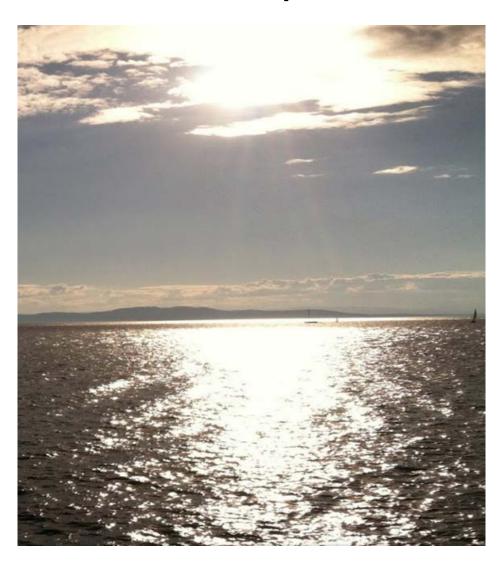


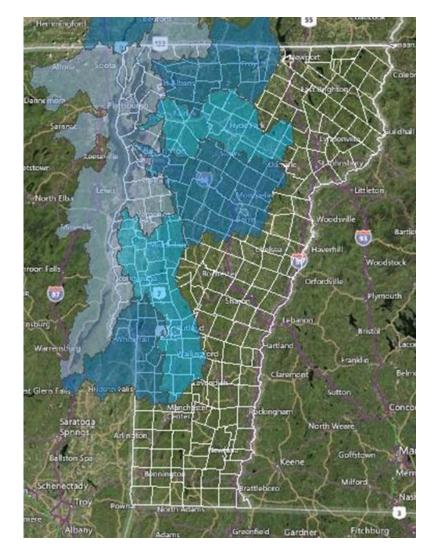
Christy Witters
VT DEC Stormwater Program
ACWA National Stormwater Roundtable
February 22, 2018 – Atlanta, GA

Overview

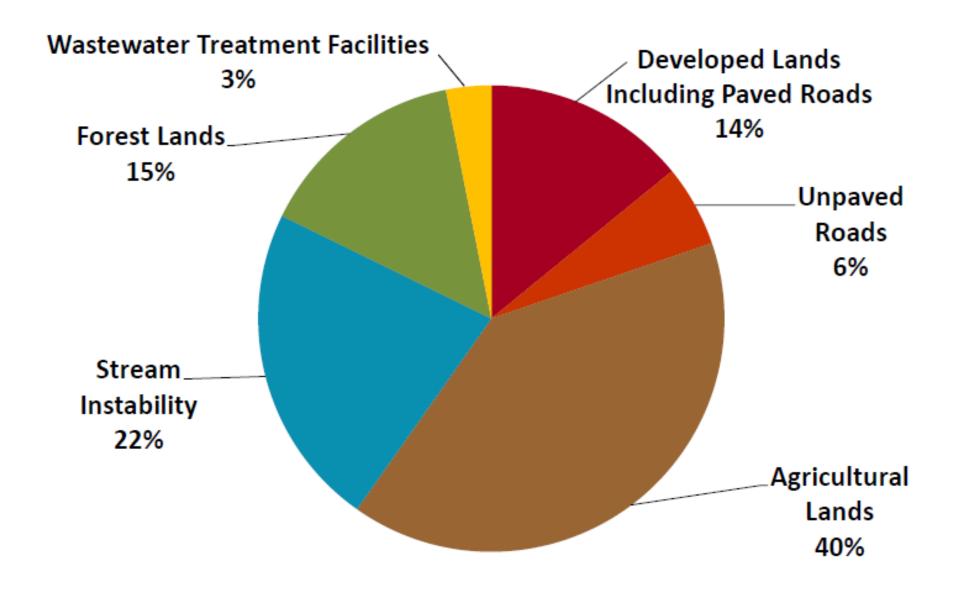
- Lake Champlain Phosphorus TMDLs
- Implementation Commitments
- Municipal Roads General Permit

