

DRAFT WATERSHED 305(b) ASSESSMENT SUMMARY REPORT:

HUC 12 010801030403

HUC 12 NAME LOWER AMMONOOSUC RIVER

(Locator map on next page only applies to this HUC12)

Assessment Cycle 2012

Good	Full Support Good
Marginal	Full Support Marginal
Likely Good	Insufficient Information – Potentially Full Support
No Data	No Data
Likely Bad	Insufficient Information – Potentially Not Support
Poor	Not Support Marginal
Severe	Not Support Severe



ASSESSMENT UNIT ID	MAP LABEL	ASSESSMENT UNIT NAME	AQUATIC LIFE	SWIMMING	BOATING	FISH CONSUMP.
NHIMP801030403-01	I*01	AMMONOOSUC RIVER - BETHLEHEM DAM	3-ND	3-ND	3-ND	4A-M
NHIMP801030403-02	I*02	BARRETT BROOK	3-ND	3-ND	3-ND	4A-M
NHIMP801030403-03	I*03	BAKER BROOK POND	3-ND	3-ND	3-ND	4A-M
NHIMP801030403-04	I*04	AMMONOOSUC RIVER - APTHORP DAM	3-PNS	3-ND	3-ND	4A-M
NHIMP801030403-05	I*05	RICHEY DAM	3-ND	3-ND	3-ND	4A-M
NHIMP801030403-06	I*06	DELLS POND OUTLET DAM - DELLS BROOK	3-ND	3-ND	3-ND	4A-M
NHIMP801030403-07	I*07	FIRE POND DAM	3-ND	3-ND	3-ND	4A-M
NHIMP801030403-08	I*08	UNNAMED BROOK	3-ND	3-ND	3-ND	4A-M
NHIMP801030403-09	I*09	PINETREE POWER FIRE POND DAM	3-ND	3-ND	3-ND	4A-M
NHLAK801030403-01	L*01	UNNAMED POND	3-ND	3-ND	3-ND	4A-M
NHRIV801030403-01	R*01	AMMONOOSUC RIVER - UNNAMED BROOK	5-P	3-G	3-G	4A-M
NHRIV801030403-02	R*02	AMMONOOSUC RIVER	3-PAS	3-ND	3-ND	4A-M
NHRIV801030403-03	R*03	AMMONOOSUC RIVER	5-M	3-ND	3-ND	4A-M
NHRIV801030403-04	R*04	UNNAMED BROOK - HATCH BROOK	3-ND	3-ND	3-ND	4A-M
NHRIV801030403-05	R*05	BARRETT BROOK - UNNAMED BROOK	3-ND	3-ND	3-ND	4A-M
NHRIV801030403-06	R*06	BARRETT BROOK	3-ND	3-ND	3-ND	4A-M
NHRIV801030403-07	R*07	AMMONOOSUC RIVER	5-P	3-ND	3-ND	4A-M
NHRIV801030403-08	R*08	BAKER BROOK - UNNAMED BROOK	3-ND	3-ND	3-ND	4A-M
NHRIV801030403-09	R*09	BAKER BROOK - UNNAMED BROOK	5-P	3-ND	3-ND	4A-M
NHRIV801030403-10	R*10	PALMER BROOK - UNNAMED BROOK	3-ND	3-ND	3-ND	4A-M
NHRIV801030403-11	R*11	AMMONOOSUC RIVER	5-M	4A-M	3-G	4A-M
NHRIV801030403-12	R*12	DELL BROOK	3-ND	3-ND	3-ND	4A-M
NHRIV801030403-13	R*13	DELL BROOK - FROM RECREATION POND TO DELLS POND	3-G	3-ND	3-ND	4A-M
NHRIV801030403-14	R*14	UNNAMED BROOK	3-ND	3-ND	3-ND	4A-M
NHRIV801030403-15	R*15	UNNAMED BROOK	3-PAS	3-ND	3-ND	4A-M
NHRIV801030403-16	R*16	AMMONOOSUC RIVER	5-P	3-ND	3-ND	4A-M
NHRIV801030403-17	R*17	UNNAMED BROOK	3-ND	3-ND	3-ND	4A-M
NHRIV801030403-18	R*18	UNNAMED BROOK	3-ND	3-ND	3-ND	4A-M

DRAFT WATERSHED 305(b) ASSESSMENT SUMMARY REPORT:

HUC 12 010801030403

HUC 12 NAME LOWER AMMONOOSUC RIVER

(Locator map on next page only applies to this HUC12)

Assessment Cycle 2012

Good	Full Support Good
Marginal	Full Support Marginal
Likely Good	Insufficient Information – Potentially Full Support
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Poor	Not Support Marginal
Severe	Not Support Severe



ASSESSMENT UNIT ID	MAP LABEL	ASSESSMENT UNIT NAME	AQUATIC LIFE	SWIMMING	BOATING	FISH CONSUMP.
NHRIV801030403-19	R*19	UNNAMED BROOK	3-ND	3-ND	3-ND	4A-M
NHRIV801030403-20	R*20	UNNAMED BROOK	3-ND	3-ND	3-ND	4A-M
NHRIV801030403-21	R*21	UNNAMED BROOK	3-ND	3-ND	3-ND	4A-M
NHRIV801030403-22	R*22	UNNAMED BROOK	3-ND	3-ND	3-ND	4A-M
NHRIV801030403-23	R*23	UNNAMED BROOK	3-ND	3-ND	3-ND	4A-M
NHRIV801030403-24	R*24	UNNAMED BROOK	3-ND	3-ND	3-ND	4A-M
NHRIV801030403-25	R*25	FOWLER BROOK - UNNAMED BROOK	3-ND	3-ND	3-ND	4A-M
NHRIV801030403-26	R*26	BLACK BROOK - UNNAMED BROOK	3-ND	3-ND	3-ND	4A-M
NHRIV801030403-27	R*27	UNNAMED BROOK	3-ND	3-ND	3-ND	4A-M
NHRIV801030403-28	R*28	UNNAMED BROOK	3-ND	3-ND	3-ND	4A-M
NHRIV801030403-29	R*29	UNNAMED BROOK	3-ND	3-ND	3-ND	4A-M
NHRIV801030403-30	R*30	UNNAMED BROOK	3-ND	3-ND	3-ND	4A-M
NHRIV801030403-31	R*31	UNNAMED BROOK	3-ND	3-ND	3-ND	4A-M
NHRIV801030403-32	R*32	UNNAMED BROOK	3-ND	3-ND	3-ND	4A-M
NHRIV801030403-33	R*33	UNNAMED BROOK	3-ND	3-ND	3-ND	4A-M
NHRIV801030403-34	R*34	UNNAMED BROOK	3-ND	3-ND	3-ND	4A-M
NHRIV801030403-35	R*35	UNNAMED BROOK	3-ND	3-ND	3-ND	4A-M
NHRIV801030403-36	R*36	UNNAMED BROOK	3-ND	3-ND	3-ND	4A-M
NHRIV801030403-37	R*37	UNNAMED BROOK	3-ND	3-ND	3-ND	4A-M
NHRIV801030403-38	R*38	UNNAMED BROOK	3-ND	3-ND	3-ND	4A-M
NHRIV801030403-39	R*39	UNNAMED BROOK	3-ND	3-ND	3-ND	4A-M
NHRIV801030403-40	R*40	UNNAMED BROOK	3-ND	3-ND	3-ND	4A-M
NHRIV801030403-41	R*41	UNNAMED BROOK	3-ND	3-ND	3-ND	4A-M
NHRIV801030403-42	R*42	UNNAMED BROOK	3-ND	3-ND	3-ND	4A-M
NHRIV801030403-43	R*43	UNNAMED BROOK	3-ND	3-ND	3-ND	4A-M
NHRIV801030403-44	R*44	UNNAMED BROOK	3-ND	3-ND	3-ND	4A-M
NHRIV801030403-45	R*45	UNNAMED BROOK	3-ND	3-ND	3-ND	4A-M
NHRIV801030403-46	R*46	UNNAMED BROOK	3-ND	3-ND	3-ND	4A-M

DRAFT WATERSHED 305(b) ASSESSMENT SUMMARY REPORT:

HUC 12 010801030403

HUC 12 NAME LOWER AMMONOOSUC RIVER

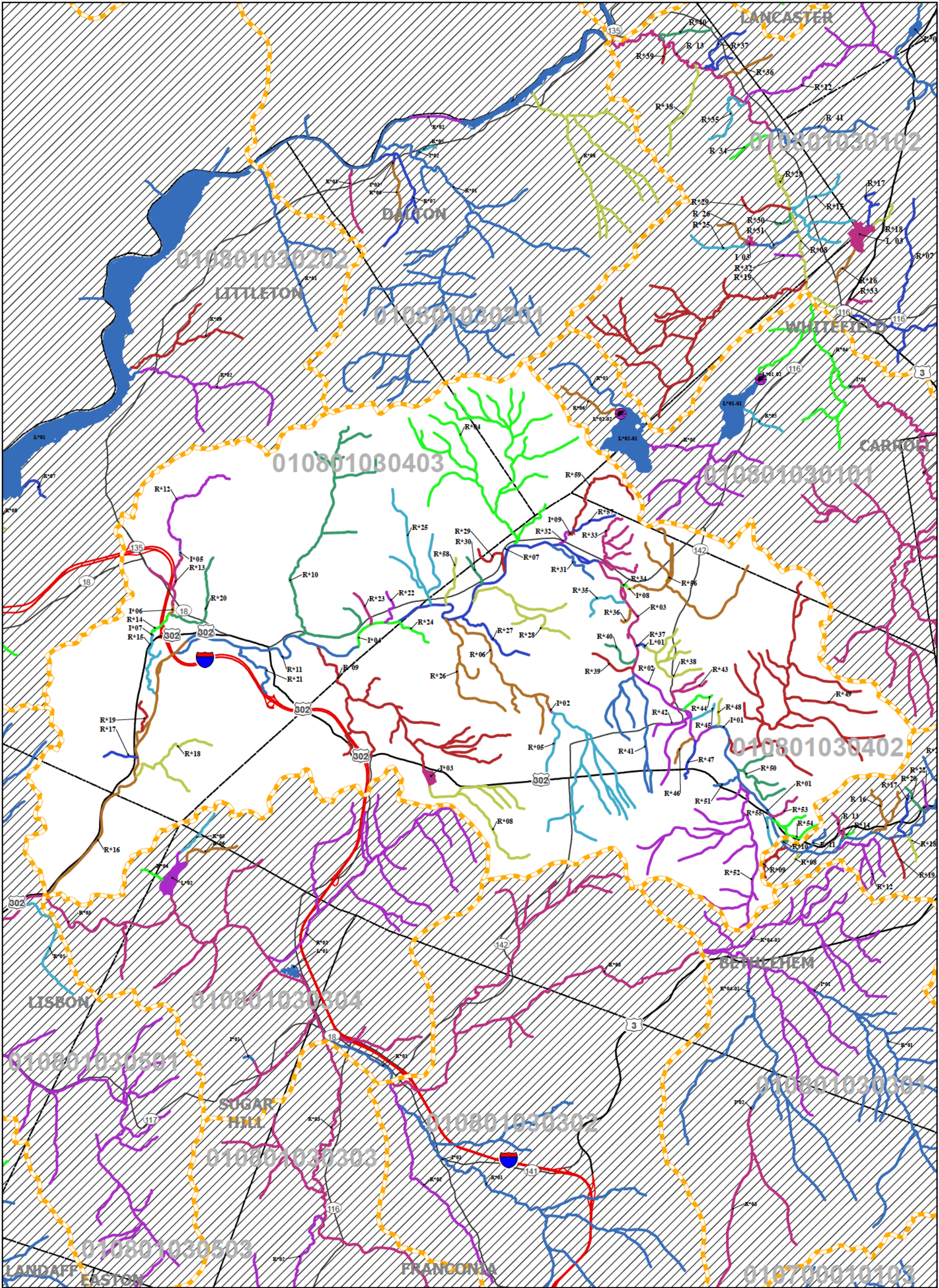
(Locator map on next page only applies to this HUC12)

