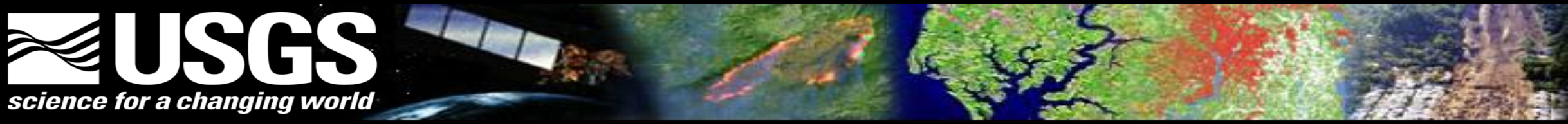

Land Use Change Status Update

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Water Quality Goal Implementation Team Call
June 28, 2021

U.S. Department of the Interior
U.S. Geological Survey

Timeline for 2013 - 2017 Land Use Change Review for CAST-21

June – Aug 2021

June 28th: Update on the status of the land use change product for 206 counties.

July 14th: LUWG decides whether to endorse use of the land use change product as the "best available data" to inform CAST-21.

July 26th: The WQGIT is presented with CAST data on 2017 land use conditions (via Tableau) comparing CAST-17d, CAST-19, and CAST-21 for all counties in the watershed.

August 23rd: The WQGIT decides whether to approve use of the high-res land use change data in CAST-21.

Water Quality GIT Decisions for June 28, 2021

1. WQGIT understands and accepts the process and schedule for the proposed land use change product through August 23, 2021 when the WQGIT will be asked to approve the change product for use in CAST21

2. WQGIT understands the errors in the land use change product that will be fixed and those that cannot be fixed for the version to be released June 30 and proposed to be used in CAST21.

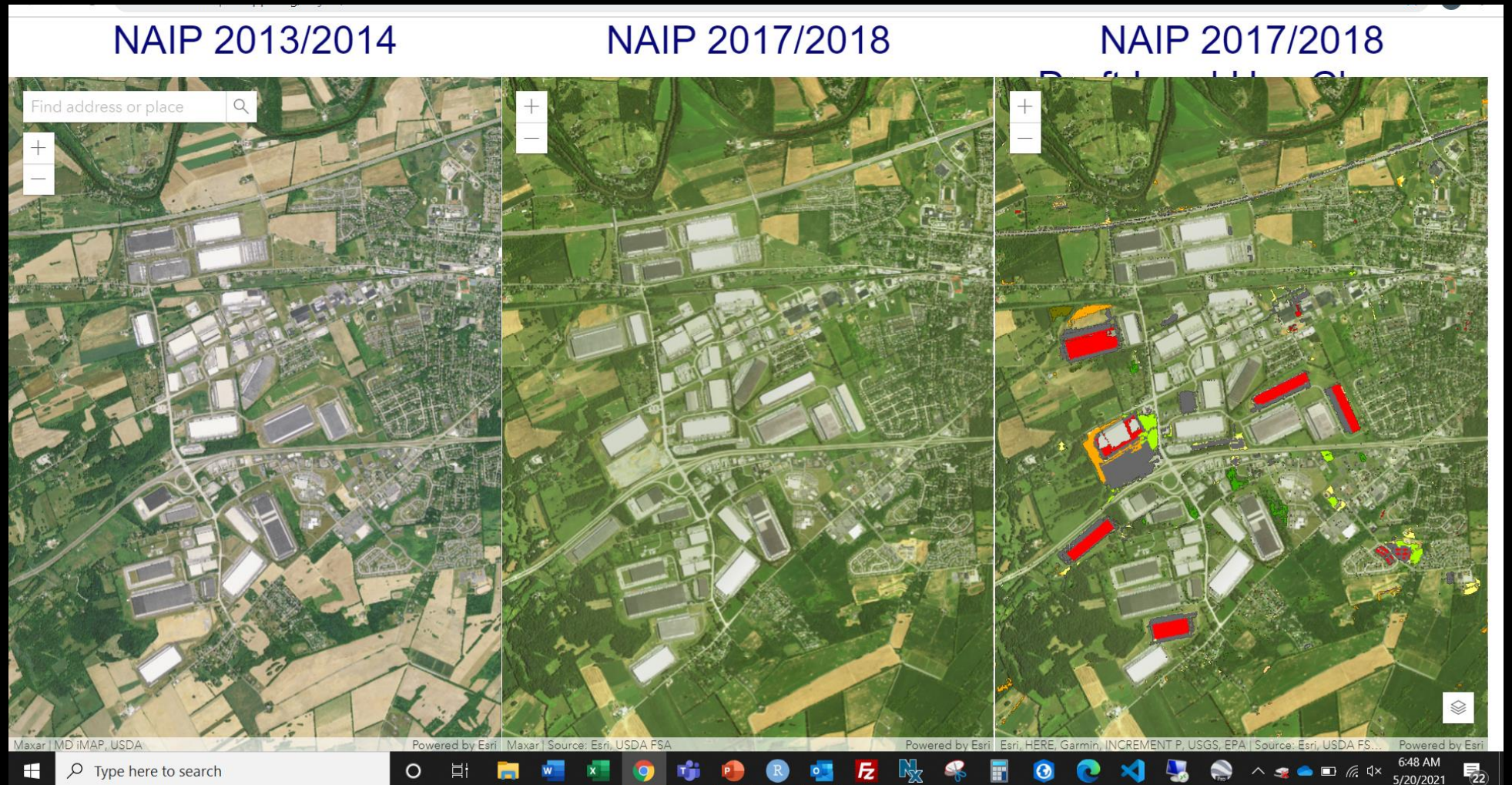
3. WQGIT understands that a 2013-2017 land use change product is proposed to be used in CAST-21, to replace modeled 2013-2017 change with measured change.

