Lamprey River Watershed Geomorphic Assessments Update

Shane Csiki – New Hampshire Geological Survey

October 11, 2011

Fluvial erosion . . . and its effects

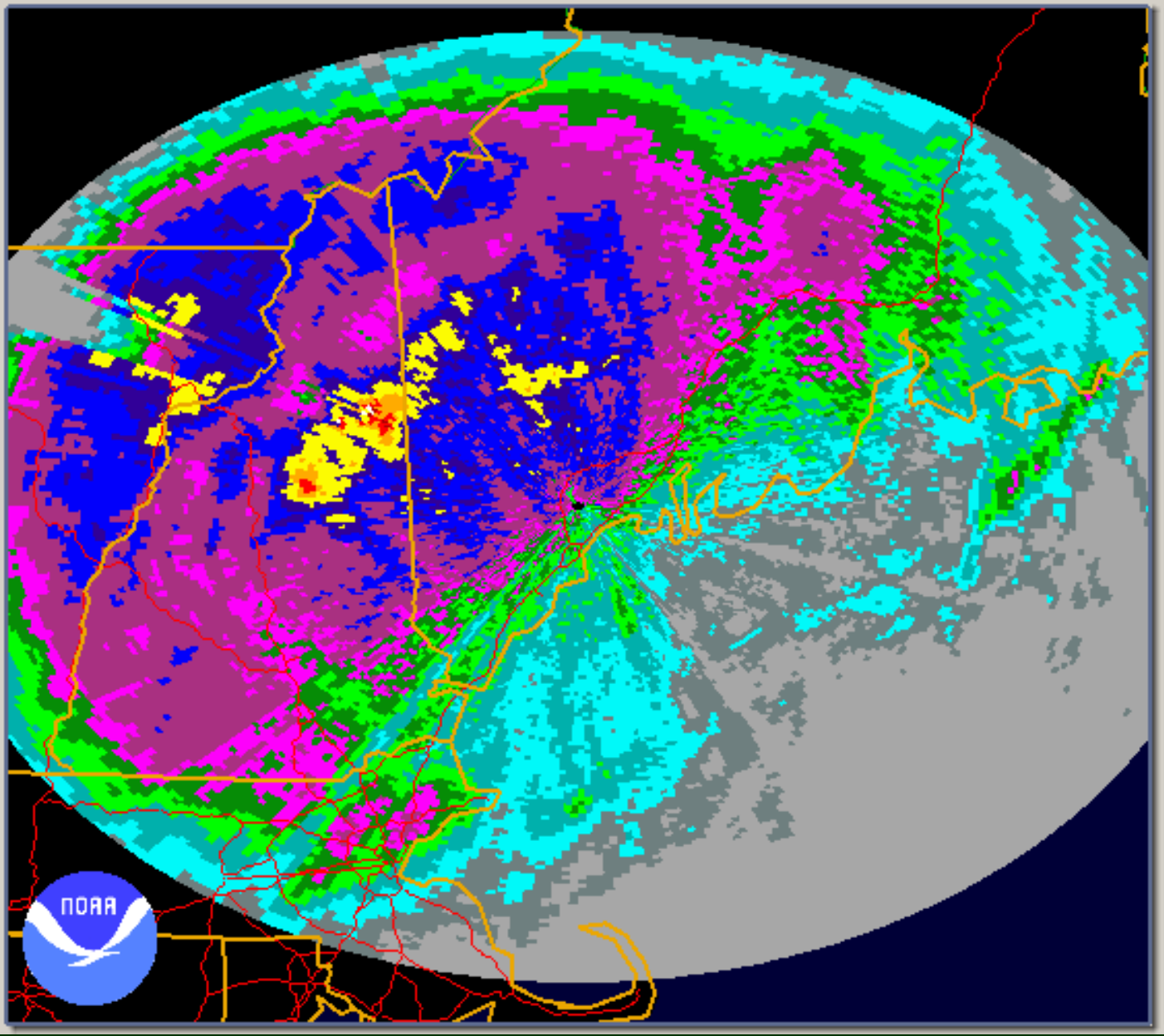
Channel adjustments during floods and their sometimes destructive results.


