



*Florida Department of
Environmental Protection*

Allocations

North Indian River Lagoon BMAP Meeting

June 7, 2012



Allocation Options

- Option A: Target load per acre (FDEP recommendation)
- Option B: Percent of net load (will not discuss in detail – did not have significant stakeholder interest)
- Option C: Percent of net load without natural lands (will not discuss in detail – did not have significant stakeholder interest)
- Option D: Target load per acre without natural lands



Option A: Proposed Allocations - Target Load Per Acre Approach





Option A: Target Load Per Acre Approach

- Assigns the required reduction to each entity based on achieving a target load per acre for each project zone.
- FDEP believes this is the most fair and equitable allocation approach because it focuses on achieving reductions in areas with higher loading.
 - These areas will have a higher existing load per acre and will need to make greater reductions to meet the target load per acre than less developed areas.





Calculating Baseline Loads

- Baseline (starting) loads are those loads that were used to calculate the TMDL based on 2000 land use from PLSM.
- The first step was to remove the areas associated with the land use land cover code 5400, which is the Indian River Lagoon.
- The resulting file was then clipped to the North A and North B project zone boundaries.
 - Project zones include new areas for Cocoa, Rockledge, and Titusville.





Calculating Baseline Loads, con't

- The individual entity shapefiles were then created by clipping each of the project zone files as follows:
 - Florida Department of Transportation (FDOT) roads and right-of-ways.
 - Areas with agricultural land uses.
 - Municipalities, each to its own jurisdictional boundary.
 - The remaining area was assigned to the counties using the jurisdictional boundaries.
- The 5000 land use loads were subtracted from the baseline loads to calculate the net loads.





HSPF Model Conversion

- The TP TMDL for the North IRL was based on loadings from the Hydrologic Simulation Program – FORTRAN (HSPF) model, not the PLSM.
- To account for the differences in loading between the two models, a ratio was calculated.
- This ratio is based on the proportion of the HSPF model TP total loads to the PLSM TP total loads for each lagoon segment.





Net Loads in North A

Entity	Acres	5000 Land Use Acres	Net Acres	TN Baseline Load (lbs/yr)	5000 Land Use TN Load (lbs/yr)	TN Net Load (lbs/yr)	TP Adjusted Baseline Load (lbs/yr)	5000 Land Use TP Load (lbs/yr)	TP Net Load (lbs/yr)
Agriculture	8,069	0	8,069	62,810	0	62,810	9611.3	0.0	9,611.3
Brevard County	8,305	108	8,197	37,051	194	36,857	4205.7	27.4	4,178.3
Edgewater	1,244	62	1,182	3,266	181	3,085	346	22.8	323.2
FDOT D5	354	0	354	3,917	0	3,917	1130.9	0.0	1,130.9
KSC	44,295	3,711	40,584	84,095	2,161	81,934	10277	224.8	10,052.2
Oak Hill	127	0	127	218	0	218	15.3	0.0	15.3
Titusville	5,776	34	5,742	64,967	113	64,854	12102.2	26.0	12,076.2
Volusia County	23,605	254	23,351	32,375	1,169	31,206	2632.4	110.8	2,521.6
Total	91,776	4,169	87,607	288,699	3,818	284,881	40,320.8	411.8	39,909.0





Net Loads in North B

Entity	Area (Acres)	5000 Land Use Acres	Net Acres	TN Baseline Load (lbs/yr)	5000 Land Use TP Load (lbs/yr)	TN Net Load (lbs/yr)	TP Adjusted Baseline Load (lbs/yr)	5000 Land Use TP Load (lbs/yr)	TP Net Load (lbs/yr)
Agriculture	3,692	0	3,692	24,477	0	24,477	5,504.2	0.0	5,504.2
Brevard County	23,829	1,431	22,398	144,429	5,318	139,111	22,517.4	803.9	21,713.5
Cocoa	2,111	13	2,098	26,319	40	26,279	5,224.1	7.7	5,216.4
FDOT D5	929	3	926	8,743	12	8,731	2,804.1	1.7	2,802.4
Indialantic	168	0	168	1,756	0	1,756	318.4	0.0	318.4
Indian Harbour Beach	1	0	1	11	0	11	1.7	0.0	1.7
KSC	4,136	159	3,977	5,707	366	5,341	975.3	46.4	928.9
Melbourne	9,920	258	9,662	91,888	1,045	90,843	20,074.0	151.2	19,922.8
Palm Shores	267	2	265	1,700	6	1,694	311.3	1.3	310.0
Rockledge	3,892	69	3,823	32,175	181	31,994	6,648.3	35.8	6,612.5
Titusville	588	0	588	3,013	0	3,013	279.6	0.0	279.6
Total	49,535	1,935.0	47,600	340,218	6,968	333,250	64,658.4	1,048.0	63,610.4