Lake Champlain Phosphorus TMDLs

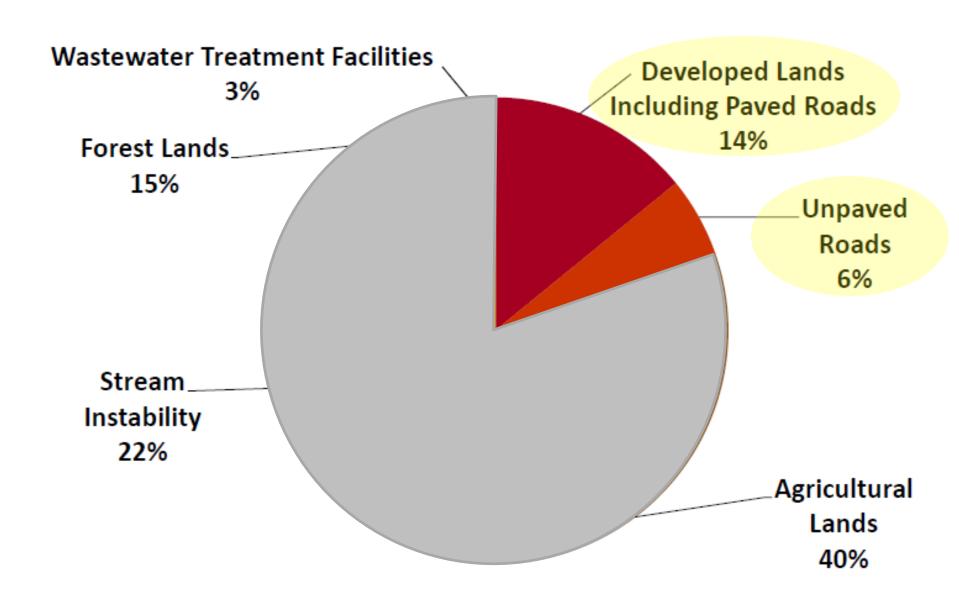




Sources of phosphorus in the Vermont portion of the Lake Champlain Basin (Preliminary estimates from Tetra Tech, 2013)



Sources of phosphorus in the Vermont portion of the Lake Champlain Basin (Preliminary estimates from Tetra Tech, 2013)



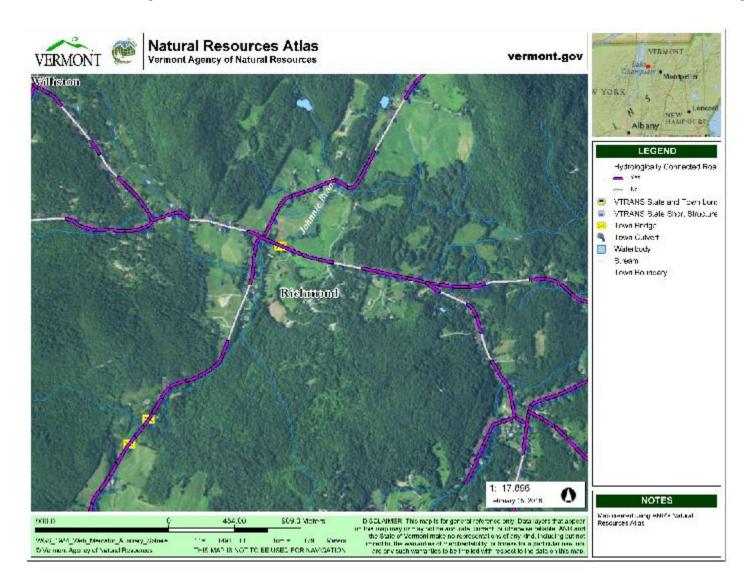
Implementation Commitments

- MS4 Phosphorus Control Plans
- VTrans 'TS4' Statewide permit
- Retrofit permit for all '3 acre' sites
- Municipal Roads General Permit (MRGP)

