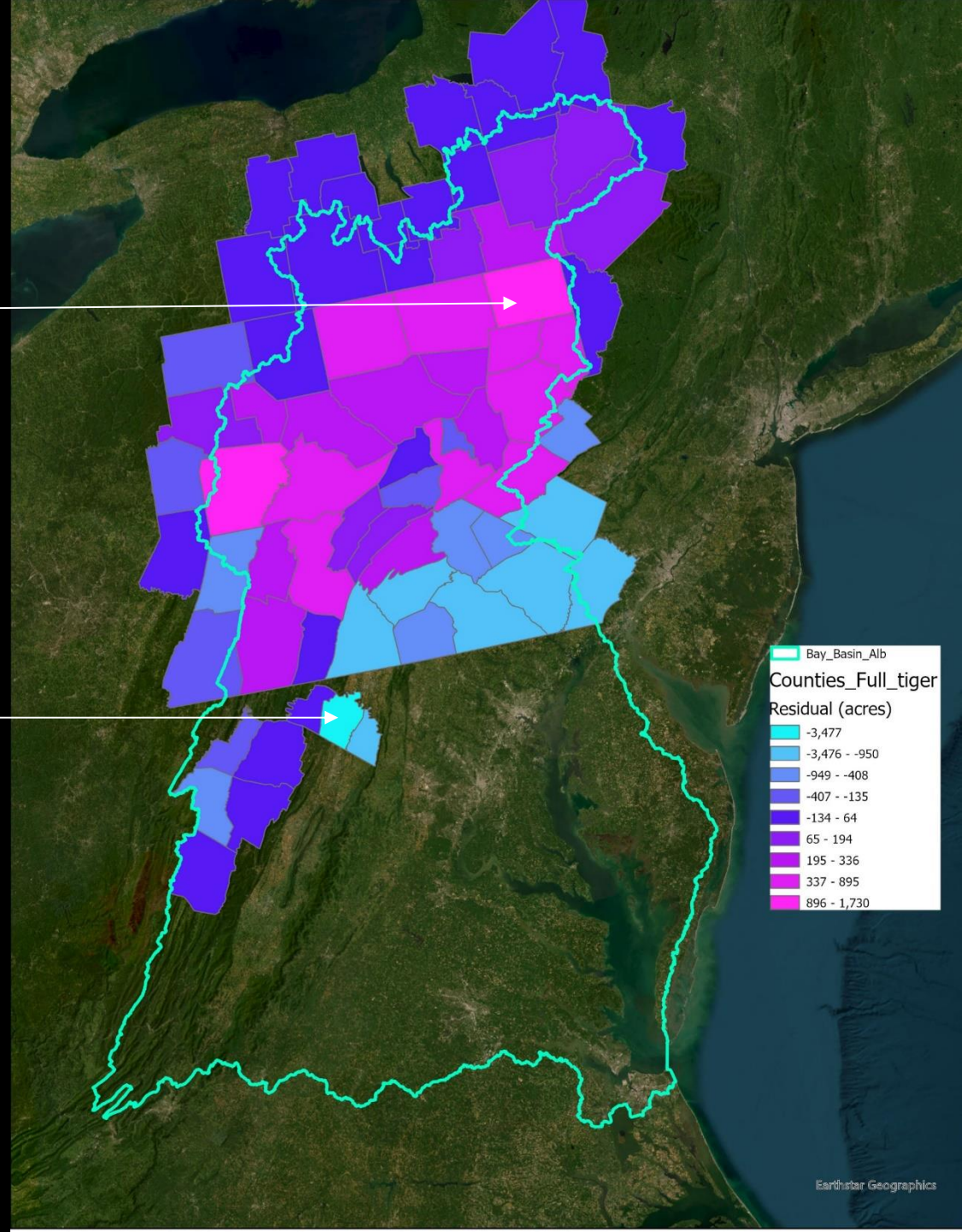
- Exposed and disturbed soil is prone to erosion and contributes nutrients and sediment to streams even when permitted with Erosion and Sediment Control BMPs.
- Average noBMP loading rates (lbs./acre/yr.): 21.7 TN, 3.5 TP, and 8025 SED
- Average WIP loading rates (lbs./acre/yr.): 19.4 TN, 3.5 TP, and 2337 SED

Difference between reported and mapped construction

- Reported construction represents permitted disturbed areas, potentially averaged over multiple years and may not reflect actual disturbed areas.
- Mapped construction represents bare ground areas that are presumed to be associated with the land development process but include all non-ag unvegetated areas.

Mapped land use overestimates reported construction

Mapped land use underestimates reported construction



Mapped "Bare Construction" in Susquehanna County, PA



Questions to consider

Should the CBP transition to relying on remotely-sensed construction post-2012 in place of reported construction?

How should the estimation of construction from remotely-sensed data be refined for Phase 7?

How should the reporting of construction be refined for Phase 7? (e.g., submit polygons)