De Minimus *Entities*

- The *de minimus* entities were identified by sorting the anthropogenic loads from lowest to highest for both TN and TP.
- The *de minimus* entities are:
 - Oak Hill in North A
 - Indian Harbour Beach and Palm Shores in North B (Palm Shores has submitted projects)
- These entities would not receive an assigned reduction in this iteration of the BMAP.





Option A: Target Loads per Acre

- The target loads per acre were calculated by dividing the TMDL target load for nonpoint sources by the total non-water area in North A and North B.
- Area used in the target calculation is based on acreage within the original PLSM boundary.

North A	TN	TP
Non-Water Acres	86,667	86,667
TMDL Target Load (lbs)	184,254	20,349
Target Load (lbs/acre)	2.126	0.235

North B	TN	TP
Non-Water Acres	42,786	42,786
TMDL Target Load (lbs)	188,341	27,638
Target Load (lbs/acre)	4.402	0.646





Revised Required Reductions

- In the initial allocations, some stakeholders had negative values for the required reductions, indicating that the net load from the PLSM is lower than the allocation.
- This is the case for KSC and Volusia County in North A and KSC and Titusville in North B.
- To ensure that greater reductions were not assigned than required by the TMDL, this difference was spread out to the other entities based on their percentage of the net load.
 - This reduced the stakeholders' reductions from the initial reductions that were calculated.





Option A: BMAP Phase I TN Reductions for North A

Entity	TN Required Reduction (lbs/yr)	Portion of Volusia County and KSC Load Reduction (lbs/yr)	Revised TN Required Reduction (lbs/yr)	15% of TN Required Reduction (lbs/yr)
Agriculture	45,654.9	8,343.9	37,311.0	5,596.6
Brevard County	19,429.6	4,896.2	14,533.3	2,180.0
Edgewater	572.1	409.8	162.2	24.3
FDOT D5	3,164.4	520.3	2,644.1	396.6
KSC	-4,347.1	-	0.0	0.0
Titusville	52,646.2	8,615.4	44,030.7	6,604.6
Volusia County	-18,438.6	-	0.0	0.0
Oak Hill - <i>de minimus</i>	-	-	-	-
Total	98,681.3	22,785.7	98,681.3	14,802.2





Option A: BMAP Phase I TP Reductions for North A

Entity	TP Required Reduction (lbs/yr)	Portion of Volusia County Load Reduction (lbs/yr)	Revised TP Required Reduction (lbs/yr)	15% of TP Required Reduction (lbs/yr)
Agriculture	7,715.0	856.4	6,858.6	1,028.8
Brevard County	2,251.9	372.3	1,879.6	281.9
Edgewater	45.4	45.4	0.0	0.0
FDOT D5	1,047.7	100.8	946.9	142.0
KSC	515.0	515.0	0.0	0.0
Titusville	10,726.8	1,076.0	9,650.7	1,447.6
Volusia County	-2,965.9	0.0	0.0	0.0
Oak Hill - <i>de minimus</i>	-	-	-	-
Total	19,336.0	2,965.9	19,336.0	2,900.4





Option A: BMAP Phase I TN Reductions for North B

Entity	TN Required Reduction (lbs/yr)	Portion of KSC Load Reduction (lbs/yr)	Revised TN Required Reduction (lbs/yr)	15% of TN Required Reduction (lbs/yr)
Agriculture	8,224.3	913.0	7,311.3	1,096.7
Brevard County	40,513.7	5,188.9	35,324.8	5,298.7
Cocoa	17,043.6	980.2	16,063.4	2,409.5
FDOT D5	4,655.2	325.7	4,329.5	649.4
Indialantic	1,014.9	65.5	949.4	142.4
KSC	-12,167.5	-	0.0	0.0
Melbourne	48,311.8	3,388.5	44,923.3	6,738.5
Rockledge	15,163.0	1,193.4	13,969.6	2,095.4
Titusville	423.7	112.4	311.3	46.7
Indian Harbour Beach - <i>de minimus</i>	-	-	-	-
Palm Shores - <i>de minimus</i>	-	-	-	-
Total	123,182.7	12,167.5	123,182.6	18,477.4