MRGP Applicability

- All of VT's 247 towns (+ 12 MS4s)
- 13,000+ miles town owned roads
- Paved, gravel, and Class 4 roads
- Only applies to hydrologically connected segments

MRGP Requirements: Road Erosion Inventory



MRGP Requirements: Road Erosion Inventory



SRAVEL/OF	in biventory Form DS WITH OPEN O PEN (DITCHED) NO		1 med beginned = 100 meters = 328 feet Both aides of roud = 200 meters = 658 feet Sheet Flow <1° vector depth RB 1°-11° erotion depth Gulb 12°* vector depth						
vame:			[****		Atlan Slope: Field Determ				
Road Segme	nt Name, Town Highw	key Numbe	r & Segment ID Numb	er ann	ACME STOPE:	Field Deter	mined Stope	Road Type: □ Pased □ Gravel	
H/ per foot),	In-sloped, or out-slop	ed? Note I	r Paved) What percent f erosion is present di	e to poor!	oed surface n	naterial.		Erosion Type Present	
Does No	(0" - 1635) LMost		05-89% (164" - 294" urbally Moeta		(1 SOY-10) Fully Ma	Cully Gully			
2. GRADER B	1000000	at percent	age of the segment (b	oth sides o	1100000000	2019		Erosion Type Present	
	(0" - 3127")		G2-98 C38 P88)	□ S0%-100		TI Hell		
Does No			Purtially Moota the segment (both sides of road, 200m,			eta		□ Gully	
• 25% to 4 grass-In • 28% stop • 0%-49% Does No	3% slope: stabilized v ed ditch if installed w ic. stone fined ditch n 0" - 327" Meet	with stone th discour equired	une-lined, or check du lined ditch or combine ection practices such 0%-89% (328" - 589" artially Meets (s outlets/conveyence	ction of gra as turnous	s and cross o	ulverts 0% (590" - 6 ets	56')	Erosion Type Present Rill Gully	
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store (ab's a		n the bank	(shedding water), and	(/or stabili:	All uncus mo	tabon (<6% r	slope) or	Present	
ntore (+6% a	iopel ³ e or more ulcus does EWAY & DRAINAGE CI	not meet	(shedding water), and standard. C. Where in the cub. C1 failing hander.	(or stability	All ureus mo section is eros VERT CROSS: C2: Outlist :	et standard. Ion present issection pre	and is it dil or GRAM CS. Under	Precent Rat Gully gully eroslow?	
5. & 6. DRIVE A Type of culturity	inpel ^p e or more uleus does EWAY & DRAINAGE CL B. in writing p	n the bank not meet /LVERTS resent?	chedding water), and scendard. C. Where in the cub. C1 Failing hander, treatment?	ert cross s	All ureus mo lection is eros VERT CROSS: C2: Outlist : perched e	et standard. ct standard. lon present is CTKIN DIA issur or of divert?	and is it dil or GRAM CS. Under structure/p	Present Rat Gully gully eroslow? cond/mixing/ oor condition?	
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MRGP Requirements: Road Erosion Inventory