2011/ 9/ 1


2011/ 9/ 2


2011/ 9/ 2


2011/ 9/ 2



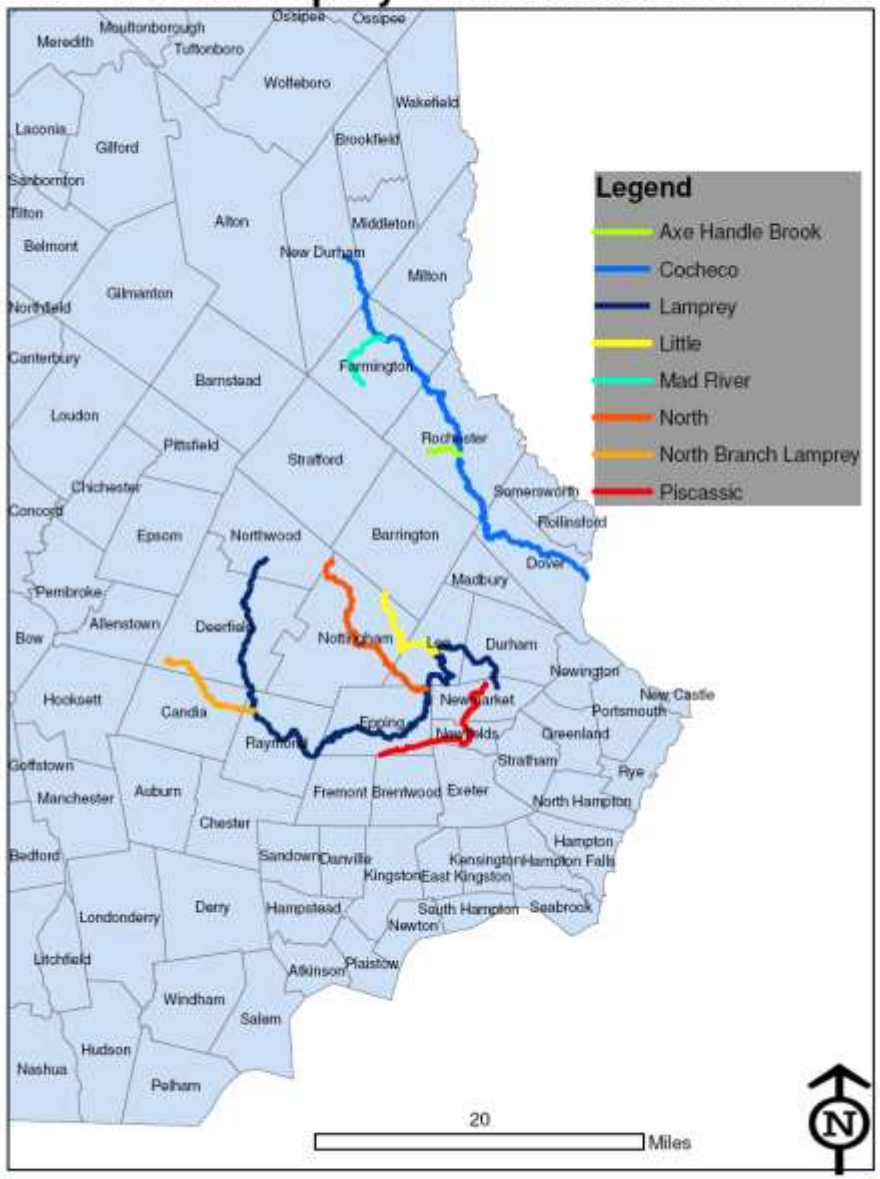
NEXRAD LEVEL-III
STORM TOTAL PRECIP
KGYX - PORTLAND, ME
08/28/2011 23:55:30 GMT
LAT: 43/53/27 N
LON: 70/15/21 W
ELEV: 473 FT
MODE/VCP: A / 21

MAX: 15.00 IN
BEG: 08/27/2011 13:43
END: 08/28/2011 23:56

Legend: IN (Category)

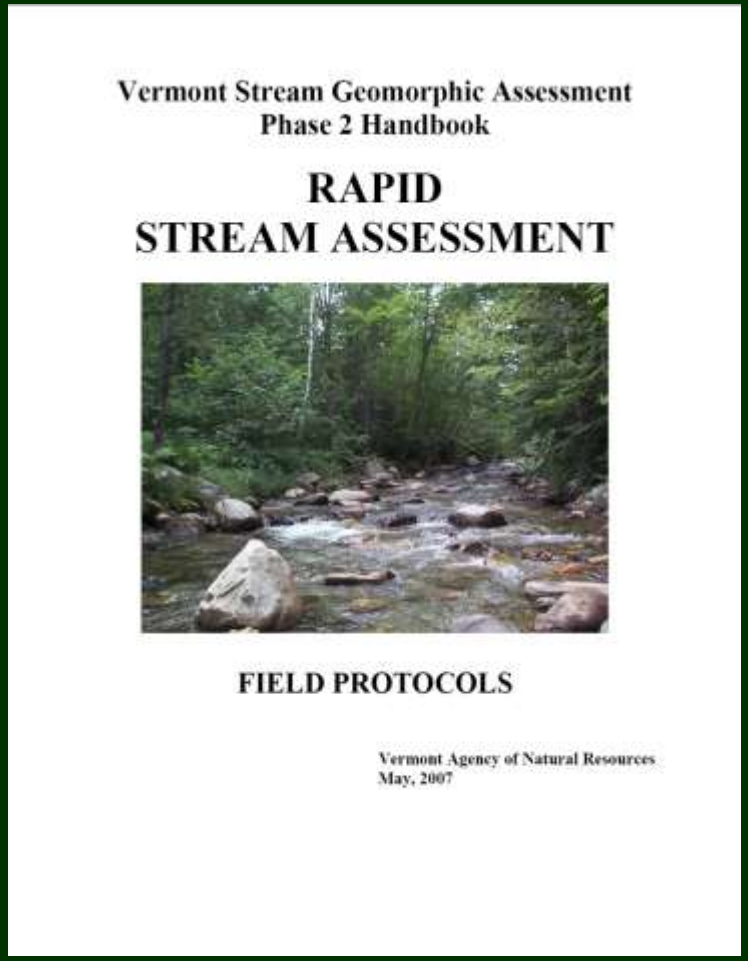
	14.0 (15)
	12.0 (14)
	10.0 (13)
	8.0 (12)
	6.0 (11)
	5.0 (10)
	4.0 (9)
	3.0 (8)
	2.5 (7)
	2.0 (6)
	1.5 (5)
	1.0 (4)
	0.6 (3)
	0.3 (2)
	0.0 (1)