Option A: BMAP Phase I TP Reductions for North B

Entity	TP Required Reduction (lbs/yr)	Portion of KSC and Titusville Load Reduction (lbs/yr)	Revised TP Required Reduction (lbs/yr)	15% of TP Required Reduction (lbs/yr)
Agriculture	3,119.1	154.3	2,964.8	444.7
Brevard County	7,244.2	608.8	6,635.4	995.3
Cocoa	3,861.1	146.3	3,714.8	557.2
FDOT D5	2,204.3	78.6	2,125.7	318.9
Indialantic	209.6	8.9	200.7	30.1
KSC	-1,640.5	-	0.0	0.0
Melbourne	13,681.3	558.6	13,122.7	1,968.4
Rockledge	4,142.5	185.4	3,957.1	593.6
Titusville	-100.4	-	0.0	0.0
Indian Harbour Beach - <i>de minimus</i>	-	-	-	-
Palm Shores - <i>de minimus</i>	-	-	-	-
Total	32,721.2	1,740.9	32,721.2	4,908.2





Alternate Allocation Option D: Target Load Per Acre Without Natural Lands





Target Load Per Acre without Natural Approach

- Assigns the required reduction to each entity based on a target load per acre using the anthropogenic loading.
 - Land use codes 1000, 2000, 7000, and 8000
- This approach focuses on those anthropogenic areas of the watershed with high nutrient loadings, which would have the most impact on the lagoon.
- However, the overall required reductions under this approach are higher than the reductions under the target load per acre approach.





Baseline Loading

- The baseline loading was calculated following the same steps as the target load per acre approach.
- The TP load was adjusted using the same factors.
- However, the baseline loads were calculated based only on the anthropogenic land uses.



Anthropogenic Baseline Loads for North A

Entity	Area (Acres)	TN Baseline Load (lbs/yr)	TP Baseline Load (lbs/yr)	Adjusted TP Load (lbs/yr)
Agriculture	8,069	62,810	13,734.5	9,611.3
Brevard County	2,795	27,667	4,262.6	3,568.1
Edgewater	200	1,405	279.4	187.5
FDOT D5	324	3,859	1,178.9	1,126.6
KSC	2,616	27,991	7,425.3	7,237.7
Oak Hill	12	85	10.3	7.1
Titusville	3,745	60,874	11,334.7	11,716.1
Volusia County	1,414	9,805	1,683.1	1,122.8
Total	19,176	194,496	39,908.8	34,577.2





Anthropogenic Baseline Loads for North B

Entity	Area (Acres)	TN Baseline Load (lbs/yr)	TP Baseline Load (lbs/yr)	Adjusted TP Load (lbs/yr)
Agriculture	3,692	24,477	6,157.6	5,504.2
Brevard County	12,886	126,781	21,566.2	20,700.3
Cocoa	1,682	25,665	5,680.5	5,165.3
FDOT D5	856	8,636	2,922.6	2,795.6
Indialantic	168	1,756	309.7	318.4
Indian Harbour Beach	1	11	1.7	1.7
KSC	318	3,989	951.1	842.4
Melbourne	8,002	86,106	19,035.5	19,572.8
Palm Shores	145	1,426	271.6	278.9
Rockledge	2,467	28,011	5,954.8	6,300.6
Titusville	174	2,254	259.9	230.3
Total	30,391	309,112	63,111.2	61,710.5





De Minimus *Entities*

- The *de minimus* entities were identified following the same steps as the target load per acre approach.
- The *de minimus* entities are:
 - Oak Hill and Edgewater in North A
 - Indian Harbour Beach and Palm Shores in North B
- These entities would not receive an assigned reduction in this iteration of the BMAP.





Allocations

- The target loads per acre were calculated by dividing the TMDL anthropogenic target load by the total anthropogenic area in the North A and North B project zones.
 - Area used in the target calculation is based on acreage within the original PLSM boundary.
- The anthropogenic TN and TP target loads were calculated by subtracting the load associated with the natural lands from the TMDL target loading.





