UNRBA Nutrient Credit Development Project

PFC Meeting

Aug 2017

August 23, 2017

Nutrient Credits Project Summary

- The UNRBA invested $310K in this project, which started in 2014
- DWR contributed $70K in grant funding
- Several practices have been approved
- Two are under consideration
- The UNRBA Credit Tool is available for use

Practice	Approved for Existing Development	Approved New Development
Bioretention design variants	✓	✓
Level spreader filter strip design variants	✓	✓
Infiltration devices (over/under sizing)	✓	✓
Soil improvement	✓	
Cattle exclusion (contingent approval)	✓	
Removal of illicit discharges	✓	
Land conservation	See status update	
Buffer improvement in developed areas	See status update	

Status of Buffer Improvement in Developed Areas

- Received comments during the public comment period which ended in early May
- Discussed next steps with DWR on June 22nd
- Awaiting a follow up meeting with DWR and DMS to finalize this practice and send back out to public comment (likely September)

Land Conservation Credit--Status of DEQ Discussions

- UNRBA has been pursuing a nutrient credit for land conservation since the project began
- DWR preemptively issued a letter stating they would not approve a credit for this practice
- The UNRBA has met several times with DEQ to discuss options for this practice
- On August 4th, impromptu meeting with Rich Gannon and Jim Hawhee to discuss alternative calculation method
- Preliminary numbers are promising (small credit)
- Continue to work through this with DEQ

Revised Credit Estimates for Land Conservation

- The Falls Lake Nutrient Management Strategy calculated nutrient loading targets for new development based on
  - Estimated nutrient loading rates for developable land
  - Proportion of developable land in each category
- New development loading targets were “neutral”
- 72 percent of the developable land was assumed forested
- Land conservation would reduce the amount of forest available for development and shift development to other land uses
- If the new development loading targets stay the same, over time less nutrient loading would be delivered to Falls Lake

Example Calculation for Neutral Loading Rates for Land Conservation

Land use	N Export Rate after 40% Reduction (lb/ac/yr)	Proportion of Developable Area	(Neutral Nitrogen Export Rate for new development) x (Proportion of Area) (lb/ac/yr)
Scenario 1. No Land Conservation (Current Assumptions of Falls Lake Nutrient Management Strategy)			
Row crops	8.0	0.02	0.160
Pasture/other	3.4	0.26	0.884
Forest	1.6	0.72	1.152
Conserved	1.6	0	0
Weighted average export rate for neutral loading from new development			**2.196**
Scenario 2. Land Conservation at Non-Incentivized Rates (Assume 32,000 acres of the 375,473 acres of developable land (8.5%) are conserved[1]			
Row crops	8.0	0.062 (0.02+0.085/2)	0.496
Pasture/other	3.4	0.302 (0.26+0.085/2)	1.027
Forest	1.6	0.635 (0.72-0.085)	1.016
Conserved	1.6	0	0
Weighted average export rate for neutral loading from new development			**2.539**

For this example, land conservation would generate a nitrogen credit of 0.34 lb-N/ac/yr.

Example Calculation for Neutral Loading Rates for Land Conservation

Land use	Phosphorus Export Rate after 77% Reduction (lb/ac/yr)	Proportion of Developable Area	(Neutral Phosphorus Export Rate for new development) x (Proportion of Area) (lb/ac/yr)
Scenario 1. Current Assumptions of Falls Lake Nutrient Management Strategy (No Land Conservation)			
Row crops	1.22	0.02	0.024
Pasture/other	0.25	0.26	0.065
Forest	0.33	0.72	0.238
Conserved	0.33	0	0
Weighted average export rate for neutral loading from new development			**0.327**
Scenario 2. Land Conservation at Non-Incentivized Rates (Assume 32,000 acres of the 375,473 acres of developable land (8.5%) are conserved[1]			
Row crops	1.22	0.062 (0.02+0.085/2)	0.076
Pasture/other	0.25	0.302 (0.26+0.085/2)	0.076
Forest	0.33	0.635 (0.72-0.085)	0.210
Conserved	0.33	0	0
Weighted average export rate for neutral loading from new development			**0.362**

For this example, land conservation would generate a phosphorus credit of 0.035 lb-N/ac/yr.