Rivers Scheduled for FEH Assessment
Cocheco/Lamprey Watersheds 2010-2011



Environmental Services

Lamprey Watershed Assessment 2011



Lamprey River – 33 miles

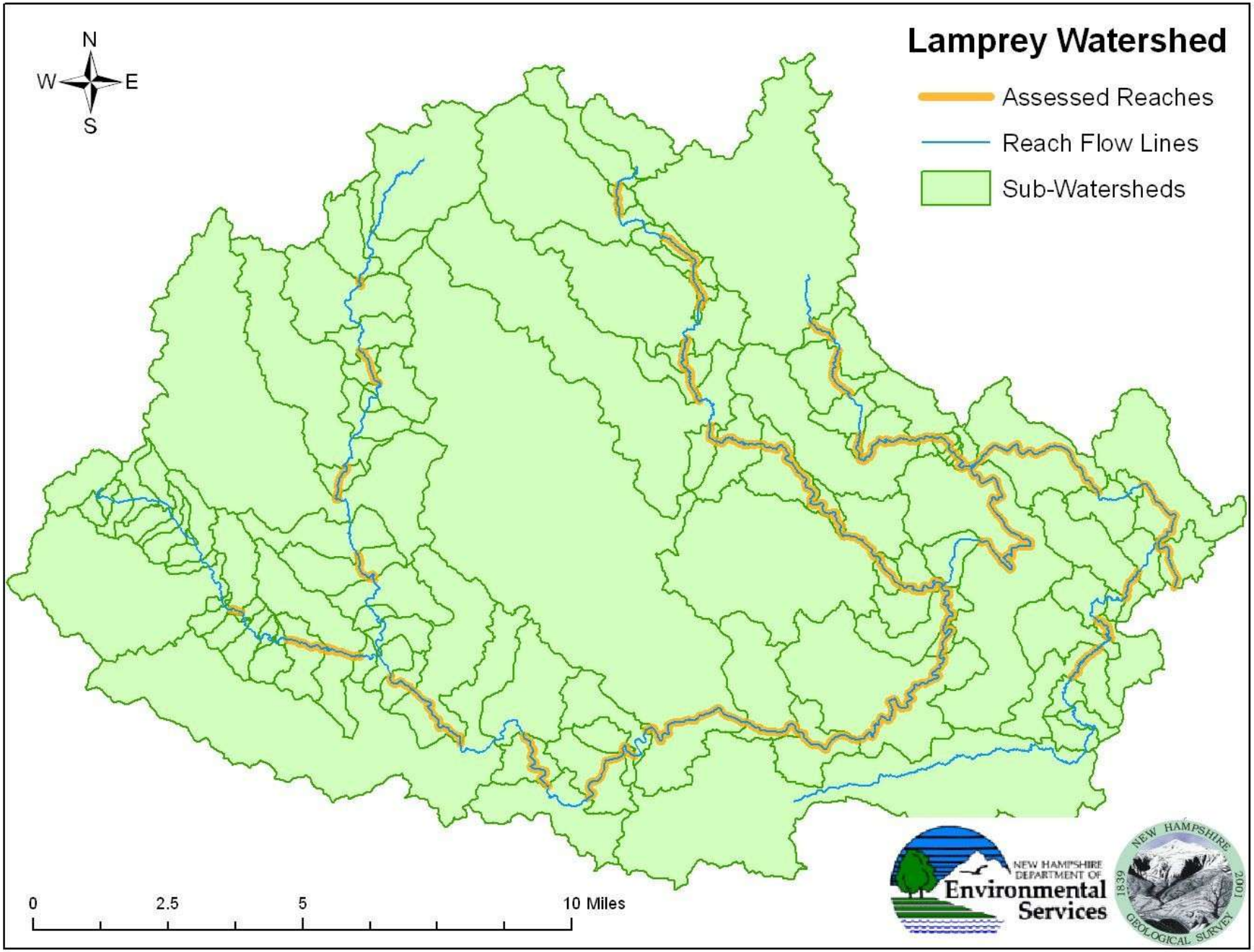
North River – 12 miles

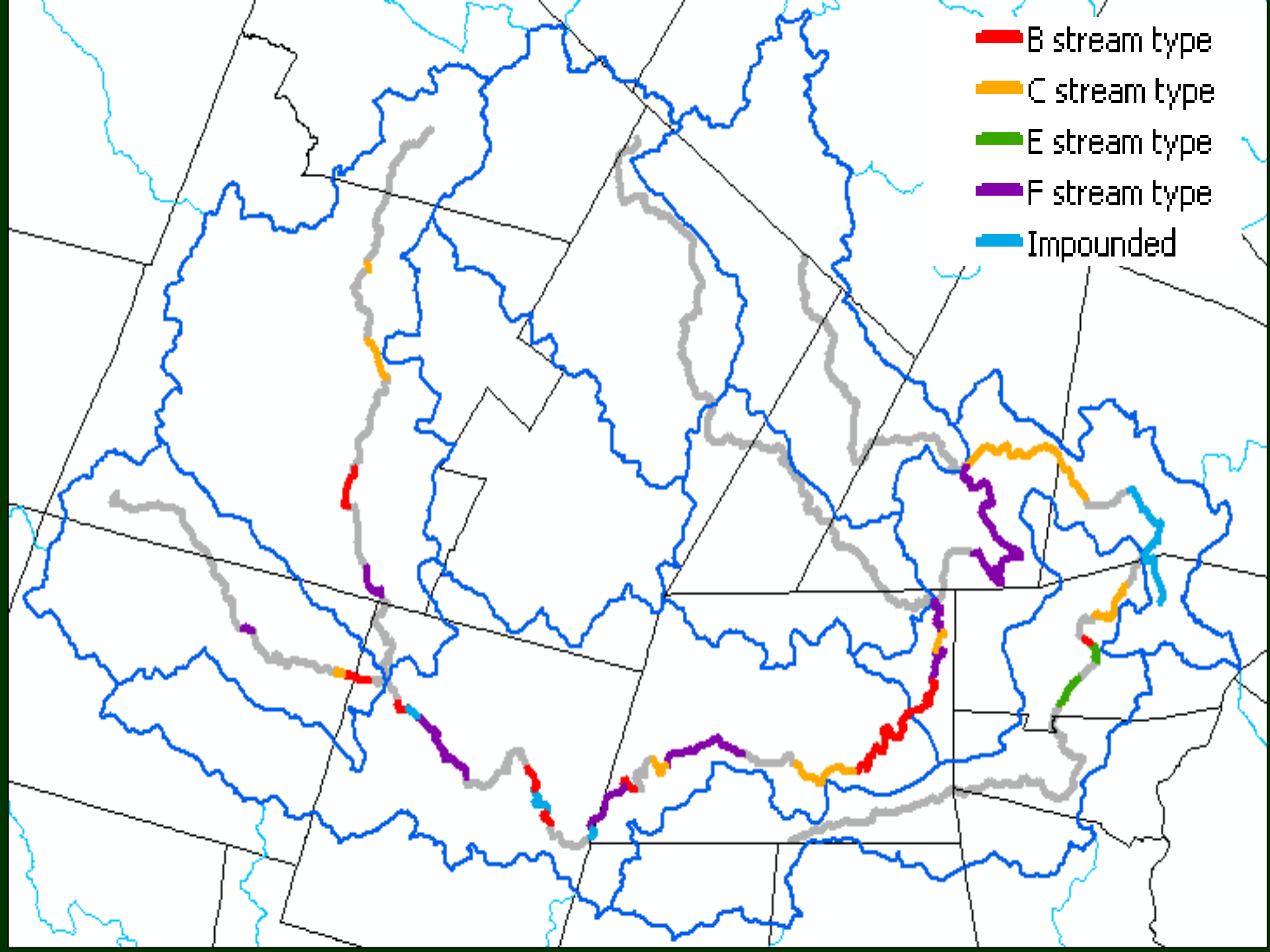
Little River – 7 miles

Piscassic River – 7 miles

North Branch Lamprey River – 4 miles

Total of **63 river reaches**.


Lamprey Watershed
Assessed Reaches
Reach Flow Lines
Sub-Watersheds
N
W
E
S
0
2.5
5
10 Miles
NEW HAMPSHIRE DEPARTMENT OF
Environmental Services
NEW HAMPSHIRE
1839
2001
GEOLOGICAL SURVEY