Calculating Target Loads Per Acre Without Natural Lands

North A	TN	TP
TMDL Target (lbs/yr)	184,254	20,349
Natural Loading (lbs/yr)	94,203	5,744
Anthropogenic Target Loads (lbs/yr)	90,051	14,605
Anthropogenic Acres	18,622	18,622
Target Load (lbs/acre/yr)	4.836	0.784

North B	TN	TP
TMDL Target (lbs/yr)	188,341	27,638
Natural Loading (lbs/yr)	31,106	2,948
Anthropogenic Target Loads (lbs/yr)	157,235	24,690
Anthropogenic Acres	27,190	27,190
Target Load (lbs/acre/yr)	5.783	0.908





Option D: BMAP Phase I TN Reductions for North A

Entity	Area (Acres)	TN Target Load per Acre Without Natural Lands (lbs/ac/yr)	TN Allocation (lbs/yr)	TN Net Load (lbs/yr)	TN Required Reduction (lbs/yr)	15% of TN Required Reduction (lbs/yr)
Agriculture	8,069	4.836	39,022.7	62,810	23,787.3	3,568.1
Brevard County	2,795	4.836	13,518.7	27,667	14,148.3	2,122.3
FDOT D5	324	4.836	1,568.0	3,859	2,291.0	343.6
KSC	2,616	4.836	12,650.0	27,991	15,341.0	2,301.2
Titusville	3,745	4.836	18,112.5	60,874	42,761.5	6,414.2
Volusia County	1,414	4.836	6,839.8	9,805	2,965.2	444.8
Edgewater - <i>de minimus</i>	200	4.836	-	1,405	-	-
Oak Hill - <i>de minimus</i>	12	4.836	-	85	-	-
Total	19,176	N/A	91,711.7	194,496	101,294.3	15,194.1





Option D: BMAP Phase I TP Reductions for North A

Entity	Area (Acres)	TP Target Load per Acre Without Natural Lands (lbs/ac/yr)	TP Allocation (lbs/yr)	TP Net Load (lbs/yr)	TP Required Reduction (lbs/yr)	15% of TP Required Reduction (lbs/yr)
Agriculture	8,069	0.784	6,326.3	9,611.3	3,285.0	492.8
Brevard County	2,795	0.784	2,191.6	3,568.1	1,376.5	206.5
FDOT D5	324	0.784	254.2	1,126.6	872.4	130.9
KSC	2,616	0.784	2,050.8	7,237.7	5,186.9	778.0
Titusville	3,745	0.784	2,936.4	11,716.1	8,779.7	1,317.0
Volusia County	1,414	0.784	1,108.9	1,122.8	13.9	2.1
Edgewater - <i>de minimus</i>	200	0.784	-	187.5	-	-
Oak Hill - <i>de minimus</i>	12	0.784	-	7.1	-	-
Total	19,176	N/A	14,868.1	34,577.2	19,514.5	2,927.2





Option D: BMAP Phase I TN Reductions for North B

Entity	Area (Acres)	TN Target Load per Acre Without Natural Lands (lbs/ac/yr)	TN Allocation (lbs/yr)	TN Baseline Load (lbs/yr)	TN Required Reduction (lbs/yr)	15% of TN Required Reductions (lbs/yr)
Agriculture	3,692	5.783	21,351.5	24,477	3,125.5	468.8
Brevard County	12,886	5.783	74,517.7	126,781	52,263.3	7,839.5
Cocoa	1,682	5.783	9,724.5	25,665	15,940.5	2,391.1
FDOT D5	856	5.783	4,951.1	8,636	3,684.9	552.7
Indianalantic	168	5.783	973.5	1,756	782.5	117.4
KSC	318	5.783	1,839.5	3,989	2,149.5	322.4
Melbourne	8,002	5.783	46,273.3	86,106	39,832.7	5,974.9
Rockledge	2,467	5.783	14,267.2	28,011	13,743.8	2,061.6
Titusville	174	5.783	1,006.6	2,254	1,247.4	187.1
Indian Harbour Beach- <i>de minimus</i>	1	5.783	-	11	-	-
Palm Shores- <i>de minimus</i>	145	5.783	838.6	1,426	-	-
Total	30,391	N/A	175,743.6	309,112	132,770.1	19,915.5