Assessment Cycle 2012

Good	Full Support Good
Marginal	Full Support Marginal
Likely Good	Insufficient Information – Potentially Full Support
No Data	No Data
Likely Bad	Insufficient Information – Potentially Not Support
Poor	Not Support Marginal
Severe	Not Support Severe



ASSESSMENT UNIT ID	MAP LABEL	ASSESSMENT UNIT NAME	AQUATIC LIFE	SWIMMING	BOATING	FISH CONSUMP.
NHRIV801030403-47	R*47	UNNAMED BROOK	3-ND	3-ND	3-ND	4A-M
NHRIV801030403-48	R*48	UNNAMED BROOK	3-ND	3-ND	3-ND	4A-M
NHRIV801030403-49	R*49	BLACK BROOK - UNNAMED BROOK	3-ND	3-ND	3-ND	4A-M
NHRIV801030403-50	R*50	UNNAMED BROOK	3-ND	3-ND	3-ND	4A-M
NHRIV801030403-51	R*51	UNNAMED BROOK	3-ND	3-ND	3-ND	4A-M
NHRIV801030403-52	R*52	UNNAMED BROOK	3-ND	3-ND	3-ND	4A-M
NHRIV801030403-53	R*53	UNNAMED BROOK	3-ND	3-ND	3-ND	4A-M
NHRIV801030403-54	R*54	UNNAMED BROOK	3-ND	3-ND	3-ND	4A-M
NHRIV801030403-55	R*55	UNNAMED BROOK	3-ND	3-ND	3-ND	4A-M
NHRIV801030403-56	R*56	UNNAMED BROOK	3-ND	3-ND	3-ND	4A-M
NHRIV801030403-57	R*57	UNNAMED BROOK	3-ND	3-ND	3-ND	4A-M
NHRIV801030403-58	R*58	UNNAMED BROOK	3-ND	3-ND	3-ND	4A-M
NHRIV801030403-59	R*59	UNNAMED BROOK	3-ND	3-ND	3-ND	4A-M



HUC12 Boundaries

Town Boundaries

Major Roads

Interstate Highway

US Highway

State Highway

Assessment Unit Coloring

AU's Ending with:

0 =

1 =

2 =

3 =

4 =

5 =

6 =

7 =

8 =

9 =



Abbrev. Label

L*03

HUC 12

010700060201

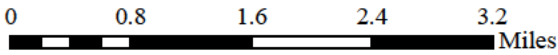
AUID = NH

LAK

700060201

-03

Assessment Unit IDs are derived from the HUC12 they reside within. The labels have been shortened on this map for presentation purposes. Example: the Label "L*03" in HUC12 = 010700060201 represents AUID = "NHLAK700060201-03" In rare cases where an AUID extends beyond the boundary of a single HUC12, additional portions of the end of the HUC 12 number have also been replaced.



Scale:1:80,720

Assessment Unit ID NHRIV801030403-09
 Assessment Unit Name BAKER BROOK - UNNAMED BROOK
 Primary Town BETHLEHEM

Size 9.3910 MILES

Beach N

Assessment Unit Category*~ 5-P

**DRAFT 2012, 305(b)/303(d) - All
 Reviewed Parameters by Assessment
 Unit**

Designated Use Description	*Desig. Use Category	Desig. Use Threat	Parameter Name	Parameter Threatened (Y/N)	Parameter Category*	TMDL Priority	Expected To Attain Date	Source Name (Impairments only)
Aquatic Life	5-P		Benthic-Macroinvertebrate Bioassessments (Streams)	N	3-ND			
			Dissolved oxygen saturation	N	3-ND			
			Fishes Bioassessments (Streams)		5-P	LOW		Source Unknown
			Oxygen, Dissolved	N	3-ND			
			pH	N	3-ND			
Drinking Water After Adequate Treatment	2-G							
Fish Consumption	4A-M		Mercury	N	4A-M			Atmospheric Deposition - Toxics
Primary Contact Recreation	3-ND		Escherichia coli	N	3-ND			
Secondary Contact Recreation	3-ND		Escherichia coli	N	3-ND			
Wildlife	3-ND							

Severe Not Supporting, Severe	Poor Not Supporting, Marginal	Likely Bad Insufficient Information - Potentially Not Supporting	No Data No Data	Likely Good Insufficient Information - Potentially Full Supporting	Marginal Full Support, Marginal	Good Full Support, Good
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*DES Categories; 2-G = Supports Parameter well above criteria, 2-M = Supports Parameter marginally above criteria, 2-OBS = Exceeds WQ criteria but natural therefore not a WQ exceedence, 3-ND = Insufficient Information/No data, 3-PAS= Insufficient Information/Potentially Attaining Standard, 3-PNS= Insufficient Information/Potentially Not Attaining Standard, (4A=Impaired/TMDL Completed, 4B=Impaired/Other Measure will rectify Impairment, 4C=Impaired/Non-Pollutant, 5=Impaired/TMDL needed) M=Marginal Impairment, P=Severe Impairment, T=Threatened (<http://des.nh.gov/organization/divisions/water/wmb/swqa/index.htm>)

DRAFT WATERSHED 305(b) ASSESSMENT SUMMARY REPORT:

HUC 12 010700010404

HUC 12 NAME PLYMOUTH/ASHLAND TRIBUTARIES

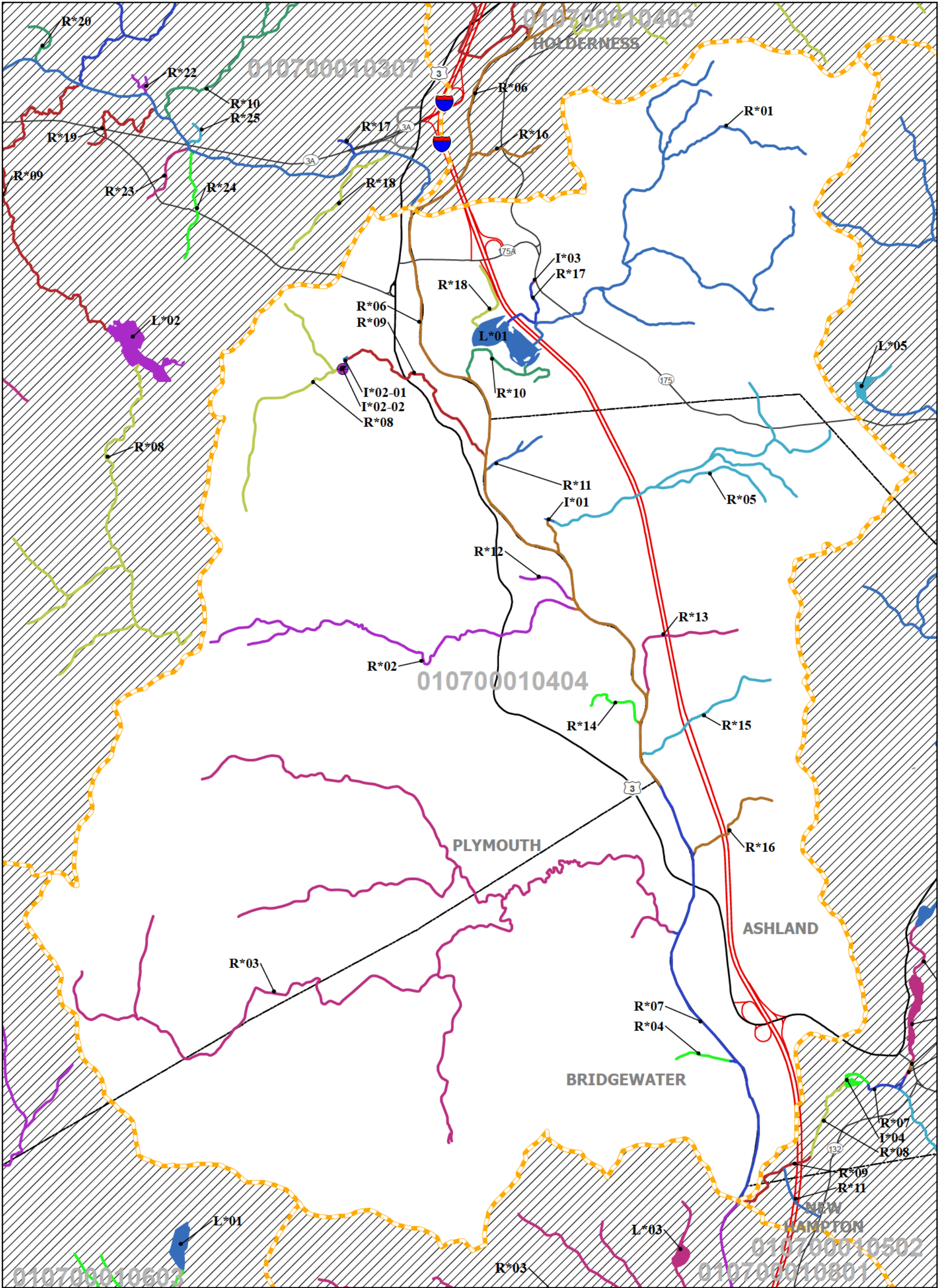
(Locator map on next page only applies to this HUC12)