Status of Land Use Change Data for CAST-21

Version 1 Land Use Change (2013/14 – 2017/18):

- Rolled up to mapped Phase 6 land uses
- Complete and posted for 106 counties
- Data for all 206 counties will be complete by July 9th.

http://cicapps.org/obj1lu/



Pivot Tables Automatically Generated for Each County/City (units in acres)

T1-T2 LU	IR	INR	TCI	TG	TCT	FORE	WLF	WLO	WLT	MO	CRP	PAS	WAT	Loss
IR	-	0	0	-	1	3	0	-	-	-	-	-	-	5
INR	2	-	0	37	17	4	1	0	-	19	22	0	0	102
TCI	1	31	-	12	0	0	0	-	-	7	1	0	-	53
TG	0	42	-	-	229	29	1	0	-	8	1	0	0	310
TCT	0	78	-	84	-	1	-	-	-	13	5	0	0	181
FORE	0	54	-	73	63	-	-	-	-	1,070	370	80	0	1,711
WLF	-	0	-	0	-	-	-	-	-	-	-	-	-	0
WLO	-	-	-	-	-	-	-	-	-	-	-	-	-	-
WLT	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MO	4	257	-	322	57	2,173	-	-	-	-	2	0	2	2,817
CRP	1	85	-	5	4	249	-	-	-	16	-	0	0	361
PAS	-	8	-	1	0	46	-	-	-	0	-	-	-	55
WAT	-	-	-	-	1	7	0	0	-	-	-	-	-	8
Gain	9	555	0	533	374	2,513	2	0	0	1,134	402	81	2	5,604
Total														
TotGain	9	555	0	533	374	2,513	2	0	0	1,134	402	81	2	
TotLoss	5	102	53	310	181	1,711	0	-	-	2,817	361	55	8	
Net	4	453	(53)	223	192	801	2	0	0	(1,683)	41	26	(6)	