Option D: BMAP Phase I TP Reductions for North B

Entity	Area (Acres)	TP Target Load per Acre Without Natural Lands (lbs/ac/yr)	TP Allocation (lbs/yr)	TP Baseline Load (lbs/yr)	TP Required Reduction (lbs/yr)	15% of TP Required Reductions (lbs/yr)
Agriculture	3,692	0.908	3,352.4	5,504.2	2,151.8	322.8
Brevard County	12,886	0.908	11,700.2	20,700.3	9,000.1	1,350.0
Cocoa	1,682	0.908	1,526.9	5,165.3	3,638.4	545.8
FDOT D5	856	0.908	777.4	2,795.6	2,018.2	302.7
Indialantic	168	0.908	152.9	318.4	165.5	24.8
KSC	318	0.908	288.8	842.4	553.6	83.0
Melbourne	8,002	0.908	7,265.5	19,572.8	12,307.3	1,846.1
Palm Shores	145	0.908	131.7	278.9	4,060.5	609.1
Rockledge	2,467	0.908	2,240.1	6,300.6	72.2	10.8
Titusville	174	0.908	158.1	230.3	-	-
Indian Harbour Beach- <i>de minimus</i>	1	0.908	-	1.7	-	-
Total	30,391	N/A	27,593.8	61,710.5	33,967.6	5,095.2





Comparison of Approaches





Comparison of Phase I TN Reductions for North A

Entity	Option A: Target Load per Acre Approach (lbs/yr)	Option B: Alternate Approach Percent of Net Load (lbs/yr)	Option C: Alternate Approach Percent of Net Load without Natural (lbs/yr)	Option D: Alternate Approach Target Load per Acre without Natural (lbs/yr)
Agriculture	5,596.6	3,408.5	5,059.4	3,568.1
Brevard County	2,180.0	2,010.6	2,228.6	2,122.3
Edgewater	24.3	177.2	-	-
FDOT D5	396.6	212.6	310.8	343.6
KSC	0.0	4,563.6	2,254.7	2,301.2
Titusville	6,604.6	3,525.5	4,903.4	6,414.2
Volusia County	0.0	1,756.9	789.8	444.8
Oak Hill - <i>de minimus</i>	-	-	-	-
Total	14,802.2	15,654.9	15,546.7	15,194.1





Comparison of Phase I TP Reductions for North A

Entity	Option A: Target Load per Acre Approach (lbs/yr)	Option B: Alternate Approach Percent of Net Load (lbs/yr)	Option C: Alternate Approach Percent of Net Load without Natural (lbs/yr)	Option D: Alternate Approach Target Load per Acre without Natural (lbs/yr)
Agriculture	1,028.8	706.6	832.7	492.8
Brevard County	281.9	307.2	309.1	206.5
Edgewater	0.0	23.8	-	-
FDOT D5	142.0	83.1	97.6	130.9
KSC	0.0	739.0	627.1	778.0
Titusville	1,447.6	887.8	1,015.1	1,317.0
Volusia County	0.0	185.4	97.3	2.1
Oak Hill - <i>de minimus</i>	-	-	-	-
Total	2,900.4	2,932.9	2,978.9	2,927.2





Comparison of BMAP Phase I TN Reductions for North B

Entity	Option A: Target Load per Acre Approach (lbs/yr)	Option B: Alternate Approach Percent of Net Load (lbs/yr)	Option C: Alternate Approach Percent of Net Load without Natural (lbs/yr)	Option D: Alternate Approach Target Load per Acre without Natural (lbs/yr)
Agriculture	1,096.7	1,596.5	1,804.0	468.8
Brevard County	5,298.7	9,073.2	9,343.8	7,839.5
Cocoa	2,409.5	1,714.0	1,891.5	2,391.1
FDOT D5	649.4	569.5	636.5	552.7
Indialantic	142.4	114.5	129.4	117.4
KSC	0.0	348.4	294.0	322.4
Melbourne	6,738.5	5,925.0	6,346.0	5,974.9
Rockledge	2,095.4	2,086.7	2,064.4	2,061.6
Titusville	46.7	196.5	166.1	187.1
Indian Harbour Beach- <i>de minimus</i>	-	-	-	-
Palm Shores- <i>de minimus</i>	-	-	-	-
Total	18,477.4	21,624.3	22,675.7	19,915.5