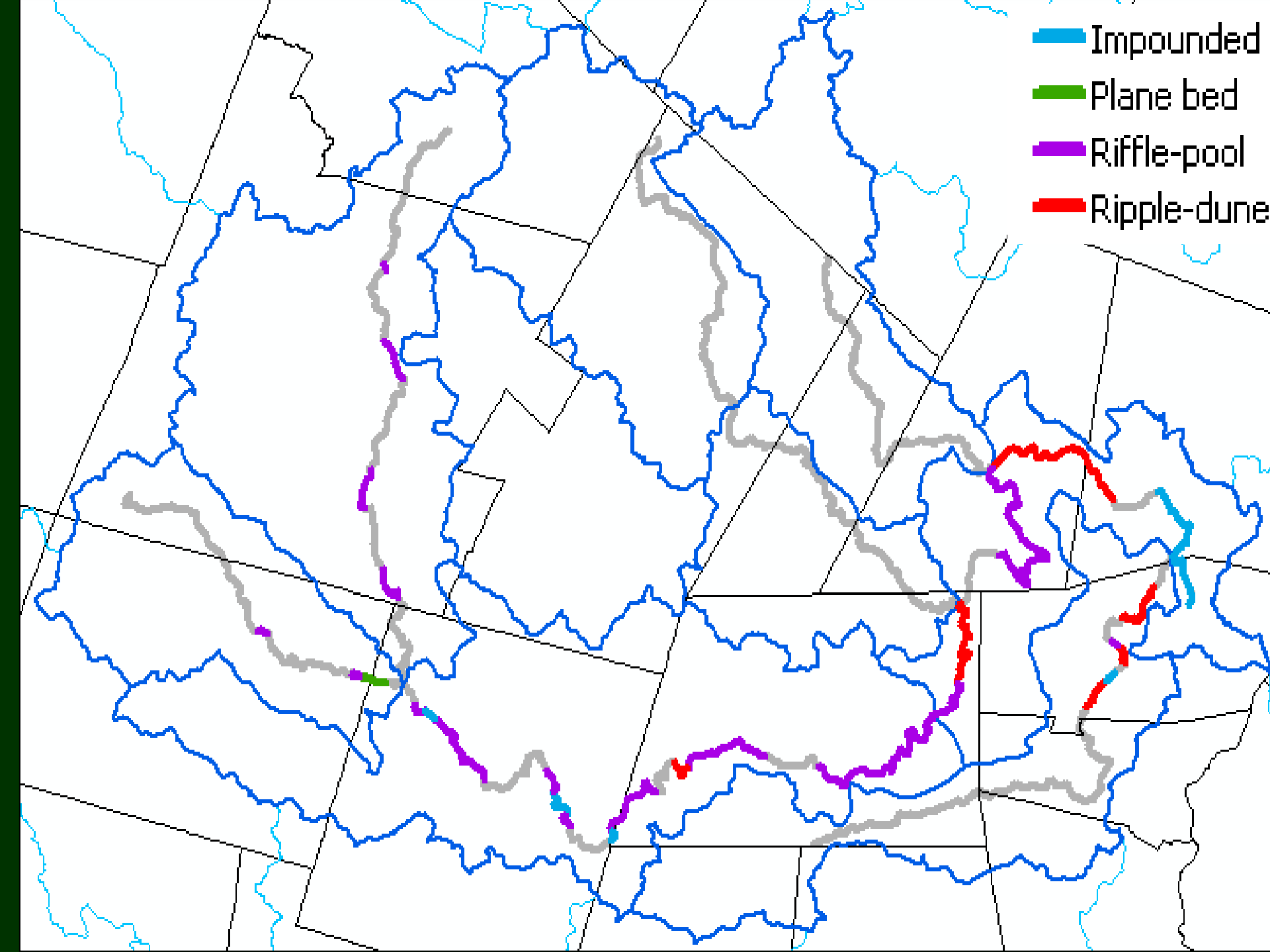

B stream type
C stream type
E stream type
F stream type
Impounded

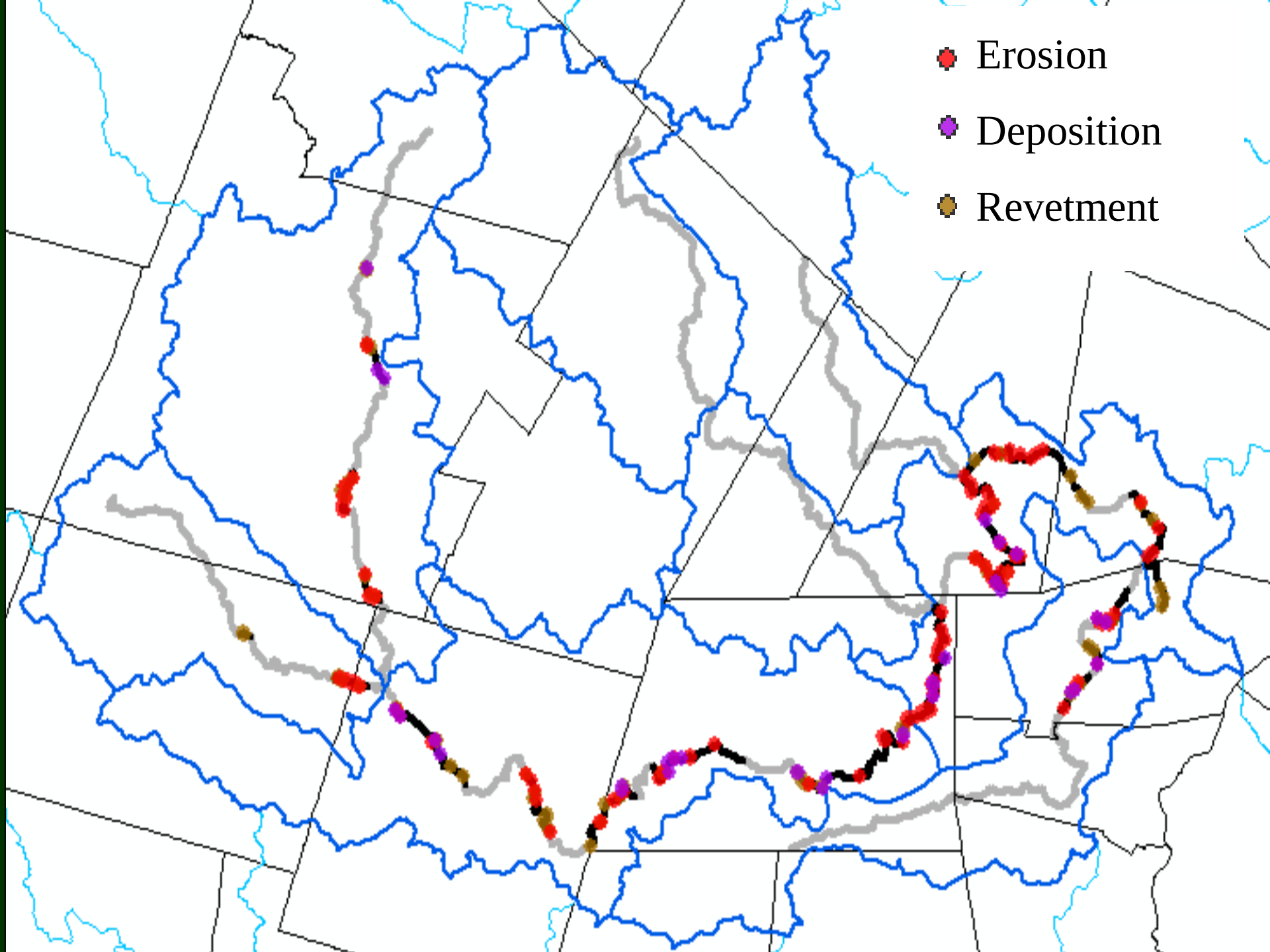

6/13/2011 4:21


7/7/2011 22:15

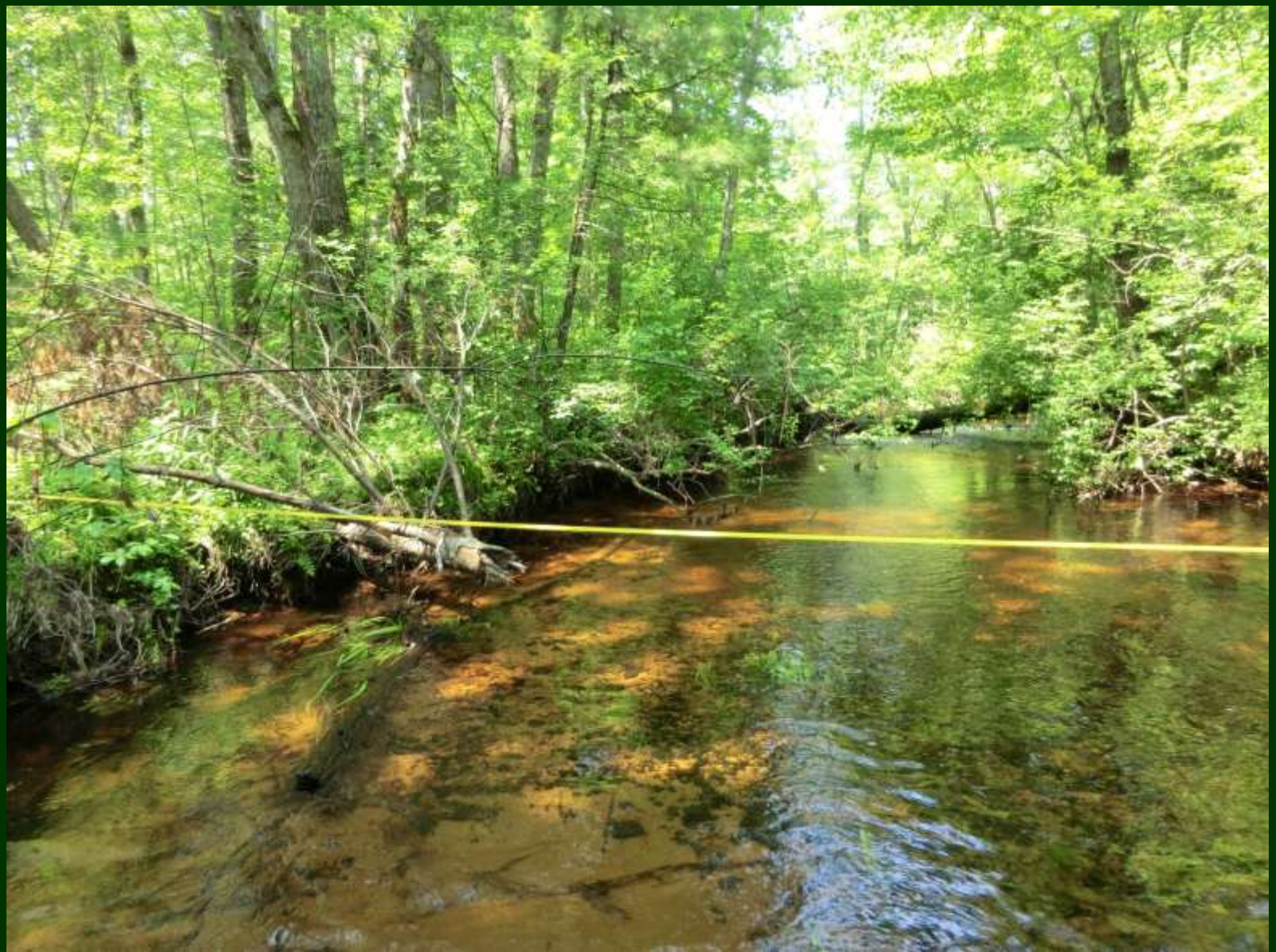