Assessment Cycle 2012

Good	Full Support Good
Marginal	Full Support Marginal
Likely Good	Insufficient Information – Potentially Full Support
No Data	No Data
Likely Bad	Insufficient Information – Potentially Not Support
Poor	Not Support Marginal
Severe	Not Support Severe



ASSESSMENT UNIT ID	MAP LABEL	ASSESSMENT UNIT NAME	AQUATIC LIFE	SWIMMING	BOATING	FISH CONSUMP.
NHIMP700010404-01	I*01	COLD SPRING BROOK	3-ND	3-ND	3-ND	4A-M
NHIMP700010404-02-01	I*02-01	UNNAMED BROOK	3-ND	3-ND	3-ND	4A-M
NHIMP700010404-02-02	I*02-02	FOX POND DAM - FOX POND BEACH	3-ND	3-ND	3-ND	4A-M
NHIMP700010404-03	I*03	UNNAMED BROOK	3-ND	3-ND	3-ND	4A-M
NHLAK700010404-01	L*01	UNNAMED POND	3-ND	3-ND	3-ND	4A-M
NHRIV700010404-01	R*01	UNNAMED BROOK ALONG MEADOWVIEW DR	5-G	3-M	3-G	4A-M
NHRIV700010404-02	R*02	GLOVE HOLLOW BROOK	3-ND	3-ND	3-ND	4A-M
NHRIV700010404-03	R*03	CLAY BROOK	5-M	3-G	3-G	4A-M
NHRIV700010404-04	R*04	UNNAMED BROOK	3-ND	3-ND	3-ND	4A-M
NHRIV700010404-05	R*05	SPRING BROOK - UNNAMED BROOK	3-ND	3-ND	3-ND	4A-M
NHRIV700010404-06	R*06	PEMIGEWASSET RIVER - SPRING BROOK	5-P	3-PAS	3-PAS	4A-M
NHRIV700010404-07	R*07	PEMIGEWASSET RIVER	3-ND	3-PAS	3-ND	4A-M
NHRIV700010404-08	R*08	UNNAMED BROOK	3-ND	3-ND	3-ND	4A-M
NHRIV700010404-09	R*09	UNNAMED BROOK	3-ND	3-ND	3-ND	4A-M
NHRIV700010404-10	R*10	UNNAMED BROOK	3-ND	3-ND	3-ND	4A-M
NHRIV700010404-11	R*11	UNNAMED BROOK	3-ND	3-ND	3-ND	4A-M
NHRIV700010404-12	R*12	UNNAMED BROOK	3-ND	3-ND	3-ND	4A-M
NHRIV700010404-13	R*13	UNNAMED BROOK	3-ND	3-ND	3-ND	4A-M
NHRIV700010404-14	R*14	UNNAMED BROOK	3-ND	3-ND	3-ND	4A-M
NHRIV700010404-15	R*15	UNNAMED BROOK	3-ND	3-ND	3-ND	4A-M
NHRIV700010404-16	R*16	UNNAMED BROOK	3-ND	3-ND	3-ND	4A-M
NHRIV700010404-17	R*17	UNNAMED BROOK	3-ND	3-ND	3-ND	4A-M
NHRIV700010404-18	R*18	UNNAMED BROOK	3-ND	3-ND	3-ND	4A-M



HUC12 Boundaries

Town Boundaries

Major Roads

Interstate Highway

US Highway

State Highway

Assessment Unit Coloring

AU's Ending with:

4 =	Green
5 =	Blue
6 =	Orange
7 =	Yellow
8 =	Light Green
9 =	Red



Abbrev. Label

L*03

HUC 12

010 700060201

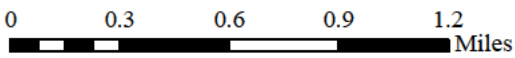
AUID = NH

LAK

700060201

-03

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Scale:1:33,320

Assessment Unit ID NHRIV700010404-03
 Assessment Unit Name CLAY BROOK
 Primary Town PLYMOUTH

Size 11.4800 MILES

Beach N

Assessment Unit Category*~ 5-M

DRAFT 2012, 305(b)/303(d) - All
 Reviewed Parameters by Assessment
 Unit

Designated Use Description	*Desig. Use Category	Desig. Use Threat	Parameter Name	Parameter Threatened (Y/N)	Parameter Category*	TMDL Priority	Expected To Attain Date	Source Name (Impairments only)
Aquatic Life	5-M		ALUMINUM	N	3-PNS			
			Benthic-Macroinvertebrate Bioassessments (Streams)	N	3-ND			
			CHLORIDE	N	3-PAS			
			DISSOLVED OXYGEN SATURATION	N	3-PAS			
			Fishes Bioassessments (Streams)	N	3-ND			
			OXYGEN, DISSOLVED	N	3-PAS			
			TURBIDITY	N	3-PAS			
			pH	N	5-M	LOW		Source Unknown
Drinking Water After Adequate Treatment	2-G		ESCHERICHIA COLI	N	3-PNS			
Fish Consumption	4A-M		Mercury	N	4A-M			Atmospheric Deposition - Toxics
Primary Contact Recreation	2-G		CHLOROPHYLL-A	N	3-PAS			
			ESCHERICHIA COLI	N	2-G			
Secondary Contact Recreation	2-G		ESCHERICHIA COLI	N	2-G			
Wildlife	3-ND							

Severe Not Supporting, Severe	Poor Not Supporting, Marginal	Likely Bad Insufficient Information - Potentially Not Supporting	No Data No Data	Likely Good Insufficient Information - Potentially Full Supporting	Marginal Full Support, Marginal	Good Full Support, Good
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Page 8 of 23

Date: 1/30/14

Assessment Unit ID NHRIV700010404-07
 Assessment Unit Name PEMIGEWASSET RIVER
 Primary Town ASHLAND

Size 2.6750 MILES
 Beach N
 Assessment Unit Category*~ 3-PAS

**DRAFT 2012, 305(b)/303(d) - All
 Reviewed Parameters by Assessment
 Unit**

Designated Use Description	*Desig. Use Category	Desig. Use Threat	Parameter Name	Parameter Threatened (Y/N)	Parameter Category*	TMDL Priority	Expected To Attain Date	Source Name (Impairments only)
Aquatic Life	3-ND		Dissolved oxygen saturation	N	3-ND			
			Oxygen, Dissolved	N	3-ND			
			pH	N	3-ND			
Drinking Water After Adequate Treatment	2-G							
Fish Consumption	4A-M		Mercury	N	4A-M			Atmospheric Deposition - Toxics
Primary Contact Recreation	3-PAS		CHLOROPHYLL-A	N	3-PAS			
			Escherichia coli	N	3-ND			
Secondary Contact Recreation	3-ND		Escherichia coli	N	3-ND			
Wildlife	3-ND							

Severe Not Supporting, Severe	Poor Not Supporting, Marginal	Likely Bad Insufficient Information - Potentially Not Supporting	No Data No Data	Likely Good Insufficient Information - Potentially Full Supporting	Marginal Full Support, Marginal	Good Full Support, Good
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DRAFT WATERSHED 305(b) ASSESSMENT SUMMARY REPORT:

HUC 12 010700060101

HUC 12 NAME WEBSTER PLACE TRIBUTARIES

(Locator map on next page only applies to this HUC12)