https://drive.google.com/drive/folders/19NxOUHwpt98_pFThpSOwiVfyGGUTP5Z8

Loudon County

Issue: Marked as change when water is present in both time periods

- Impervious Non-Roads to Impervious Roads
- Turf Grass to Impervious Roads
- Tree Canopy over Turf Grass to Impervious Roads
- Wetlands, Other to Impervious Roads
- Mixed Open to Impervious Roads
- Tree Canopy Over Impervious to Impervious Non-Roads
- Turf Grass to Impervious Non-Roads
- Tree Canopy over Turf Grass to Impervious Non-Roads
- Forest to Impervious Non-Roads
- Wetlands, Other to Impervious Non-Roads
- Mixed Open to Impervious Non-Roads
- Cropland to Impervious Non-Roads
- Impervious Roads to Tree Canopy Over Impervious
- Impervious Non-Roads to Tree Canopy Over Impervious
- Impervious Non-Roads to Turf Grass
- Tree Canopy Over Impervious to Turf Grass
- Tree Canopy over Turf Grass to Turf Grass
- Forest to Turf Grass
- Wetlands, Other to Turf Grass
- Mixed Open to Turf Grass
- Cropland to Turf Grass
- Turf Grass to Tree Canopy over Turf Grass
- Mixed Open to Tree Canopy over Turf Grass
- Impervious Non-Roads to Forest
- Tree Canopy Over Impervious to Forest
- Turf Grass to Forest
- Tree Canopy over Turf Grass to Forest
- Mixed Open to Forest
- Cropland to Forest
- Impervious Non-Roads to Mixed Open
- Turf Grass to Mixed Open
- Tree Canopy over Turf Grass to Mixed Open
- Forest to Mixed Open
- Cropland to Mixed Open
- Tree Canopy over Turf Grass to Cropland
- Forest to Cropland
- Mixed Open to Water

Draft LU Change Rollup

Loudon County

Water no longer marked as false change

V1 LU Change

Loudon County

Issue: Over-detection of change to turf

Draft LU Change Rollup

Loudon County

Fixed over-detection of change to turf

V1 LU Change

Loudon County

Issue: over-detection of change to turf in new development

- Impervious Non-Roads to Impervious Roads
- Tree Canopy Over Impervious to Impervious Roads
- Tree Canopy over Turf Grass to Impervious Roads
- Forest to Impervious Roads
- Wetlands, Floodplain to Impervious Roads
- Wetlands, Other to Impervious Roads
- Mixed Open to Impervious Roads
- Tree Canopy Over Impervious to Impervious Non-Roads
- Turf Grass to Impervious Non-Roads
- Tree Canopy over Turf Grass to Impervious Non-Roads
- Forest to Impervious Non-Roads
- Wetlands, Floodplain to Impervious Non-Roads
- Wetlands, Other to Impervious Non-Roads
- Mixed Open to Impervious Non-Roads
- Impervious Non-Roads to Tree Canopy Over Impervious
- Impervious Non-Roads to Turf Grass
- Tree Canopy Over Impervious to Turf Grass
- Tree Canopy over Turf Grass to Turf Grass
- Forest to Turf Grass
- Wetlands, Floodplain to Turf Grass
- Mixed Open to Turf Grass
- Turf Grass to Tree Canopy over Turf Grass
- Mixed Open to Tree Canopy over Turf Grass
- Impervious Non-Roads to Forest
- Turf Grass to Forest
- Tree Canopy over Turf Grass to Forest
- Mixed Open to Forest
- Impervious Non-Roads to Mixed Open
- Tree Canopy Over Impervious to Mixed Open
- Tree Canopy over Turf Grass to Mixed Open
- Forest to Mixed Open

