Interpreting Land Use Change Pivot Tables – July 29, 2021

Data on land use change represent transitions of land use from an early date (e.g., Time 1, 2013/14) to a late date (Time 2, 2017/18). One of the most concise ways of illustrating such changes is via pivot tables with the early date represented as rows and the late date represented as columns. Pivot tables show all observed land use changes for an area in a single table. Land use change pivot tables have been produced for each of the 206 counties and incorporated cities (those with unique 5-digit FIPS codes) within and adjacent to the watershed. In addition, an aggregated pivot table for the 206-county region and one for just the Bay watershed have been produced.

Below is the pivot table for land use change in the Chesapeake Bay watershed 2013/14 to 2017/18. The values in the table are in units of acres and restricted to areas of change. Land use conditions in 2013/14 (former uses) are represented across the rows while 2017/18 land use conditions (current uses) are represented down the columns. Land use codes are defined below the table. The "Loss" column represents the total acreages transitioning from a 2013/14 land use (row labels) to a different 2017/18 land use (column labels). The "Gain" row represents the total acreages of 2017/18 land uses that transitioned from different 2013/14 land uses. The "Net" row represents overall net change in a particular land use from 2013/14 to 2017/18.

The Bay watershed experienced a net gain of 38,392 acres of turf grass. Most of this gain resulted from turf grass transitions from Mixed Open, Trees over Turf Grass, and Forest. There were 99,624 acres of Mixed Open land use in 2013/14 that transitioned to Forest in 2017/18. Conversely, 325,781 acres of Forest transitioned to Mixed Open. While some portion of forest clearing may be destined to become future development, cropland, or pasture, the majority was likely cleared for timber harvest and will return to forest in the future. This assumption will be definitively proven when the 2021/22 land use dataset is developed.

T1-T2 LU	IR	INR	TCI	TG	TCT	FORE	WLF	WLO	WLT	MO	CRP	PAS	WAT	Loss
IR	-	56	1,143	6	47	217	3	0	0	24	1	2	0	1,499
INR	598	-	2,632	4,652	532	230	41	12	4	3,983	442	1,124	16	14,267
TCI	114	1,307	-	2,167	13	6	11	1	0	2,703	57	90	0	6,470
TG	250	5,901	0	-	11,197	354	17	3	2	1,875	45	69	13	19,726
TCT	104	5,954	0	11,366	-	99	-	-	-	4,663	398	424	4	23,012
FORE	1,152	15,165	17	10,660	15,775	-	-	-	-	325,781	8,069	8,572	143	385,335
WLF	0	0	-	2	-	-	-	-	-	-	-	-	0	2
WLO	-	-	-	2	-	-	-	-	-	-	-	-	-	2
WLT	-	-	-	0	-	-	-	-	-	-	-	-	-	0
MO	1,353	26,550	1	28,069	830	99,624	-	-	-	-	708	1,111	691	158,937
CRP	155	4,229	0	424	77	4,659	-	-	-	2,523	-	384	163	12,614
PAS	124	5,581	0	768	222	10,897	-	-	-	6,198	647	-	76	24,515
WAT	1	103	-	2	25	192	14	0	9	264	29	19	-	657
Gain	3,853	64,846	3,794	58,118	28,719	116,278	85	17	14	348,015	10,396	11,795	1,108	647,036
TotGain	3,853	64,846	3,794	58,118	28,719	116,278	85	17	14	348,015	10,396	11,795	1,108	
TotLoss	1,499	14,267	6,470	19,726	23,012	385,335	2	2	0	158,937	12,614	24,515	657	
Net	2,353	50,579	(2,676)	38,392	5,706	(269,057)	83	15	14	189,077	(2,218)	(12,720)	450	

IR = impervious road
INR = impervious non-road
TCI = tree canopy over impervious
TG = turf grass
TCT = tree canopy over turf grass
FORE = forest
WLF = floodplain non-tidal wetlands
WLO = other non-tidal wetlands
WLT = tidal wetlands
MO = mixed open
CRP = cropland
PAS = pasture
WAT = water