- Crowning
- Culverts
- Outfalls



MRGP Requirements: Implementation Table



Segment		Assess	Assessment											
Num ‡	Road Name :	ID	Date	Reason	Road Type	Slope	Crown	Berm / windrow	Drainage	Conveyance	Drive Culvert	Drainage Culvert	Status :	Priority :
⊕ 10443	BLUSH HILL RD	500	7/1/2017	Work Done	Paved - Non Curbed	6.75	F	F	F	F	ľ		Fully Meets	
⊞ 10446	BLUSH HILL RD	502	7/1/2017	Work Done	Paved - Non Curbed	7.79	F	F	F	F			Fully Meets	
⊞ 10447	BLUSH HILL RD	504	7/1/2017	Work Done	Paved - Non Curbed	13.95	F	F	F	F			Fully Meets	
⊞ 106187	GREGG HILL RD	507	7/1/2017	Work Done	Paved - Curbed	6.45			F	F			Fully Meets	
⊞ 106200	GREGG HILL RD	505	7/1/2017	Work Done	Paved - Non Curbed	0.13	F	F	F	F			Fully Meets	
⊞ 106201	GREGG HILL RD	226	1/1/2017	Initial Inventory	Paved - Curbed	6.42			F	F			Fully Meets	
□ 106218 GREGO	GREGG HILL RD	514	7/1/2017	Work Done	Paved - Curbed	5.86			F	F			Fully Meets	
	_	404	4/1/2017	Re Assessment	Paved - Curbed	5.86			D	F			Does Not Meet	High
		223	1/1/2017	Initial Inventory	Paved - Curbed	5.86			D	F			Does Not Meet	High
∄ 106223	GREGG HILL RD	511	7/1/2017	Work Done	Paved - Curbed	12.13			F	F			Fully Meets	
∄ 106224	GREGG HILL RD	516	7/1/2017	Work Done	Paved - Curbed	1.81			F	F			Fully Meets	
∄ 106226	GREGG HILL RD	508	7/1/2017	Work Done	Paved - Curbed	6.16			F	F			Fully Meets	
₫ 106227	GREGG HILL RD	512	7/1/2017	Work Done	Paved - Curbed	2.5			F	F			Fully Meets	
∄ 106230	GREGG HILL RD	213	1/1/2017	Initial Inventory	Class 4	3.33							Fully Meets	
⊞ 106233	GREGG HILL RD	509	7/1/2017	Work Done	Paved - Curbed	5.76			F	F			Fully Meets	
∄ 106239	GREGG HILL RD	227	1/1/2017	Initial Inventory	Paved - Curbed	10.58			D	F			Does Not Meet	Very high
∄ 106241	GREGG HILL RD	510	7/1/2017	Work Done	Paved - Curbed	0.15			F	F			Fully Meets	
∄ 106242	GREGG HILL RD	513	7/1/2017	Work Done	Paved - Curbed	6.45			F	F			Fully Meets	
⊞ 106247	GREGG HILL RD	506	7/1/2017	Work Done	Paved - Curbed	5.11			F	F			Fully Meets	
⊞ 106248	GREGG HILL RD	515	7/1/2017	Work Done	Paved - Curbed	5.14			F	F			Fully Meets	
± 106599	GROVE LN	229	1/1/2017	Initial Inventory	Paved - Curbed	6.98			F	D			Does Not Meet	High
∄ 106600	GROVE LN	228	1/1/2017	Initial Inventory	Paved - Curbed	3.39			F	F			Fully Meets	
⊞ 106601	GROVE LN	230	1/1/2017	Initial Inventory	Paved - Curbed	10.18			Р	F			Partially Meets	Moderate
∄ 111105	HENRY HOUGH RD	243	1/1/2017	Initial Inventory	Paved - Curbed	15.67			D	F			Does Not Meet	Very high
115163	HUBBARD FARM RD	250	1/1/2017	Initial Inventory	Paved - Non Curbed	6.85	F	F	F	F			Fully Meets	
∄ 115165	HUBBARD FARM RD	248	1/1/2017	Initial Inventory	Paved - Non Curbed	8.18	D	F	F	D			Does Not Meet	High
£ 115168	HUBBARD FARM RD	249	1/1/2017	Initial Inventory	Paved - Non Curbed	5	Р	Р	Р	F			Does Not Meet	High

MRGP Standards: Upgrade Roads

• Baseline requirements for all roads







Stable ditches



Stable turnouts

MRGP Standards: Upgrade Roads

• Standards required if erosion is present



Culvert end treatments



Stabilized Outlets



18" culverts (driveway culverts may be 15")

MRGP Deadlines

- Initial applications due July 31, 2018
- Road Erosion Inventory & Implementation
 Table due 2020
- All roads must meet standards by 2036



For more information:

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