Draft LU Change Rollup

Loudon County

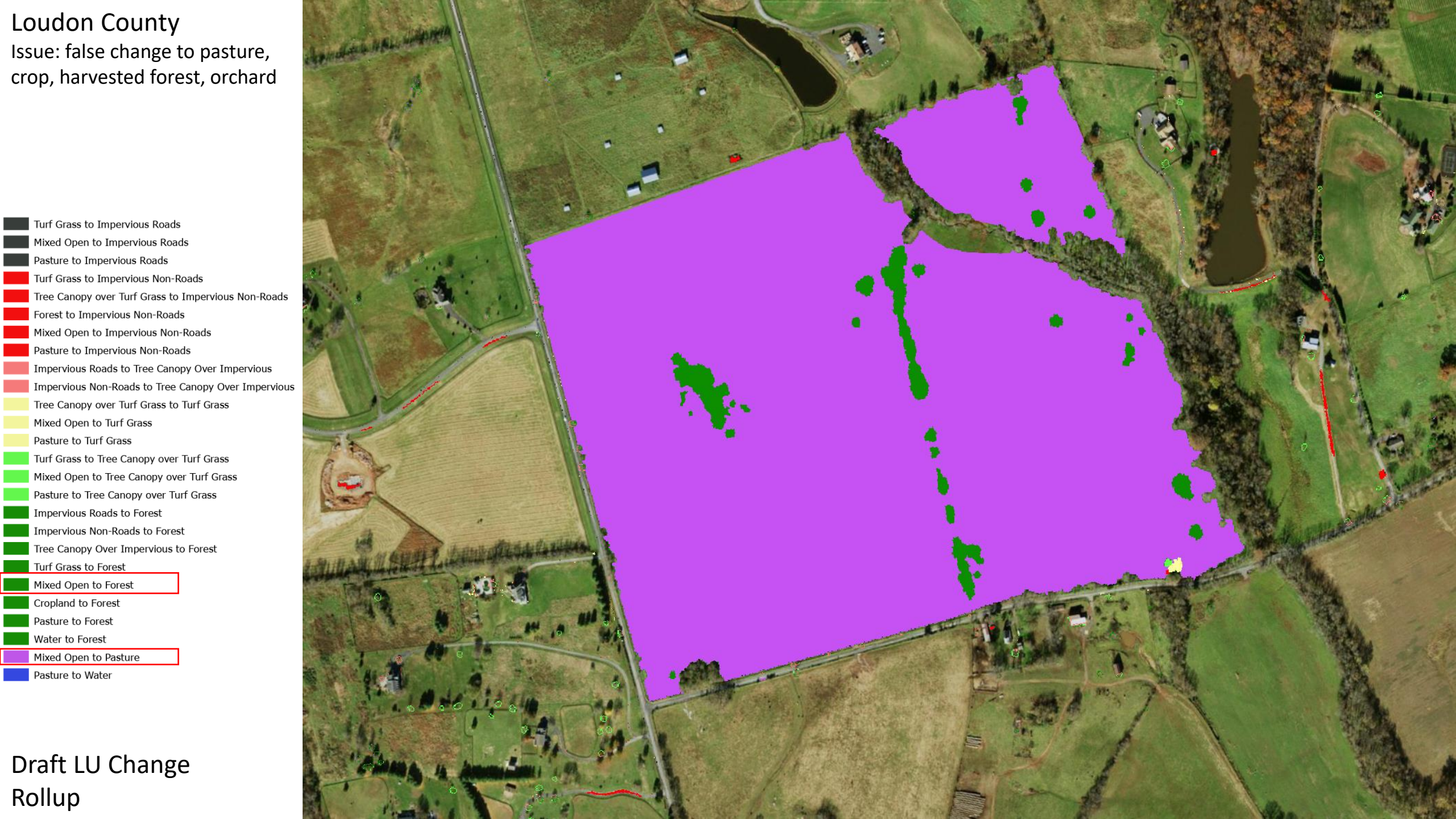
Fixed over-detection of change
to turf in new development

- Impervious Non-Roads to Impervious Roads
- Tree Canopy Over Impervious to Impervious Roads
- Turf Grass to Impervious Roads
- Tree Canopy over Turf Grass to Impervious Roads
- Forest to Impervious Roads
- Mixed Open to Impervious Roads
- Tree Canopy Over Impervious to Impervious Non-Roads
- Turf Grass to Impervious Non-Roads
- Tree Canopy over Turf Grass to Impervious Non-Roads
- Forest to Impervious Non-Roads
- Mixed Open to Impervious Non-Roads
- Impervious Non-Roads to Tree Canopy Over Impervious
- Impervious Non-Roads to Turf Grass
- Tree Canopy Over Impervious to Turf Grass
- Forest to Turf Grass
- Mixed Open to Turf Grass
- Impervious Non-Roads to Tree Canopy over Turf Grass
- Turf Grass to Tree Canopy over Turf Grass
- Forest to Tree Canopy over Turf Grass
- Mixed Open to Tree Canopy over Turf Grass
- Impervious Non-Roads to Forest
- Tree Canopy over Turf Grass to Forest
- Mixed Open to Forest
- Turf Grass to Wetlands, Floodplain
- Impervious Non-Roads to Mixed Open
- Tree Canopy Over Impervious to Mixed Open
- Turf Grass to Mixed Open
- Forest to Mixed Open