7/7/2011 21:19


7/5/2011 0:10


Impounded
Plane bed
Riffle-pool
Ripple-dune

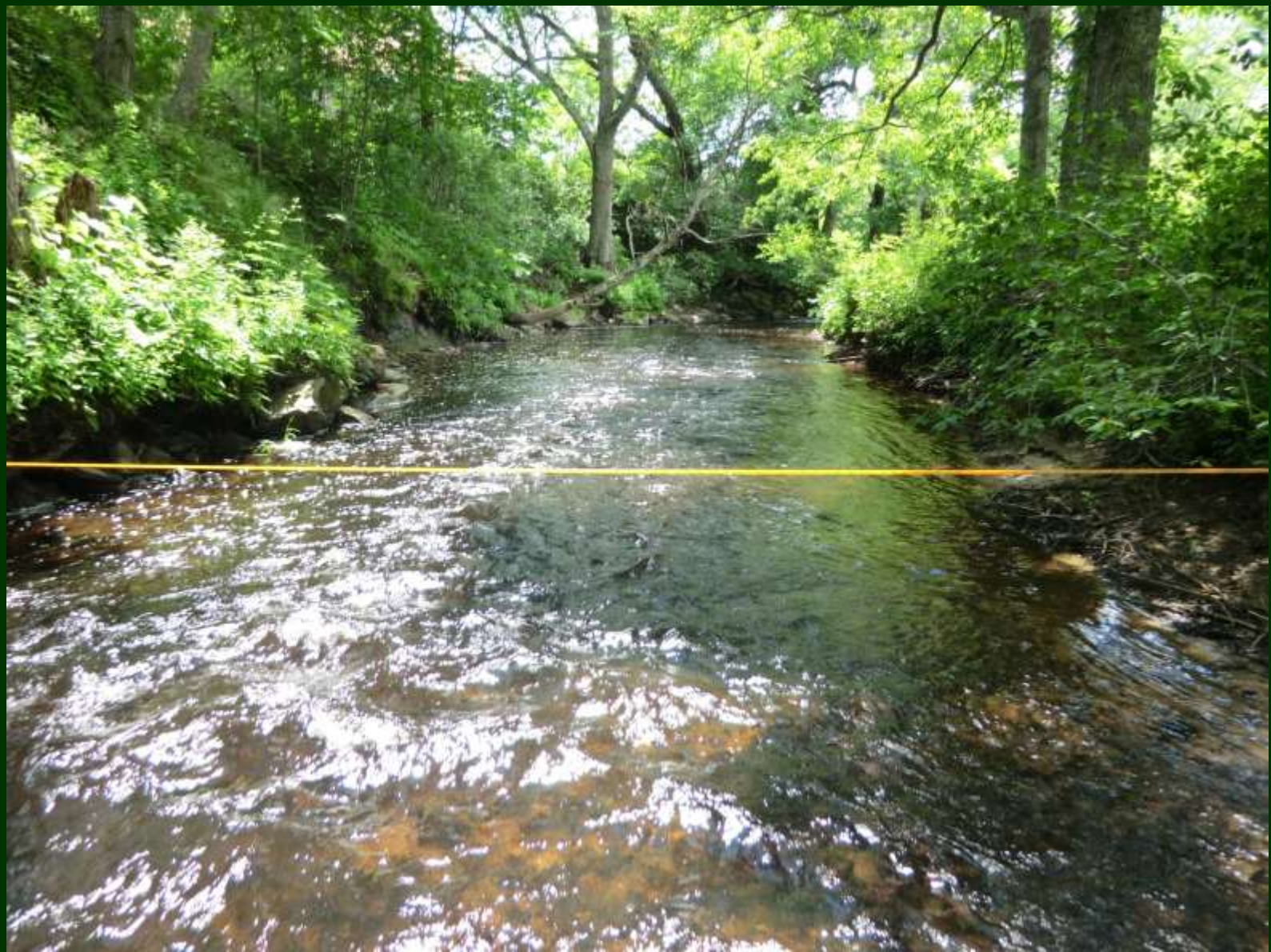

Erosion
Deposition
Revetment

Little River



Little River

Little River



North River

North River

Piscassic River

North Branch Lamprey River

Culvert Assessments

Town of New Hampton, New Hampshire
Hazard Mitigation Plan

Sky Pond Road after the August 2008 rains

February 2009

Microsoft Access - [dbo_Segments : Table]

