

LOWEST LOADING LAND USE

Agricultural Workgroup

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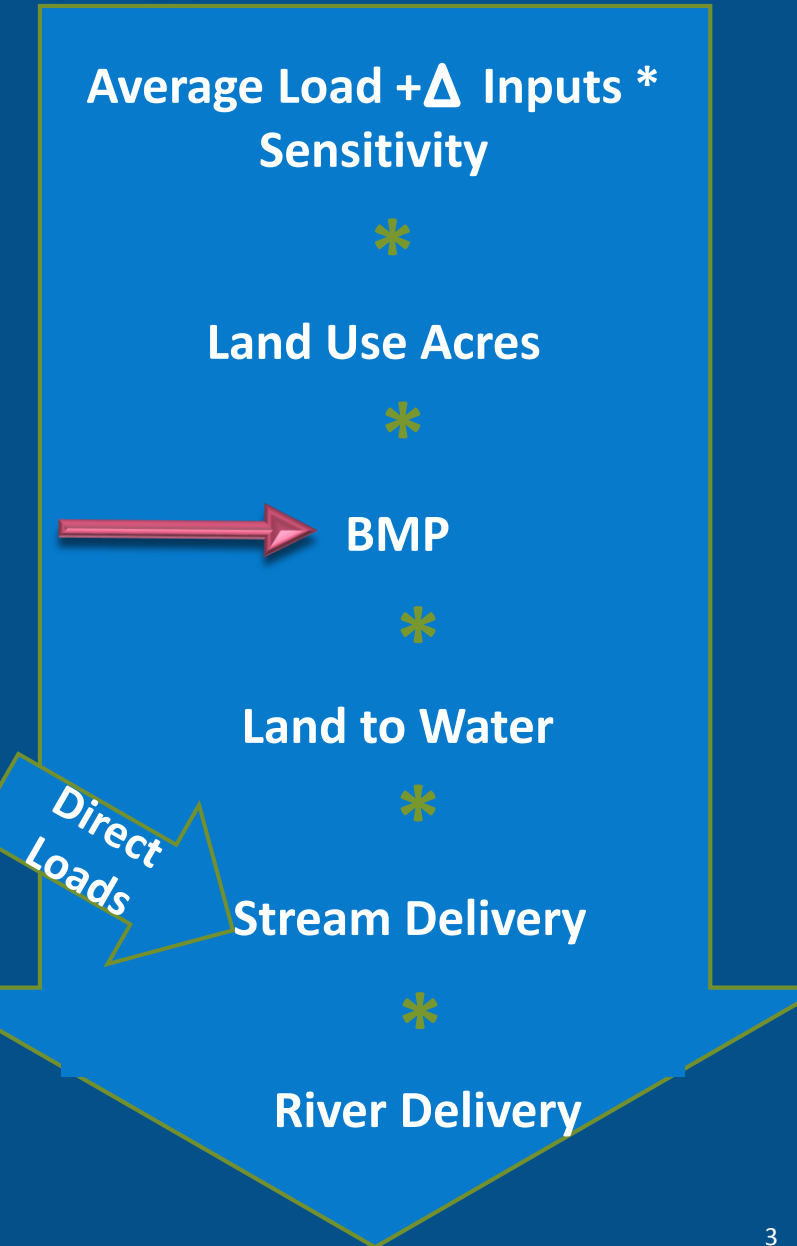
ISSUE: MODEL LOADS BELOW THAT OF FOREST

- Is it realistic for the loads from crop and pasture land uses to be lower than forest?
- Mathematically, BMPs can reduce loads below forest.
- Should reductions be limited?
 - It happens for 518 lbs TN and 867 lbs TP in Agriculture in the Beta 3 E3 scenario
 - This represents 0.001% of the total TN Agricultural load and 0.014% of the total TP Agricultural load