V1 LU Change

Loudon County

Issue: false change to pasture, crop, harvested forest, orchard



Draft LU Change Rollup

Loudon County

No longer false change to pasture, crop, harvested forest, orchard

V1 LU Change

Wicomico County

Speckles of forest no longer exist

NAIP 2018

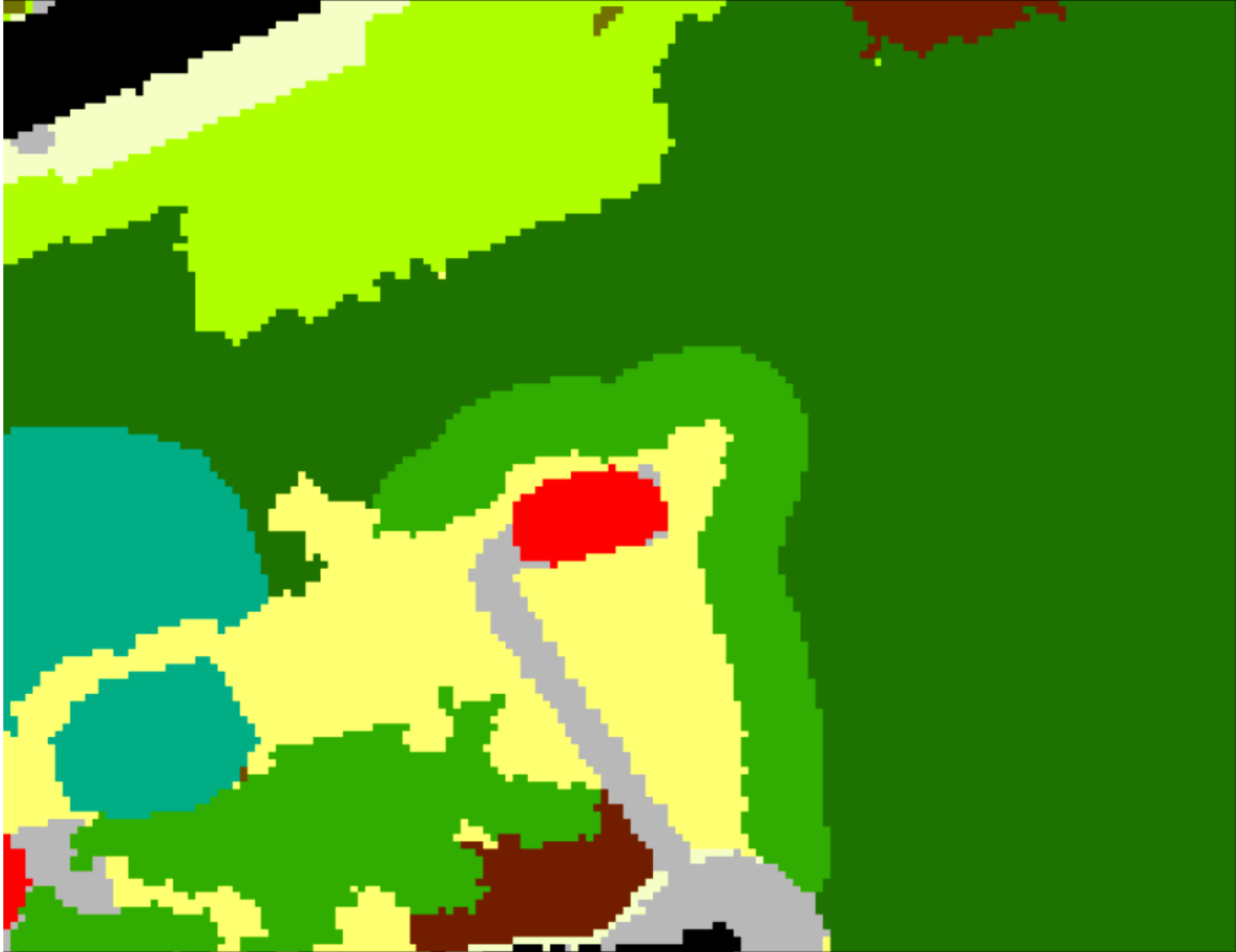
Wicomico County

Speckles of forest no longer exist

Draft LU

Wicomico County

Speckles of forest no longer exist



V1 LU

Accuracy of Mapped vs Modeled Land Use Change

- Mapped 2017 high-res land cover and land cover change data have target accuracies of 90-95%. A quantitative assessment of land cover and selected land use accuracies will be conducted in 2022.

- Currently, modeled land use only reflect changes associated with new residential and commercial development and is only as accurate as the assumptions and data informing the model. The land change model is parameterized with data from the National Land Cover Database which has a target national-scale mapping accuracy of ~80%.

- Data on mapped vs modeled land use change for the entire watershed, as depicted in CAST, will be presented at the July 26th WQGIT meeting.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