Comparison of BMAP Phase I TP Reductions for North B

Entity	Option A: Target Load per Acre Approach (lbs/yr)	Option B: Alternate Approach Percent of Net Load (lbs/yr)	Option C: Alternate Approach Percent of Net Load without Natural (lbs/yr)	Option D: Alternate Approach Target Load per Acre without Natural (lbs/yr)
Agriculture	444.7	466.9	495.3	322.8
Brevard County	995.3	1,841.8	1,862.7	1,350.0
Cocoa	557.2	442.5	464.8	545.8
FDOT D5	318.9	237.7	251.6	302.7
Indialantic	30.1	27.0	28.7	24.8
KSC	0.0	78.8	75.8	83.0
Melbourne	1,968.4	1,690.0	1,761.3	1,846.1
Rockledge	593.6	560.9	567.0	609.1
Titusville	0.0	23.7	20.7	10.8
Indian Harbour Beach- <i>de minimus</i>	-	-	-	-
Palm Shores- <i>de minimus</i>	-	-	-	-
Total	4,908.2	5,369.3	5,527.9	5,095.2



Comparison of Entire Reductions for North A

Entity	TN Option A (lbs/yr)	TN Option B (lbs/yr)	TN Option C (lbs/yr)	TN Option D (lbs/yr)	TP Option A (lbs/yr)	TP Option B (lbs/yr)	TP Option C (lbs/yr)	TP Option D (lbs/yr)
Agriculture	37,311.0	22,723.3	33,729.2	23,787.3	6,858.6	4,710.6	5,551.5	3,285.0
Brevard County	14,533.3	13,404.2	14,857.3	14,148.3	1,879.6	2,047.8	2,060.9	1,376.5
Edgewater	162.2	1,181.6	-	-	0.0	158.4	-	-
FDOT D5	2,644.1	1,417.1	2,072.3	2,291.0	946.9	554.3	650.7	872.4
KSC	0.0	30,423.7	15,031.3	15,341.0	0.0	4,926.7	4,180.5	5,186.9
Titusville	44,030.7	23,503.6	32,689.5	42,761.5	9,650.7	5,918.7	6,767.2	8,779.7
Volusia County	0.0	11,712.6	5,265.3	2,965.2	0.0	1,235.9	648.5	13.9
Oak Hill - <i>de minimus</i>	-	-	-	-	-	-	-	-
Total	98,681.3	104,366.1	103,644.9	101,294.3	19,336.0	19,552.5	19,859.4	19,514.5





Comparison of Entire Reductions for North B

Entity	TN Option A (lbs/yr)	TN Option B (lbs/yr)	TN Option C (lbs/yr)	TN Option D (lbs/yr)	TP Option A (lbs/yr)	TP Option B (lbs/yr)	TP Option C (lbs/yr)	TP Option D (lbs/yr)
Agriculture	7,311.3	10,643.0	12,026.4	3,125.5	2,964.8	3,112.6	3,302.0	2,151.8
Brevard County	35,324.8	60,487.8	62,291.7	52,263.3	6,635.4	12,279.0	12,418.2	9,000.1
Cocoa	16,063.4	11,426.6	12,610.1	15,940.5	3,714.8	2,949.9	3,098.7	3,638.4
FDOT D5	4,329.5	3,796.4	4,243.2	3,684.9	2,125.7	1,584.8	1,677.1	2,018.2
Indialantic	949.4	763.5	862.8	782.5	200.7	180.1	191.0	165.5
KSC	0.0	2,322.4	1,959.9	2,149.5	0.0	525.3	505.4	553.6
Melbourne	44,923.3	39,500.1	42,306.7	39,832.7	13,122.7	11,266.3	11,741.8	12,307.3
Rockledge	13,969.6	13,911.5	13,762.7	13,743.8	3,957.1	3,739.4	3,779.8	4,060.5
Titusville	311.3	1,310.1	1,107.5	1,247.4	0.0	158.1	138.2	72.2
Indian Harbour Beach- <i>de minimus</i>	-	-	-	-	-	-	-	-
Palm Shores- <i>de minimus</i>	-	-	-	-	-	-	-	-
Total	123,182.6	144,161.4	151,171.0	132,769.9	32,721.2	35,795.5	36,852.2	33,967.7





Next Steps

- After evaluating other allocation options, FDEP believes that the target load per acre allocation approach is the most fair and equitable.
 - *Reduces effect of requiring reductions on largely natural lands.*
 - *Focuses reductions where loading is concentrated and not where it is diffuse (natural lands).*





Next Steps, continued

- For this BMAP iteration, stakeholders are only being held to 15% of the required reductions.
- Most stakeholders have already achieved 15% of the required reductions using this approach with projects submitted.
 - *There is no one approach that benefits everyone to support a change in approach at this time.*
 - *Any change would require full agreement from all affected parties.*





Next Steps, continued

- Before the next iteration of the BMAP, FDEP will work with stakeholders to update the TMDL model with the latest data.
- Based on the updated TMDL model and progress made towards seagrass depth limit targets, then the required reductions would be revised.
- In future BMAP iterations, a different allocation approach can be used, if appropriate.