TN WATERSHED MODEL LOADS < FOREST

- Edge of Stream – Includes BMPs

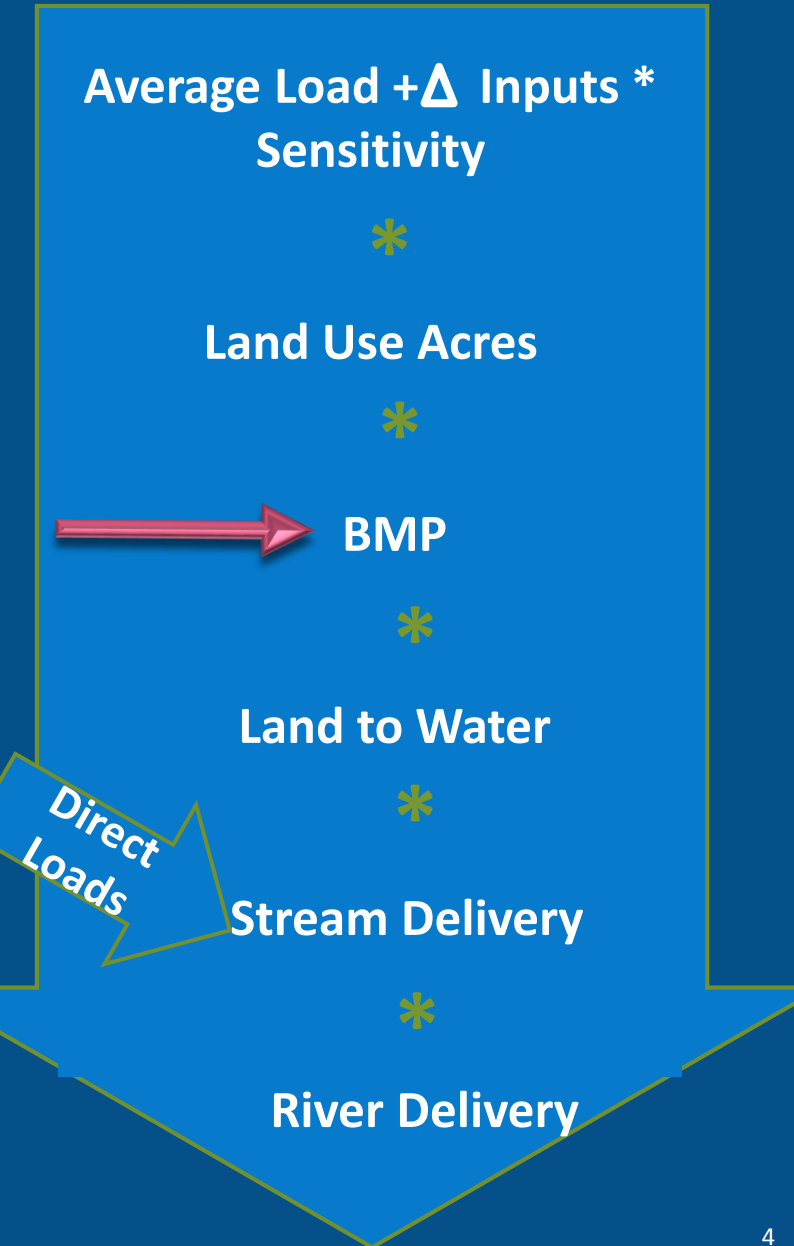
	Scenario	Load type	All Land Uses (lbs)	NonForest < Forest (lbs)	Pct. of Load Eliminated
Agriculture	Beta 3 E3	TN	76,757,374	518	0.001%
All Sectors	Beta 3 E3	TN	117,430,926	1,470	0.001%
Agriculture	Beta 3 WIP2	TN	99,379,842	604	0.001%
All Sectors	Beta 3 WIP2	TN	159,204,565	615	0.000%
Agriculture	Beta 4 Calib	TN	233,123,797	6	0.000%
All Sectors	Beta 4 Calib	TN	325,136,280	149,814	0.046%



TP WATERSHED MODEL LOADS < FOREST

- Edge of Stream – Includes BMPs

	Scenario	Load type	All Land Uses (lbs)	NonForest < Forest (lbs)	Pct. of Load Eliminated
Agriculture	Beta 3 E3	TP	3,670,016	867	0.024%
All Sectors	Beta 3 E3	TP	6,089,859	867	0.014%
Agriculture	Beta 3 WIP2	TP	6,576,497	296	0.004%
All Sectors	Beta 3 WIP2	TP	10,257,456	296	0.003%
Agriculture	Beta 4 Calib	TP	10,262,657	0	0.000%
All Sectors	Beta 4 Calib	TP	14,925,199	64	0.000%



WHY THIS IS OCCURRING

- BMPs

- Example: Soil Conservation and Water Quality Plan BMP reduces 3% of TN
 - $3.25 \text{ Lbs. TN (from ag open space land use in FIPS 24003)} * (1-0.03) = 3.15 \text{ Lbs/A}$
 - Forest loads at 2.37 Lbs/A TN

- Multiple BMPs compound the problem

- Example: Conservation Plan 3% and Water Control Structure reduces 33% TN
 - $3.25 \text{ Lbs. TN (from ag open space land use in FIPS 24003)} * (1-0.03) * (1-0.33) = 2.11 \text{ Lbs/A}$
 - Forest loads at 2.37 Lbs/A TN

CONSIDERATIONS AND OPTIONS

- BMPs
 - Could set the forest loading rate as the lowest loading land use
 - No BMPs are applied to forest.