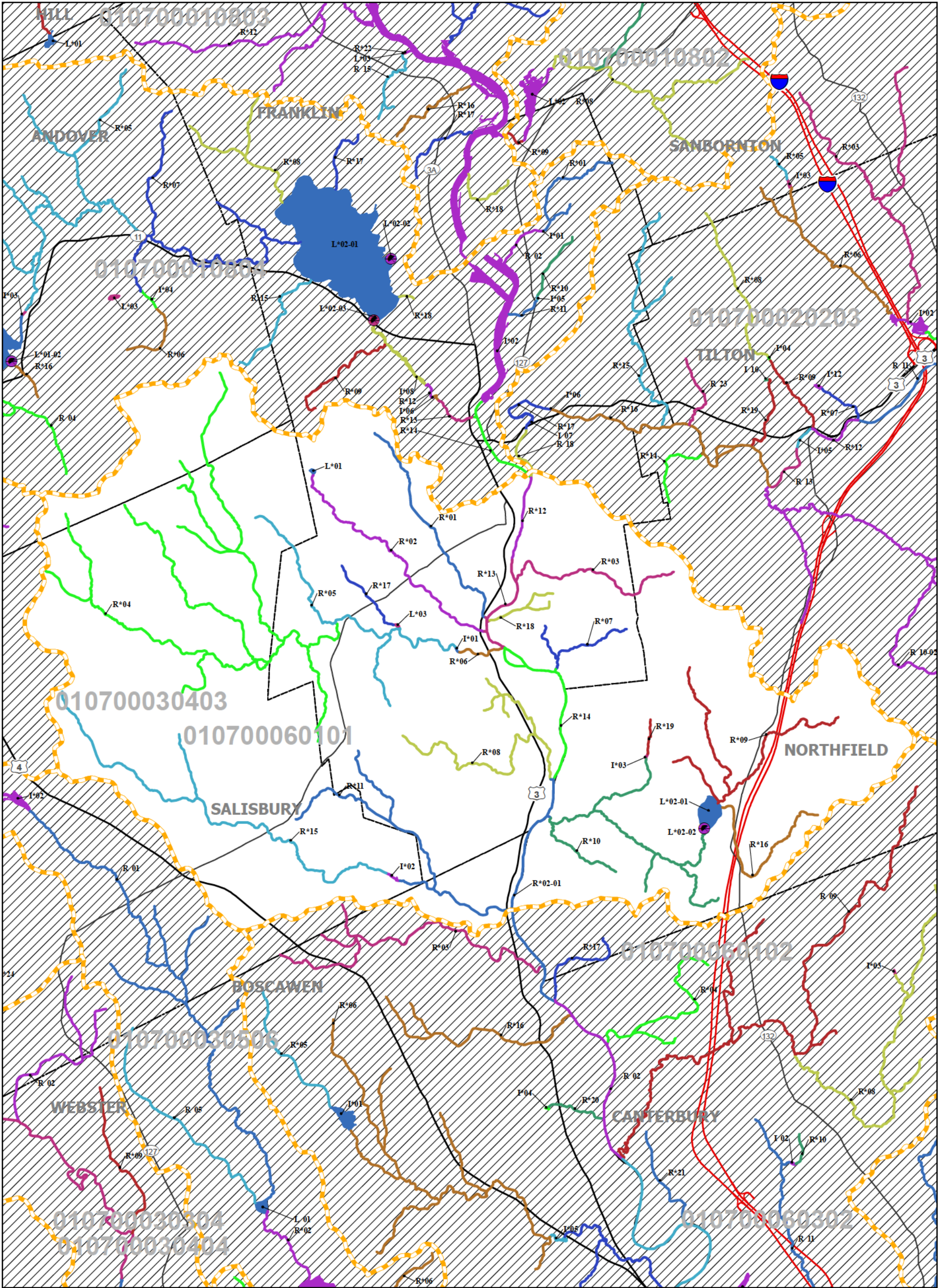
Assessment Cycle 2012

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ASSESSMENT UNIT ID	MAP LABEL	ASSESSMENT UNIT NAME	AQUATIC LIFE	SWIMMING	BOATING	FISH CONSUMP.
NHIMP700060101-01	I*01	PUNCH BROOK - WEBSTER PLACE DAM	3-ND	3-ND	3-ND	4A-M
NHIMP700060101-02	I*02	STIRRUP IRON BROOK - STIRRUP IRON POND	3-ND	3-ND	3-ND	4A-M
NHIMP700060101-03	I*03	UNNAMED BROOK	3-ND	3-ND	3-ND	4A-M
NHLAK700060101-01	L*01	SHAW POND	4A-M	3-ND	3-ND	4A-M
NHLAK700060101-02-01	L*02-01	SONDOGARDY POND	4A-M	4A-M	3-PAS	4A-M
NHLAK700060101-02-02	L*02-02	SONDOGARDY POND - GLINES PARK BEACH	4A-M	4A-M	3-PAS	4A-M
NHLAK700060101-03	L*03	UNNAMED POND	3-ND	3-ND	3-ND	4A-M
NHRIV700060101-01	R*01	UNNAMED BROOK	3-ND	3-ND	3-ND	4A-M
NHRIV700060101-02	R*02	SHAW BROOK	3-ND	3-ND	3-ND	4A-M
NHRIV700060101-03	R*03	WINNIPESAUKEE RIVER	3-ND	3-ND	3-ND	4A-M
NHRIV700060101-04	R*04	PUNCH BROOK	3-ND	3-ND	3-ND	4A-M
NHRIV700060101-05	R*05	PUNCH BROOK	2-M	3-ND	3-ND	4A-M
NHRIV700060101-06	R*06	PUNCH BROOK	3-ND	3-ND	3-ND	4A-M
NHRIV700060101-07	R*07	UNNAMED BROOK	3-ND	3-ND	3-ND	4A-M
NHRIV700060101-08	R*08	UNNAMED BROOK	3-ND	3-ND	3-ND	4A-M
NHRIV700060101-09	R*09	CROSS BROOK	3-PAS	3-ND	3-ND	4A-M
NHRIV700060101-10	R*10	CROSS BROOK - STIRRUP IRON BROOK	3-M	3-ND	3-ND	4A-M
NHRIV700060101-11	R*11	STIRRUP IRON BROOK - ALLEN BROOK	3-M	3-PAS	3-ND	4A-M
NHRIV700060101-12	R*12	MERRIMACK RIVER	3-PAS	2-M	2-P	4A-M
NHRIV700060101-13	R*13	MERRIMACK RIVER	3-ND	3-ND	3-ND	4A-M
NHRIV700060101-14	R*14	MERRIMACK RIVER	3-PAS	2-M	2-P	4A-M
NHRIV700060101-15	R*15	STIRRUP IRON BROOK - UNNAMED BROOK	3-ND	3-ND	3-ND	4A-M
NHRIV700060101-16	R*16	UNNAMED BROOK	3-PAS	3-ND	3-ND	4A-M
NHRIV700060101-17	R*17	UNNAMED BROOK	3-ND	3-ND	3-ND	4A-M
NHRIV700060101-18	R*18	UNNAMED BROOK	3-ND	3-ND	3-ND	4A-M
NHRIV700060101-19	R*19	UNNAMED BROOK	3-ND	3-ND	3-ND	4A-M
NHRIV700060102-01	R*02-01	MERRIMACK RIVER	3-PAS	3-PAS	3-PAS	4A-M

AUIDs For HUC12: 010700060101 - Webster Place Tributaries



HUC12 Boundaries

Town Boundaries

Major Roads

Interstate Highway

US Highway

State Highway

Assessment Unit Coloring

AUs Ending with:

0 =

1 =

2 =

3 =

4 =

5 =

6 =

7 =

8 =

9 =



Abbrev. Label

L*03

HUC 12

010700060201

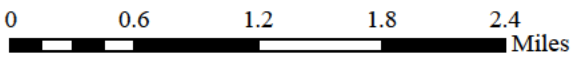
AUID = NH

LAK

700060201

-03

Assessment Unit IDs are derived from the HUC12 they reside within. The labels have been shortened on this map for presentation purposes. Example: the Label "L*03" in HUC12 = 010700060201 represents AUID = "NHLAK700060201-03" In rare cases where an AUID extends beyond the boundary of a single HUC12, additional portions of the end of the HUC 12 number have also been replaced.



Scale:1:58,980

Assessment Unit ID NHRIV700060101-08
 Assessment Unit Name UNNAMED BROOK
 Primary Town FRANKLIN

Size 4.1390 MILES

Beach N

Assessment Unit Category*~ 3~ND

**DRAFT 2012, 305(b)/303(d) - All
 Reviewed Parameters by Assessment
 Unit**

Designated Use Description	*Desig. Use Category	Desig. Use Threat	Parameter Name	Parameter Threatened (Y/N)	Parameter Category*	TMDL Priority	Expected To Attain Date	Source Name (Impairments only)
Aquatic Life	3-ND		Benthic-Macroinvertebrate Bioassessments (Streams)	N	3-ND			
			Dissolved oxygen saturation	N	3-ND			
			Fishes Bioassessments (Streams)	N	3-ND			
			Oxygen, Dissolved	N	3-ND			
			pH	N	3-ND			
Drinking Water After Adequate Treatment	2-G							
Fish Consumption	4A-M		Mercury	N	4A-M			Atmospheric Deposition - Toxics
Primary Contact Recreation	3-ND		Escherichia coli	N	3-ND			
Secondary Contact Recreation	3-ND		Escherichia coli	N	3-ND			
Wildlife	3-ND							

Severe Not Supporting, Severe	Poor Not Supporting, Marginal	Likely Bad Insufficient Information - Potentially Not Supporting	No Data No Data	Likely Good Insufficient Information - Potentially Full Supporting	Marginal Full Support, Marginal	Good Full Support, Good
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*DES Categories; 2-G = Supports Parameter well above criteria, 2-M = Supports Parameter marginally above criteria, 2-OBS = Exceeds WQ criteria but natural therefore not a WQ exceedence, 3-ND = Insufficient Information/No data, 3-PAS= Insufficient Information/Potentially Attaining Standard, 3-PNS= Insufficient Information/Potentially Not Attaining Standard, (4A=Impaired/TMDL Completed, 4B=Impaired/Other Measure will rectify Impairment, 4C=Impaired/Non-Pollutant, 5=Impaired/TMDL needed) M=Marginal Impairment, P=Severe Impairment, T=Threatened (<http://des.nh.gov/organization/divisions/water/wmb/swqa/index.htm>)

Assessment Unit ID NHRIV700060102-01
 Assessment Unit Name MERRIMACK RIVER
 Primary Town BOSCAWEN

Size 2.6550 MILES

Beach N

Assessment Unit Category*~ 3-PAS

**DRAFT 2012, 305(b)/303(d) - All
 Reviewed Parameters by Assessment
 Unit**

Designated Use Description	*Desig. Use Category	Desig. Use Threat	Parameter Name	Parameter Threatened (Y/N)	Parameter Category*	TMDL Priority	Expected To Attain Date	Source Name (Impairments only)
Aquatic Life	3-PAS		CHLORIDE	N	3-PAS			
			DISSOLVED OXYGEN SATURATION		3-PAS			
			OXYGEN, DISSOLVED		3-PAS			
			PH		3-PAS			
			TURBIDITY	N	3-PAS			
Drinking Water After Adequate Treatment	2-G		ESCHERICHIA COLI	N	3-PNS			
Fish Consumption	4A-M		Mercury	N	4A-M			Atmospheric Deposition - Toxics
Primary Contact Recreation	3-PAS		CHLOROPHYLL-A	N	3-PAS			
			ESCHERICHIA COLI		3-PAS			
Secondary Contact Recreation	3-PAS		ESCHERICHIA COLI		3-PAS			
Wildlife	3-ND							

Severe Not Supporting, Severe	Poor Not Supporting, Marginal	Likely Bad Insufficient Information - Potentially Not Supporting	No Data No Data	Likely Good Insufficient Information - Potentially Full Supporting	Marginal Full Support, Marginal	Good Full Support, Good
-----------------------------------------	-----------------------------------------	----------------------------------------------------------------------------	---------------------------	------------------------------------------------------------------------------	-------------------------------------------	-----------------------------------

