

## Ginger Adair - Re: FW: Cumulative impact of "minimal" leaching found in Dr. Trenholm's turf research (Citra)

**From:** Doug & Mary Sphar <canoe2@digital.net>  
**To:** Ginger Adair <gadair@volusia.org>  
**Date:** 2/26/2014 3:08 PM  
**Subject:** Re: FW: Cumulative impact of "minimal" leaching found in Dr. Trenholm's turf research (Citra)

Hi Ginger,  
 I never did get the corrected spreadsheet. I don't think Troy sent it. This email gives the revised table for the leaching calculations.

Whitney Green works for SJRWMD.

I will ask Cindy Lieberman if she has some data for a specific municipality.

Mary

On 10/3/2013 1:05 PM, Barker, Virginia H wrote:

Here is the revised version.

**From:** Troy Rice [mailto:trice@sjrwmd.com]  
**Sent:** Wednesday, September 25, 2013 8:46 AM  
**To:** Barker, Virginia H; Leesa Souto  
**Cc:** Cris Costello; Leesa Souto; Whitney Green; William Tredik; Charles Jacoby; 'belanger@fit.edu'  
**Subject:** RE: Cumulative impact of "minimal" leaching found in Dr. Trenholm's turf research (Citra)

Apologies, the first estimate sent this morning was mis-calculated based on the % impervious rather than the % pervious. The corrected table below reflects the % pervious. Please discard the earlier version.

Here are the rough estimated N-leaching loads for BRL, CIRL, ML & NIRL based on the IFAS report using similar calculations as Tampa Bay's, but based on the generalized pervious areas for each sub-basin. This is based on 2009 land cover selecting for medium and low density residential. The annual nitrogen leaching rate (NR) of 1.8 kg/ha relates to an annual application rate of 196 kg/ha—about midway within the 98-294 kg/ha range recommended by IFAS. The NR of 0.9 kg/ha relates to an application rate of 49 kg-N/ha, ½ of the lowest recommended IFAS application rate of 98 kg/ha.

Sub Basin	HA	Generalized Pervious Areas (HA)*	49 kg/ha application rate= Load @ NR 0.9 kg/ha (kg)	Lbs. Leached	Tons Leached	196 kg/ha application rate= Load @ NR 1.8 kg/ha (kg)	Lbs. Leached	Tons Leached
Banana River	2,982.99	1,890.70	1,702	3,744	1.87	3,403	7,487	3.74
Central IRL	24,394.86	15,891.71	14,303	31,466	15.73	28,605	62,931	31.47
Mosquito Lagoon	2,687	1,728.12	1,555	3,422	1.71	3,111	6,843	3.42
North IRL	7,557.87	4,981.15	4,483	9,863	4.93	8,966	19,725	9.86
Grand Total	37,622.72	24,491.67	22,043	48,494	24.25	44,085	96,987	48.49

The spreadsheet used to calculate these estimates is attached. Thanks to Whitney Green for generating these estimates. We'll have better estimates for the IRL in about 18-20 months when Dr. Belanger completes his St. Lucie River Issues Team/IRLNEP funded analysis of fertilizer nutrient loading data. Stay tuned.

Troy

**From:** Barker, Virginia H [mailto:Virginia.Barker@brevardcounty.us]  
**Sent:** Thursday, September 19, 2013 8:33 AM  
**To:** Leesa Souto  
**Cc:** Cris Costello; Troy Rice; Leesa Souto  
**Subject:** Re: Cumulative impact of "minimal" leaching found in Dr. Trenholm's turf research (Citra)

Thank you Leesa. I think this would be very informative!

Sent from my iPhone

On Sep 18, 2013, at 10:30 PM, "Leesa Souto" <leesa@mrirc.org> wrote:

We certainly can.

On Sep 18, 2013 1:13 PM, "Cris Costello" <cris.costello@sierraclub.org> wrote:

Troy: See below. Could you or your contacts in Brevard, Indian River and St. Lucie counties do the same kind of math for the Indian River Lagoon watersheds?

I think local government officials need to understand the implications of the research Dr. Trenholm is presenting to them.

I also think they need to understand the cleanup cost associated with "minimal" leaching.

Thanks,  
 Cris Costello

**From:** Ed Sherwood [mailto:[esherwood@tbep.org](mailto:esherwood@tbep.org)]

**Sent:** Friday, May 04, 2012 11:41 AM

**To:** 'Ed Sherwood'; [hgreening@tbep.org](mailto:hgreening@tbep.org); 'Tony Janicki'; Nanette Holland; 'Leesa Souto'; 'Dr. Listopad'; 'Ash, Tom'; Levy, Kelli H; 'McGee, John - PWD'; [rob.brown@mymanatee.org](mailto:rob.brown@mymanatee.org); 'John Ryan'

**Subject:** RE: UF talks fertilizer leaching

FYI... I did a real quick back of the envelope calculation of the LOWEST reported annual leaching rate for ESTABLISHED St. Augustine grass from the study regardless of application rates (see Table 2 of the report = 0.9 kg/ha). If that leaching rate was applied to low/med density residential areas in the TB watershed, the GW loads to the system would approximate the values below. Recognize that the lawn area for these FLUCCSCODES is probably less than what I calculated below... But anyways, food for thought...

2007 LULC	Square Meters (m2)	HA	Annual Reported Leaching Rate from	kg Leached	lbs Leached	Tons
			Study			
Low Density Residential	<a href="#">412773484.9</a>	41277.35	0.9	37149.61364	81900.87856	40.95044
Med. Density Residential	<a href="#">347201416.8</a>	34720.14	0.9	<a href="#">31248.12751</a>	68890.32874	34.44516
<b>TOTAL</b>					<b>150791.2073</b>	<b>75.3956</b>

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**From:** Vavrina, Charles S [mailto:[bobcat4f@ufl.edu](mailto:bobcat4f@ufl.edu)]

**Sent:** Friday, May 04, 2012 7:27 AM

**To:** Vavrina, Charles S

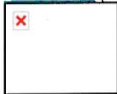
**Subject:** UF talks fertilizer leaching

Good Morning All!

Wanted to bring our latest research on fertilizer leaching in turf grass to your attention. Please find both the technical report ([http://gardeningolutions.ifas.ufl.edu/clce/faculty/pdf/pubs/trenholm\\_nitrate\\_leaching.pdf](http://gardeningolutions.ifas.ufl.edu/clce/faculty/pdf/pubs/trenholm_nitrate_leaching.pdf)) and the trade journal report attached.

It's good to share!

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