File Edit View Insert Format Records Tools Window Help

IsNoGradeCon	BankfullWidth	MaximumDept	MeanDepth	FloodproneWi	RecentlyAban	SinuosityType	RiffleType	RiffleSpacingD	IsRiffleSpacing	SiltClayPresen	DetritusF
0	170	19	13	280	0	Mod	NA		-1	Y	
0	198	7.6	6.33	2000	10.3	Low-Mod	Complete	1350	0	N	
0	165	7	6.3	175	0	Low	Sedimented	1050	0	N	
-1	177	6.8	5.19	1800	11.1	Low		515	0	N	
0	276	5.6	3.5	816	9.8	Mod	Complete	1100	0	N	
0	246	5.8	3.95	695	9.3	Low	Complete	1280	0	N	
0	258	4.5	3.43	273.5	9.7	Low	Complete	900	0	N	
0	228	5.8	3.57	1670	10.1	Mod	Complete	1100	0	Y	
-1	168	7	5.67	236	9.7	Low	Complete	1000	0	N	
0	228	7.7	6.17	297	12.6	Low	Complete	1900	0	N	
0	145	8.4	6.69	226	11.4	Low	Complete	1200	0	N	
0	138	11.5	8	166	0	Low	NA		-1	N	
0	186	6.1	4.94	700	8.5	Mod	Complete	1000	0	N	
-1	189	6.1	4.13	449	9.1	Low	Sedimented	1080	0	Y	
-1	216	4.7	3.93	530	8.35	Low	Complete	1000	0	N	
-1	180	5.46	4.22	214	13.06	Low	Complete	800	0	N	
-1	152.6	6.2	4.84	222	9.5	Low	Sedimented	1000	0	N	
-1	147	7	5.5	176	14.5	Low	Complete	800	0	N	
0	150	8.5	7.2	222	18	Low	Complete	400	0	N	
0	144	5.1	3.03	534	7.7	Mod	Complete	500	0	N	
0	135	5.4	4.13	620	8.3	Low	Complete	720	0	N	
-1	120	6.5	4.5	146	15.1	Low	Complete	600	0	N	
0	210	7	4.8	237	12.2	Low	Complete	200	0	N	
0	132	6.6	4.8	160.5	11.6	Mod	Complete	600	0	Y	
-1	150					Low	NA		-1		
-1	114	6.4	5.2	162	12.8	Mod	Complete	750	0	N	
-1	117	6.4	4.56	162	10.3	Mod	Complete	500	0	N	
-1	174	5.8	3.51	618	8	Low	Complete	1300	0	N	
-1	142	6.4	5	250	10.6	Mod	Complete	1000	0	N	
-1	120.5	6.4	5.1	155.5	12.8	Low	Complete	500	0	N	
0	120	7.5	6	135	15.5	Low	Complete	200	0		
-1	152	4.5	3.02	227	8.6	Mod	Complete	850	0	N	
-1	136	6.4	4.8	208	10.5	Low	Complete	1000	0	N	
-1	135	6.5	5.5	196	10.5	Mod	Complete	400	0	N	
-1	125	5.35	4.28	166	12.2	Mod	Complete	375	0	N	
-1	109	6.4	4.05	167	9.9	Mod	Complete	600	0	N	
-1	128.5	6.1	4.2	153	12.65	Low	Complete	800	0	N	
-1	117	5.7	4.6	1080	7.4	Mod	Complete	800	0	Y	
-1	119	4.4	3.21	153	8.9	Low	Sedimented	1000	0		

Record: 1 of 57

The project for which segment data is associated

NUM

Table 6.4
Upper Exeter River Crossings

Reach/ Segment No.	Road Name, Town	Structure Type	Condition/ Observation	Percent Bankfull Channel Width[1]	Structure Capacity for Flood Events (Percent Capacity)[2]		Aquatic Organism Passage (AOP)[3]	Geomorphic Compatibility[4]	Priority for Replacement/ Retrofit
					25 Year Storm	50 Year Storm			
UE02	Blueberry Hill Road, Raymond	Bridge	Looks good overall	58%	--------	--------	NA	Partially compatible	Low
UE03	Hanson Road, Chester	Bridge	Some scour above and below	30%	--------	--------	NA	Partially compatible	Low to Moderate
UE4-A	Shepard Home Road, Chester	Culvert	No problems noted	37%	--------	--------	Reduced AOP	Mostly compatible	Low
UE4-B	Fremont Road, Chester	Bridge	No major problems noted	43%	--------	--------	NA	Mostly compatible	Low
UE05	Sandown Road, Fremont	Bridge	Sandown Road bridges in Fremont are side by side; therefore, percent bankfull is not accurate	20%	--------	--------	NA	Mostly compatible	Low
UE05	Sandown Road, Fremont	Bridge		34%	--------	--------	NA	Mostly compatible	Low
UE05	Sandown Road, Danville	Culvert	Paved Road is blown out; downstream end of culvert in poor condition	12%	13%	10%	Reduced AOP	Mostly compatible	High
UE05	Private trail, Sandown	Bridge	In wetland just downstream of washed out culvert	106%	--------	--------	NA	Mostly compatible	Low

For more information:

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