*DES Categories; 2-G = Supports Parameter well above criteria, 2-M = Supports Parameter marginally above criteria, 2-OBS = Exceeds WQ criteria but natural therefore not a WQ exceedence, 3-ND = Insufficient Information/No data, 3-PAS= Insufficient Information/Potentially Attaining Standard, 3-PNS= Insufficient Information/Potentially Not Attaining Standard, (4A=Impaired/TMDL Completed, 4B=Impaired/Other Measure will rectify Impairment, 4C=Impaired/Non-Pollutant, 5=Impaired/TMDL needed) M=Marginal Impairment, P=Severe Impairment, T=Threatened (<http://des.nh.gov/organization/divisions/water/wmb/swqa/index.htm>)

DRAFT WATERSHED 305(b) ASSESSMENT SUMMARY REPORT:

HUC 12 010700060102

HUC 12 NAME BOSCAWEN-CANTERBURY TRIBUTARIES

(Locator map on next page only applies to this HUC12)

Assessment Cycle 2012

Good	Full Support Good
Marginal	Full Support Marginal
Likely Good	Insufficient Information – Potentially Full Support
No Data	No Data
Likely Bad	Insufficient Information – Potentially Not Support
Poor	Not Support Marginal
Severe	Not Support Severe



ASSESSMENT UNIT ID	MAP LABEL	ASSESSMENT UNIT NAME	AQUATIC LIFE	SWIMMING	BOATING	FISH CONSUMP.
NHIMP700060102-01	I*01	TANNERY BROOK	3-ND	3-ND	3-ND	4A-M
NHIMP700060102-02	I*02	COLD BROOK	3-ND	3-ND	3-ND	4A-M
NHIMP700060102-03	I*03	UNNAMED BROOK	3-ND	3-ND	3-ND	4A-M
NHIMP700060102-04	I*04	UNNAMED BROOK	3-ND	3-ND	3-ND	4A-M
NHIMP700060102-05	I*05	TANNERY BROOK	3-ND	3-ND	3-ND	4A-M
NHLAK700060102-01	L*01	FOREST POND	3-ND	3-ND	3-ND	4A-M
NHLAK700060102-02	L*02	THE CHANNEL	3-ND	3-ND	3-ND	4A-M
NHLAK700060102-03	L*03	UNNAMED POND	3-ND	3-ND	3-ND	4A-M
NHLAK700060102-04	L*04	OXBOW POND	3-PNS	3-PNS	3-PAS	4A-M
NHRIV700060102-01	R*02-01	MERRIMACK RIVER	3-PAS	3-PAS	3-PAS	4A-M
NHRIV700060102-02	R*02	MERRIMACK RIVER	3-PAS	3-PAS	3-PAS	4A-M
NHRIV700060102-03	R*03	GLINES BROOK	3-ND	3-ND	3-ND	4A-M
NHRIV700060102-04	R*04	UNNAMED BROOK	3-ND	3-ND	3-ND	4A-M
NHRIV700060102-05	R*05	TANNERY BROOK	3-ND	3-ND	3-ND	4A-M
NHRIV700060102-06	R*06	TANNERY BROOK	3-ND	3-ND	3-ND	4A-M
NHRIV700060102-07	R*07	TANNERY BROOK - COLD BROOK	3-M	4A-P	3-ND	4A-M
NHRIV700060102-08	R*08	FOREST POND BROOK - UNNAMED BROOKS THRU BIG MEADOW MARSH	3-ND	3-ND	3-ND	4A-M
NHRIV700060102-09	R*09	BRYANT BROOK	3-ND	3-ND	3-ND	4A-M
NHRIV700060102-10	R*10	COLD BROOK	3-ND	3-ND	3-ND	4A-M
NHRIV700060102-11	R*11	COLD BROOK	3-ND	3-ND	3-ND	4A-M
NHRIV700060102-13	R*13	UNNAMED BROOK - FROM UNNAMED POND TO MERRIMACK RIVER	3-ND	3-ND	3-ND	4A-M
NHRIV700060102-14	R*14	UNNAMED BROOK	3-ND	3-ND	3-ND	4A-M
NHRIV700060102-15	R*15	MERRIMACK RIVER	3-ND	3-G	3-G	4A-M
NHRIV700060102-16	R*16	GLINES BROOK - UNNAMED BROOK	3-ND	3-ND	3-ND	4A-M
NHRIV700060102-17	R*17	UNNAMED BROOK	3-ND	3-ND	3-ND	4A-M
NHRIV700060102-19	R*19	FOREST POND BROOK	3-ND	3-ND	3-ND	4A-M
NHRIV700060102-20	R*20	UNNAMED BROOK	3-ND	3-ND	3-ND	4A-M
NHRIV700060102-21	R*21	UNNAMED BROOK	3-ND	3-ND	3-ND	4A-M

DRAFT WATERSHED 305(b) ASSESSMENT SUMMARY REPORT:

HUC 12 010700060102

HUC 12 NAME BOSCAWEN-CANTERBURY TRIBUTARIES

(Locator map on next page only applies to this HUC12)

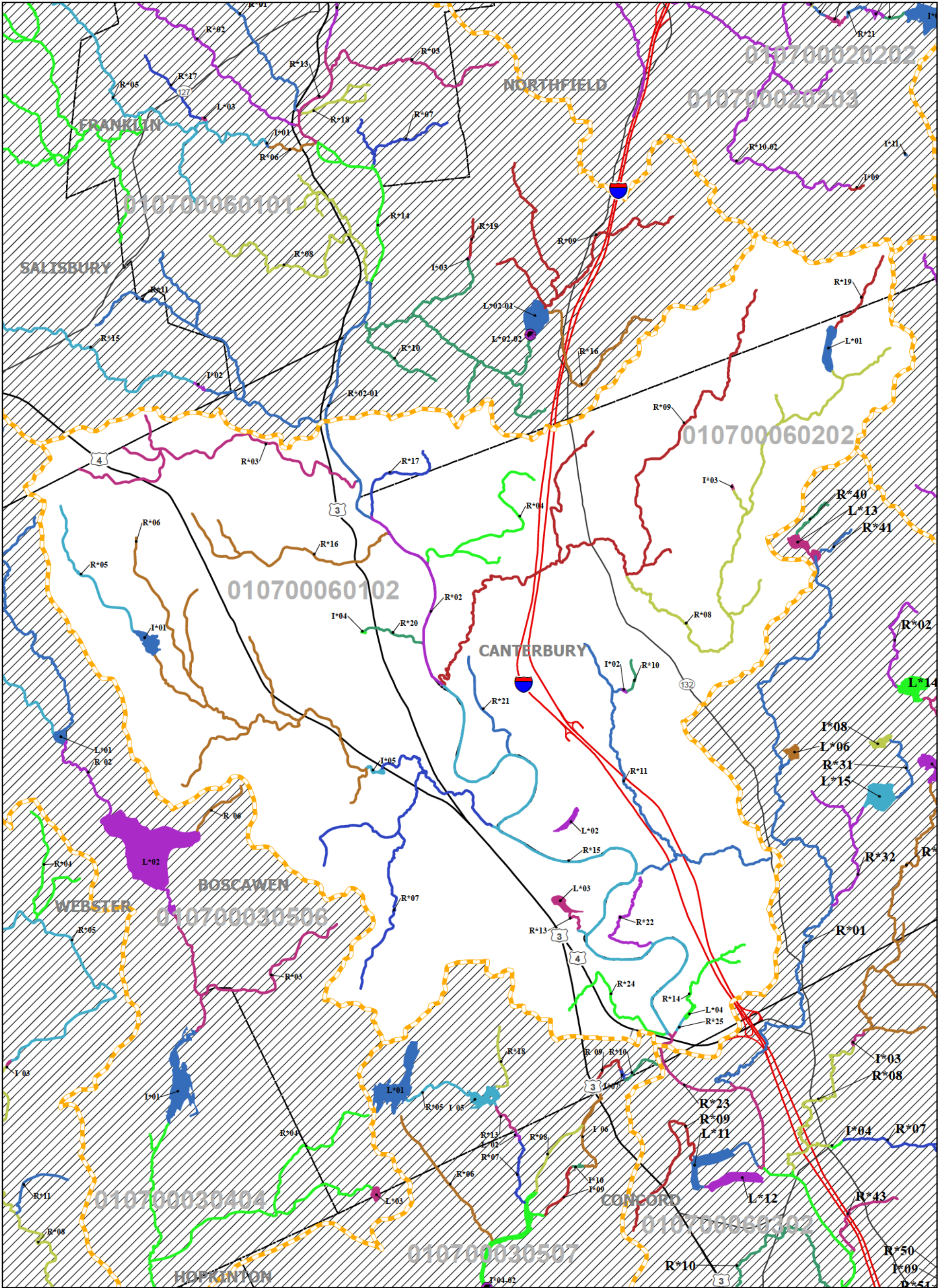
Assessment Cycle 2012

Good	Full Support Good
Marginal	Full Support Marginal
Likely Good	Insufficient Information – Potentially Full Support
No Data	No Data
Likely Bad	Insufficient Information – Potentially Not Support
Poor	Not Support Marginal
Severe	Not Support Severe



ASSESSMENT UNIT ID	MAP LABEL	ASSESSMENT UNIT NAME	AQUATIC LIFE	SWIMMING	BOATING	FISH CONSUMP.
NHRIV700060102-22	R*22	UNNAMED BROOK	3-ND	3-ND	3-ND	4A-M
NHRIV700060102-24	R*24	UNNAMED BROOK	3-ND	3-ND	3-ND	4A-M
NHRIV700060102-25	R*25	UNNAMED BROOK	3-ND	3-ND	3-ND	4A-M
NHRIV700060302-23	R*0302-23	MERRIMACK RIVER	3-PNS	2-G	2-G	4A-M

AUIDs For HUC12: 010700060102 - Boscawen-Canterbury Tributaries



HUC12 Boundaries

Town Boundaries

Major Roads

Interstate Highway

US Highway

State Highway

Assessment Unit Coloring

AUs Ending with:

0 =

1 =

2 =

3 =

4 =

5 =

6 =

7 =

8 =

9 =



Abbrev. Label

L*03

HUC 12

010700060201

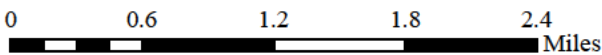
AUID = NH

LAK

700060201

-03

Assessment Unit IDs are derived from the HUC12 they reside within. The labels have been shortened on this map for presentation purposes.
Example: the Label "L*03" in HUC12 = 010700060201 represents AUID = "NHLAK700060201-03"
In rare cases where an AUID extends beyond the boundary of a single HUC12, additional portions of the end of the HUC 12 number have also been replaced.