Comparison of Option A Allocations to Project Credit





North A TN Project Credit

Entity	15% BMAP 1 TN Required Reduction (lbs/yr)	Project TN Credit (lbs/yr)	% BMAP I TN Reduction Achieved	TN Reduction Remaining (lbs/yr)
Agriculture	5,596.6	8,092.2	144.6%	-2,495.6
Brevard County	2,180.0	9,981.0	457.8%	-7,801.0
Edgewater	24.3	74.0	304.5%	-49.7
FDOT D5	396.6	1,093.0	275.6%	-696.4
KSC	0.0	8,940.0	100.0%	-8,940.0
Titusville	6,604.6	8,012.0	121.3%	-1,407.4
Volusia County	0.0	0.0	100.0%	0.0
Oak Hill - <i>de minimus</i>	-	0.0	100.0%	0.0

Note: Negative values in the reduction remaining column indicate credit for the next BMAP iteration.





North A TP Project Credit

Entity	15% BMAP 1 TP Required Reduction (lbs/yr)	Project TP Credit (lbs/yr)	% BMAP I TP Reduction Achieved	TP Reduction Remaining (lbs/yr)
Agriculture	1,028.8	1,852.5	180.1%	-823.7
Brevard County	281.9	2,631.1	933.3%	-2,349.2
Edgewater	0.0	9.8	100.0%	-9.8
FDOT D5	142.0	305.2	214.9%	-163.2
KSC	0.0	3,134.4	100.0%	-3,134.4
Titusville	1,447.6	2,676.6	184.9%	-1,229.0
Volusia County	0.0	0.0	100.0%	0.0
Oak Hill - <i>de minimus</i>	-	0.0	100.0%	0.0

Note: Negative values in the reduction remaining column indicate credit for the next BMAP iteration.





North B TN Project Credit

Entity	15% BMAP 1 TN Required Reduction (lbs/yr)	Project TN Credit (lbs/yr)	% BMAP I TN Reduction Achieved	TN Reduction Remainin g (lbs/yr)
Agriculture	1,096.7	5,795.1	528.4%	-4,698.4
Brevard County	5,298.7	34,716.0	655.2%	-29,418.0
Cocoa	2,409.5	4,367.0	181.2%	-1,957.5
FDOT D5	649.4	3,210.0	494.3%	-2,560.6
Indialantic	142.4	341.0	239.5%	-198.6
KSC	0.0	1,197.0	100.0%	-1,197.0
Melbourne	6,738.5	5,460.0	81.0%	1,278.5
Rockledge	2,095.4	4,889.0	233.3%	-2,793.6
Titusville	46.7	49.0	104.9%	-2.3
Indian Harbour Beach- <i>de minimus</i>	-	0.0	100.0%	0.0
Palm Shores- <i>de minimus</i>	-	21.0	100.0%	-21.0

Note: Negative values in the reduction remaining column indicate credit for the next BMAP iteration.





North B TP Project Credit

Entity	15% BMAP 1 TP Required Reduction (lbs/yr)	Project TP Credit (lbs/yr)	% BMAP I TP Reduction Achieved	TP Reduction Remaining (lbs/yr)
Agriculture	444.7	1,305.9	293.7%	-861.2
Brevard County	995.3	9,536.6	958.2%	-8,541.3
Cocoa	557.2	1,467.1	263.3%	-909.9
FDOT D5	318.9	992.7	311.3%	-673.8
Indialantic	30.1	59.4	197.3%	-29.3
KSC	0.0	1,169.6	100.0%	-1,169.6
Melbourne	1,968.4	2,328.1	118.3%	-359.7
Rockledge	593.6	2,064.3	347.8%	-1,470.7
Titusville	0.0	13.9	100.0%	-13.9
Indian Harbour Beach- <i>de minimus</i>	-	0.0	100.0%	0.0
Palm Shores- <i>de minimus</i>	-	4.2	100.0%	-4.2

Note: Negative values in the reduction remaining column indicate credit for the next BMAP iteration.