Scale:1:55,490

Assessment Unit ID NHRIV700060102-01
 Assessment Unit Name MERRIMACK RIVER
 Primary Town BOSCAWEN

Size 2.6550 MILES

Beach N

Assessment Unit Category*~ 3-PAS

**DRAFT 2012, 305(b)/303(d) - All
 Reviewed Parameters by Assessment
 Unit**

Designated Use Description	*Desig. Use Category	Desig. Use Threat	Parameter Name	Parameter Threatened (Y/N)	Parameter Category*	TMDL Priority	Expected To Attain Date	Source Name (Impairments only)
Aquatic Life	3-PAS		CHLORIDE	N	3-PAS			
			DISSOLVED OXYGEN SATURATION		3-PAS			
			OXYGEN, DISSOLVED		3-PAS			
			PH		3-PAS			
			TURBIDITY	N	3-PAS			
Drinking Water After Adequate Treatment	2-G		ESCHERICHIA COLI	N	3-PNS			
Fish Consumption	4A-M		Mercury	N	4A-M			Atmospheric Deposition - Toxics
Primary Contact Recreation	3-PAS		CHLOROPHYLL-A	N	3-PAS			
			ESCHERICHIA COLI		3-PAS			
Secondary Contact Recreation	3-PAS		ESCHERICHIA COLI		3-PAS			
Wildlife	3-ND							

Severe Not Supporting, Severe	Poor Not Supporting, Marginal	Likely Bad Insufficient Information - Potentially Not Supporting	No Data No Data	Likely Good Insufficient Information - Potentially Full Supporting	Marginal Full Support, Marginal	Good Full Support, Good
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*DES Categories; 2-G = Supports Parameter well above criteria, 2-M = Supports Parameter marginally above criteria, 2-OBS = Exceeds WQ criteria but natural therefore not a WQ exceedence, 3-ND = Insufficient Information/No data, 3-PAS= Insufficient Information/Potentially Attaining Standard, 3-PNS= Insufficient Information/Potentially Not Attaining Standard, (4A=Impaired/TMDL Completed, 4B=Impaired/Other Measure will rectify Impairment, 4C=Impaired/Non-Pollutant, 5=Impaired/TMDL needed) M=Marginal Impairment, P=Severe Impairment, T=Threatened (<http://des.nh.gov/organization/divisions/water/wmb/swqa/index.htm>)

DRAFT WATERSHED 305(b) ASSESSMENT SUMMARY REPORT:

HUC 12 010600030704

HUC 12 NAME PAWTUCKAWAY POND

(Locator map on next page only applies to this HUC12)

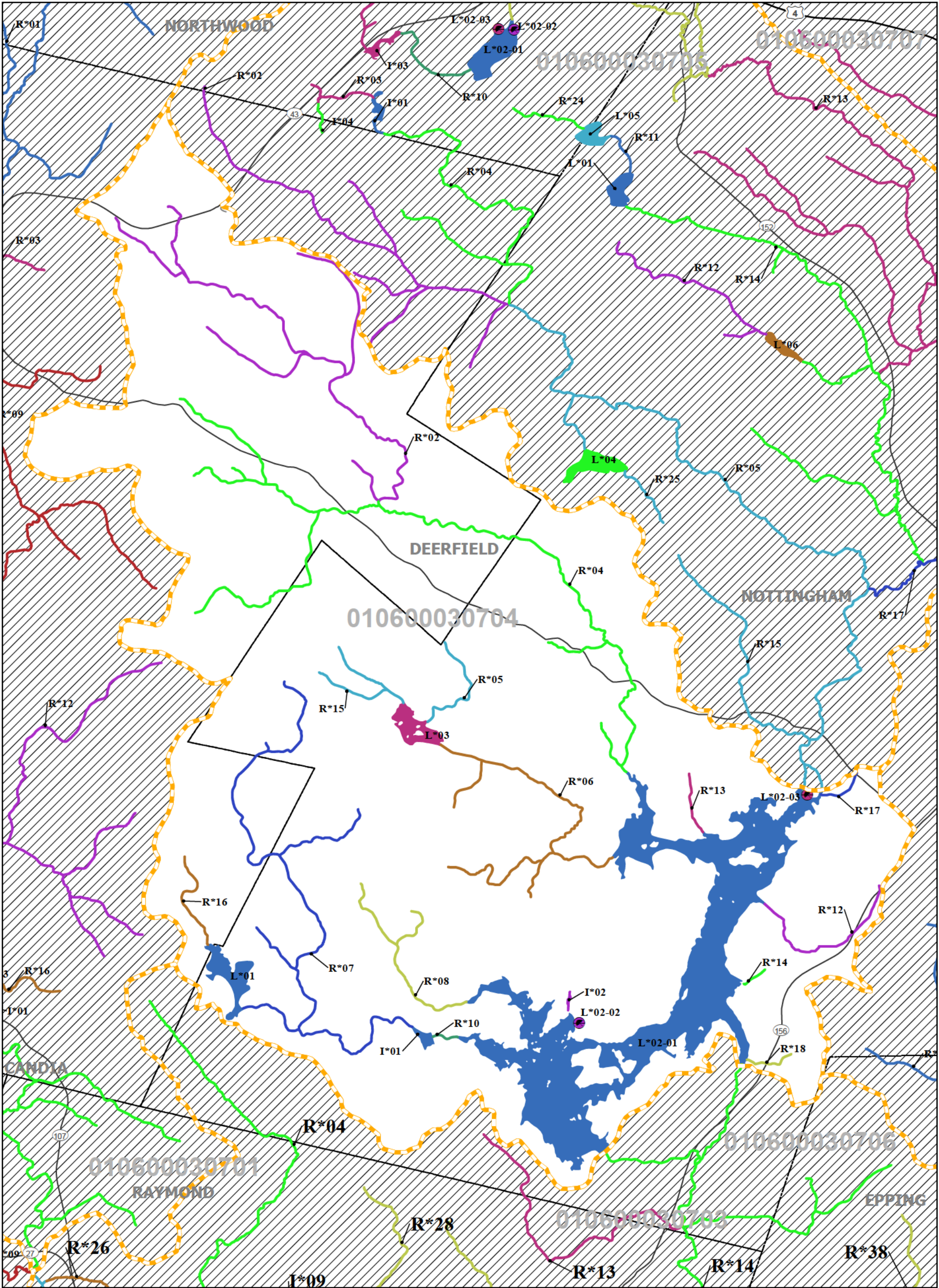
Assessment Cycle 2012

Good	Full Support Good
Marginal	Full Support Marginal
Likely Good	Insufficient Information – Potentially Full Support
No Data	No Data
Likely Bad	Insufficient Information – Potentially Not Support
Poor	Not Support Marginal
Severe	Not Support Severe



ASSESSMENT UNIT ID	MAP LABEL	ASSESSMENT UNIT NAME	AQUATIC LIFE	SWIMMING	BOATING	FISH CONSUMP.
NHIMP600030704-01	I*01	MOUNTAIN BROOK	3-ND	3-ND	3-ND	4A-M
NHIMP600030704-02	I*02	UNNAMED BROOK	3-ND	3-ND	3-ND	4A-M
NHLAK600030704-01	L*01	DEER POND	3-ND	3-ND	3-ND	4A-M
NHLAK600030704-02-01	L*02-01	PAWTUCKAWAY LAKE	4A-M	4A-M	3-ND	4A-M
NHLAK600030704-02-02	L*02-02	PAWTUCKAWAY LAKE - PAWTUCKAWAY STATE PARK BEACH	4A-M	4A-P	2-M	4A-M
NHLAK600030704-02-03	L*02-03	PAWTUCKAWAY LAKE - TOWN BEACH	5-M	4A-P	2-M	4A-M
NHLAK600030704-03	L*03	ROUND POND	3-ND	3-ND	3-ND	4A-M
NHRIV600030704-02	R*02	BACK CREEK - UNNAMED BROOK	5-M	2-S	2-S	4A-M
NHRIV600030704-04	R*04	BACK CREEK - UNNAMED BROOK	5-M	3-ND	3-ND	4A-M
NHRIV600030704-05	R*05	UNNAMED BROOK	3-ND	3-ND	3-ND	4A-M
NHRIV600030704-06	R*06	ROUND POND BROOK	5-P	3-ND	3-ND	4A-M
NHRIV600030704-07	R*07	MOUNTAIN BROOK - UNNAMED BROOKS	5-P	3-ND	3-ND	4A-M
NHRIV600030704-08	R*08	UNNAMED BROOK	3-ND	3-ND	3-ND	4A-M
NHRIV600030704-10	R*10	MOUNTAIN BROOK - BETWEEN MOUNTAIN POND AND PAWTACKAWAY LAKE	5-M	3-ND	3-ND	4A-M
NHRIV600030704-12	R*12	UNNAMED BROOK - TO PAWTUCKAWAY POND EAST SIDE	5-M	3-ND	3-ND	4A-M
NHRIV600030704-13	R*13	FUNDY BROOK	5-P	3-ND	3-ND	4A-M
NHRIV600030704-14	R*14	WHITE GROVE BROOK - TO PAWTUCKAWAY POND	5-M	3-ND	3-ND	4A-M
NHRIV600030704-15	R*15	UNNAMED BROOK	3-ND	3-ND	3-ND	4A-M
NHRIV600030704-16	R*16	UNNAMED BROOK	3-ND	3-ND	3-ND	4A-M
NHRIV600030704-17	R*17	UNNAMED BROOK	3-ND	3-ND	3-ND	4A-M
NHRIV600030704-18	R*18	UNNAMED BROOK	3-ND	3-ND	3-ND	4A-M

AUIDs For HUC12: 010600030704 - Pawtuckaway Pond



HUC12 Boundaries

Town Boundaries

Major Roads

Interstate Highway

US Highway

State Highway

Assessment Unit Coloring

AUs Ending with:

0 =

1 =

2 =

3 =

4 =

5 =

6 =

7 =

8 =

9 =



Abbrev. Label

L*03

HUC 12

010700060201

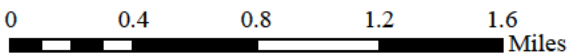
AUID = NH

LAK

700060201

-03

Assessment Unit IDs are derived from the HUC12 they reside within. The labels have been shortened on this map for presentation purposes.
Example: the Label "L*03" in HUC12 = 010700060201 represents AUID = "NHLAK700060201-03"
In rare cases where an AUID extends beyond the boundary of a single HUC12, additional portions of the end of the HUC 12 number have also been replaced.



Scale:1:39,610

Assessment Unit ID NHRIV600030704-02
 Assessment Unit Name BACK CREEK - UNNAMED BROOK
 Primary Town DEERFIELD

Size 6.4490 MILES

Beach N

Assessment Unit Category*~ 5-M

**DRAFT 2012, 305(b)/303(d) - All
 Reviewed Parameters by Assessment
 Unit**

Designated Use Description	*Desig. Use Category	Desig. Use Threat	Parameter Name	Parameter Threatened (Y/N)	Parameter Category*	TMDL Priority	Expected To Attain Date	Source Name (Impairments only)
Aquatic Life	5-M		ALKALINITY, CARBONATE AS CaCO3	N	3-PAS			
			ALUMINUM	N	3-PNS			
			Benthic-Macroinvertebrate Bioassessments (Streams)		2-M			
			CHLORIDE	N	3-PAS			
			DISSOLVED OXYGEN SATURATION	N	3-PAS			
			Fishes Bioassessments (Streams)	N	3-ND			
			OXYGEN, DISSOLVED	N	3-PAS			
			pH	N	5-M	LOW		Source Unknown
Drinking Water After Adequate Treatment	2-G		ESCHERICHIA COLI	N	3-PNS			
			POTASSIUM	N	3-PAS			
			SULFATES	N	3-PAS			
Fish Consumption	4A-M		Mercury	N	4A-M			Atmospheric Deposition - Toxics
Primary Contact Recreation	2-G		ESCHERICHIA COLI	N	2-G			
Secondary Contact Recreation	2-G		ESCHERICHIA COLI	N	2-G			
Wildlife	3-ND							

Severe Not Supporting, Severe	Poor Not Supporting, Marginal	Likely Bad Insufficient Information - Potentially Not Supporting	No Data No Data	Likely Good Insufficient Information - Potentially Full Supporting	Marginal Full Support, Marginal	Good Full Support, Good
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*DES Categories; 2-G = Supports Parameter well above criteria, 2-M = Supports Parameter marginally above criteria, 2-OBS = Exceeds WQ criteria but natural therefore not a WQ exceedence, 3-ND = Insufficient Information/No data, 3-PAS= Insufficient Information/Potentially Attaining Standard, 3-PNS= Insufficient Information/Potentially Not Attaining Standard, (4A=Impaired/TMDL Completed, 4B=Impaired/Other Measure will rectify Impairment, 4C=Impaired/Non-Pollutant, 5=Impaired/TMDL needed) M=Marginal Impairment, P=Severe Impairment, T=Threatened (<http://des.nh.gov/organization/divisions/water/wmb/swqa/index.htm>)

Assessment Unit ID NHRIV600030704-04
 Assessment Unit Name BACK CREEK - UNNAMED BROOK
 Primary Town DEERFIELD

Size 8.0640 MILES

Beach N

Assessment Unit Category*~ 5-M

**DRAFT 2012, 305(b)/303(d) - All
 Reviewed Parameters by Assessment
 Unit**

Designated Use Description	*Desig. Use Category	Desig. Use Threat	Parameter Name	Parameter Threatened (Y/N)	Parameter Category*	TMDL Priority	Expected To Attain Date	Source Name (Impairments only)
Aquatic Life	5-M		Benthic-Macroinvertebrate Bioassessments (Streams)	N	3-ND			
			CHLORIDE	N	3-PAS			
			Dissolved oxygen saturation	N	3-ND			
			Fishes Bioassessments (Streams)	N	3-ND			
			Oxygen, Dissolved	N	3-ND			
			TURBIDITY	N	3-PAS			
			pH	N	5-M	LOW		Source Unknown
Drinking Water After Adequate Treatment	2-G							
Fish Consumption	4A-M		Mercury	N	4A-M			Atmospheric Deposition - Toxics
Primary Contact Recreation	3-ND		Escherichia coli	N	3-ND			
Secondary Contact Recreation	3-ND		Escherichia coli	N	3-ND			
Wildlife	3-ND							

Severe Not Supporting, Severe	Poor Not Supporting, Marginal	Likely Bad Insufficient Information - Potentially Not Supporting	No Data No Data	Likely Good Insufficient Information - Potentially Full Supporting	Marginal Full Support, Marginal	Good Full Support, Good
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*DES Categories; 2-G = Supports Parameter well above criteria, 2-M = Supports Parameter marginally above criteria, 2-OBS = Exceeds WQ criteria but natural therefore not a WQ exceedence, 3-ND = Insufficient Information/No data, 3-PAS= Insufficient Information/Potentially Attaining Standard, 3-PNS= Insufficient Information/Potentially Not Attaining Standard, (4A=Impaired/TMDL Completed, 4B=Impaired/Other Measure will rectify Impairment, 4C=Impaired/Non-Pollutant, 5=Impaired/TMDL needed) M=Marginal Impairment, P=Severe Impairment, T=Threatened (<http://des.nh.gov/organization/divisions/water/wmb/swqa/index.htm>)

DRAFT WATERSHED 305(b) ASSESSMENT SUMMARY REPORT:

HUC 12 010700061203

HUC 12 NAME UPPER BEAVER BROOK

(Locator map on next page only applies to this HUC12)

Assessment Cycle 2012

Good	Full Support Good
Marginal	Full Support Marginal
Likely Good	Insufficient Information – Potentially Full Support
No Data	No Data
Likely Bad	Insufficient Information – Potentially Not Support
Poor	Not Support Marginal
Severe	Not Support Severe



ASSESSMENT UNIT ID	MAP LABEL	ASSESSMENT UNIT NAME	AQUATIC LIFE	SWIMMING	BOATING	FISH CONSUMP.
NHIMP700061203-01	I*01	HARANTIS LAKE - HARANTIS LAKE DAM	3-M	3-M	3-ND	4A-M
NHIMP700061203-02	I*02	KIMBALL CHASE DAM	3-ND	3-ND	3-ND	4A-M
NHIMP700061203-03	I*03	FIRE POND DAM	3-ND	3-ND	3-ND	4A-M
NHIMP700061203-04	I*04	BRANCH BEAVER BROOK	3-ND	3-ND	3-ND	4A-M
NHIMP700061203-05	I*05	BEACON HILL ESTATES DET POND 1	3-ND	3-ND	3-ND	4A-M
NHIMP700061203-06	I*06	TR BEAVER BROOK	3-ND	3-ND	3-ND	4A-M
NHIMP700061203-07	I*07	WINDING BROOK ROAD DAM	3-ND	3-ND	3-ND	4A-M
NHIMP700061203-08	I*08	ROSLER DAM	3-ND	3-ND	3-ND	4A-M
NHIMP700061203-09	I*09	BRANCH BEAVER BROOK	3-ND	3-ND	3-ND	4A-M
NHIMP700061203-10	I*10	BEAVER BROOK	3-ND	3-ND	3-ND	4A-M
NHIMP700061203-11	I*11	UNNAMED BROOK	3-ND	3-ND	3-ND	4A-M
NHIMP700061203-12	I*12	WHEELER POND	3-ND	3-ND	3-ND	4A-M
NHIMP700061203-13	I*13	HORNS POND	3-ND	3-ND	3-ND	4A-M
NHLAK700061203-01	L*01	ADAMS POND	3-ND	3-ND	3-ND	4A-M
NHLAK700061203-02-01	L*02-01	BEAVER LAKE	3-M	3-PAS	3-ND	4A-M
NHLAK700061203-02-02	L*02-02	BEAVER LAKE - GALLIEN'S BEACH	3-M	4A-P	2-G	4A-M
NHLAK700061203-02-03	L*02-03	BEAVER LAKE - PARK BEACH	3-M	2-G	2-G	4A-M
NHLAK700061203-02-04	L*02-04	BEAVER LAKE - COMEAU'S BEACH	3-M	3-ND	3-ND	4A-M
NHLAK700061203-03-01	L*03-01	HOODS POND	3-ND	3-PAS	3-ND	4A-M
NHLAK700061203-03-02	L*03-02	HOODS POND - TOWN BEACH	3-ND	4A-P	2-G	4A-M
NHLAK700061203-04	L*04	KENDALL POND	3-M	3-ND	3-ND	4A-M
NHLAK700061203-05	L*05	RAINBOW LAKE	5-P	3-PNS	3-PAS	4A-M
NHLAK700061203-05-02	L*05-02	RAINBOW LAKE - KAREN-GENA BEACH	3-M	4A-P	2-G	4A-M
NHLAK700061203-05-03	L*05-03	RAINBOW LAKE HILMARK ASSOC	3-ND	2-G	2-G	4A-M
NHLAK700061203-06-01	L*06-01	ROBINSON POND	4A-M	4A-P	2-M	4A-M
NHLAK700061203-06-02	L*06-02	ROBINSON POND - TOWN BEACH	4A-M	4A-P	2-G	4A-M
NHLAK700061203-06-03	L*06-03	ROBINSON POND - CAMP WINAHUPE BEACH	4A-M	3-ND	3-ND	4A-M
NHLAK700061203-07	L*07	SCOBIE POND	3-ND	3-ND	3-ND	4A-M

DRAFT WATERSHED 305(b) ASSESSMENT SUMMARY REPORT:

HUC 12 010700061203

HUC 12 NAME UPPER BEAVER BROOK

(Locator map on next page only applies to this HUC12)

Assessment Cycle 2012

Good	Full Support Good
Marginal	Full Support Marginal
Likely Good	Insufficient Information – Potentially Full Support
No Data	No Data
Likely Bad	Insufficient Information – Potentially Not Support
Poor	Not Support Marginal
Severe	Not Support Severe



ASSESSMENT UNIT ID	MAP LABEL	ASSESSMENT UNIT NAME	AQUATIC LIFE	SWIMMING	BOATING	FISH CONSUMP.
NHLAK700061203-08	L*08	BEAVER BROOK	3-ND	3-ND	3-ND	4A-M
NHLAK700061203-09	L*09	REDFIELD ESTATES POND	3-ND	3-ND	3-ND	4A-M
NHLAK700061203-10	L*10	CENTURY VILLAGE POND	3-ND	3-ND	3-ND	4A-M
NHLAK700061203-11	L*11	UNNAMED POND	3-ND	3-ND	3-ND	4A-M
NHLAK700061203-12	L*12	UNNAMED POND	3-ND	3-ND	3-ND	4A-M
NHLAK700061203-13	L*13	UNNAMED POND	3-ND	3-ND	3-ND	4A-M
NHRIV700061203-01	R*01	UNNAMED BROOK - TO HURANTIS LAKE THROUGH NORTHEAST INLET	5-M	3-ND	3-ND	4A-M
NHRIV700061203-02	R*02	UNNAMED BROOK - FROM HURANTIS LAKE TO ADAMS POND	5-M	3-ND	3-ND	4A-M
NHRIV700061203-03	R*03	OLD MAIDS BROOK	3-ND	3-ND	3-ND	4A-M
NHRIV700061203-04	R*04	SALMON BROOK - COLD BROOK	3-ND	3-ND	3-ND	4A-M
NHRIV700061203-05	R*05	UNNAMED BROOK	3-ND	3-ND	3-ND	4A-M
NHRIV700061203-06	R*06	MANTER BROOK	3-PAS	3-PAS	3-PAS	4A-M
NHRIV700061203-07	R*07	SALMON BROOK	3-ND	3-ND	3-ND	4A-M
NHRIV700061203-08	R*08	CAT O BROOK NORTH	3-PAS	3-ND	3-ND	4A-M
NHRIV700061203-09	R*09	BEAVER BROOK	5-P	4A-M	3-ND	4A-M
NHRIV700061203-10	R*10	BEAVER BROOK	3-ND	3-ND	3-ND	4A-M
NHRIV700061203-11	R*11	BEAVER BROOK	5-P	3-ND	3-ND	4A-M
NHRIV700061203-12	R*12	UNNAMED BROOK	3-ND	3-ND	3-ND	4A-M
NHRIV700061203-13	R*13	UNNAMED BROOK	3-ND	3-ND	3-ND	4A-M
NHRIV700061203-14	R*14	UNNAMED BROOK	3-ND	3-ND	3-ND	4A-M
NHRIV700061203-15	R*15	UNNAMED BROOK	3-ND	3-ND	3-ND	4A-M
NHRIV700061203-16	R*16	BEAVER BROOK	5-M	2-G	2-G	4A-M
NHRIV700061203-17	R*17	UNNAMED BROOK	3-ND	3-ND	3-ND	4A-M
NHRIV700061203-18	R*18	UNNAMED BROOK	3-ND	3-ND	3-ND	4A-M
NHRIV700061203-19	R*19	UNNAMED BROOK	3-ND	3-ND	3-ND	4A-M
NHRIV700061203-20	R*20	BEAVER BROOK	5-M	3-ND	3-ND	4A-M
NHRIV700061203-21	R*21	BEAVER BROOK	5-M	2-G	2-G	4A-M
NHRIV700061203-22	R*22	BEAVER BROOK	5-P	4A-M	2-G	4A-M

DRAFT WATERSHED 305(b) ASSESSMENT SUMMARY REPORT:

HUC 12 010700061203

HUC 12 NAME UPPER BEAVER BROOK

(Locator map on next page only applies to this HUC12)

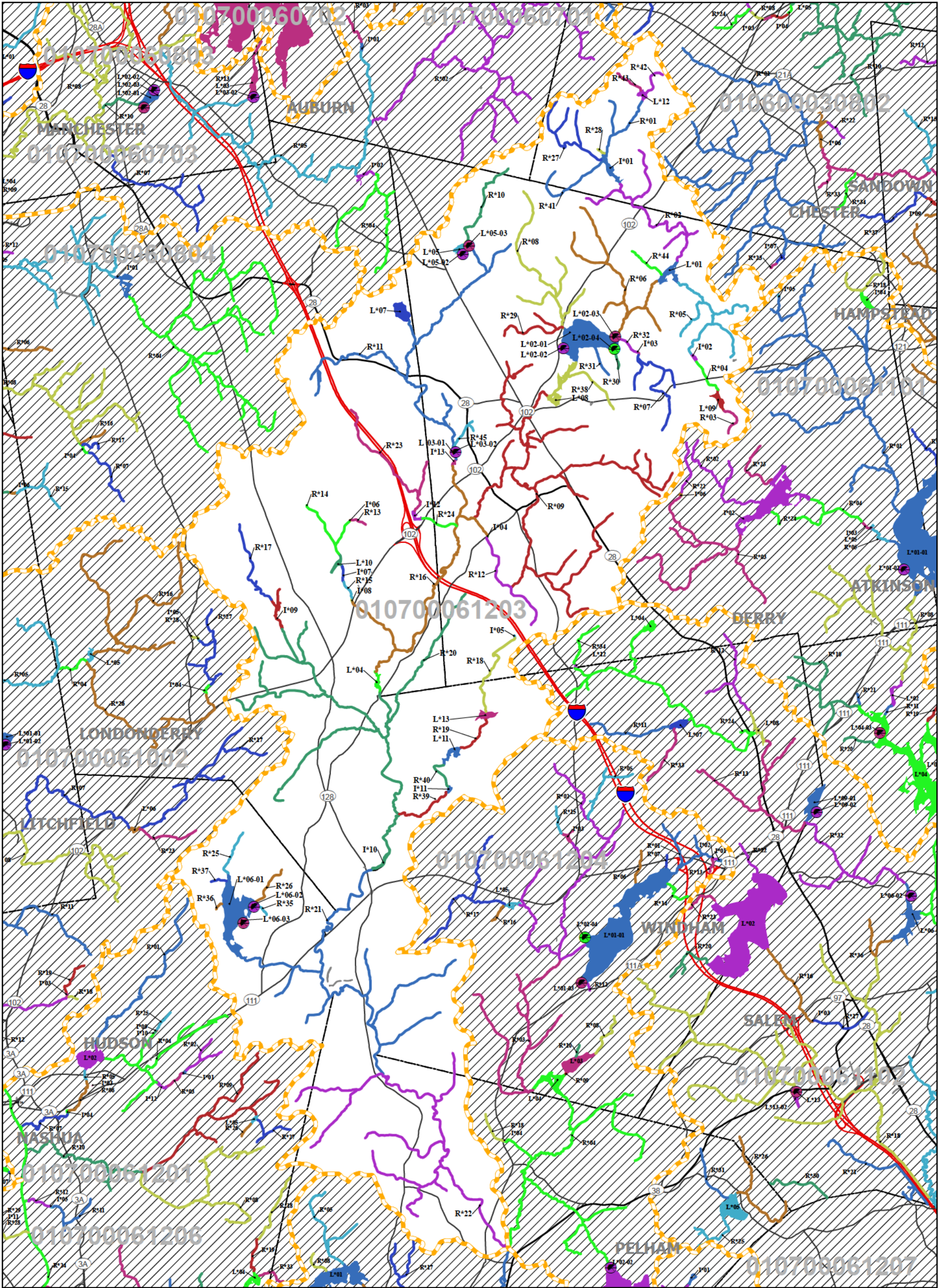
Assessment Cycle 2012

Good	Full Support Good
Marginal	Full Support Marginal
Likely Good	Insufficient Information – Potentially Full Support
No Data	No Data
Likely Bad	Insufficient Information – Potentially Not Support
Poor	Not Support Marginal
Severe	Not Support Severe



ASSESSMENT UNIT ID	MAP LABEL	ASSESSMENT UNIT NAME	AQUATIC LIFE	SWIMMING	BOATING	FISH CONSUMP.
NHRIV700061203-23	R*23	BROOK TO WHEELER POND	3-ND	3-ND	3-ND	4A-M
NHRIV700061203-24	R*24	WHEELER POND BROOK	3-ND	3-ND	3-ND	4A-M
NHRIV700061203-25	R*25	HOWARD BROOK	5-M	5-P	2-M	4A-M
NHRIV700061203-26	R*26	LAUNCH BROOK	3-PAS	4A-P	2-M	4A-M
NHRIV700061203-27	R*27	HARANTIS LAKE-NORTH COVE INLET	5-M	3-ND	3-ND	4A-M
NHRIV700061203-28	R*28	HARANTIS LAKE-GAG INLET	5-P	3-ND	3-ND	4A-M
NHRIV700061203-29	R*29	CAT O BROOK SOUTH	3-PAS	3-ND	3-ND	4A-M
NHRIV700061203-30	R*30	UNNAMED BROOK	3-ND	3-ND	3-ND	4A-M
NHRIV700061203-31	R*31	UNNAMED BROOK	3-ND	3-ND	3-ND	4A-M
NHRIV700061203-32	R*32	JENNY DICKEY BROOK	3-ND	3-ND	3-ND	4A-M
NHRIV700061203-35	R*35	ROBINSON POND-BEACH BROOK	5-M	5-G	5-G	4A-M
NHRIV700061203-36	R*36	UNNAMED BROOK	3-ND	3-ND	3-ND	4A-M
NHRIV700061203-37	R*37	JUNIPER BROOK	5-M	5-G	5-G	4A-M
NHRIV700061203-38	R*38	UNNAMED BROOK	3-ND	3-ND	3-ND	4A-M
NHRIV700061203-39	R*39	UNNAMED BROOK	3-ND	3-ND	3-ND	4A-M
NHRIV700061203-40	R*40	UNNAMED BROOK	3-ND	3-ND	3-ND	4A-M
NHRIV700061203-41	R*41	UNNAMED BROOK	3-ND	3-ND	3-ND	4A-M
NHRIV700061203-42	R*42	UNNAMED BROOK	3-ND	3-ND	3-ND	4A-M
NHRIV700061203-43	R*43	UNNAMED BROOK	3-ND	3-ND	3-ND	4A-M
NHRIV700061203-44	R*44	UNNAMED BROOK	3-ND	3-ND	3-ND	4A-M
NHRIV700061203-45	R*45	UNNAMED BROOK	3-ND	3-ND	3-ND	4A-M

AUIDs For HUC12: 010700061203 - Upper Beaver Brook



HUC12 Boundaries

Town Boundaries

Major Roads

Interstate Highway

US Highway

State Highway

Assessment Unit Coloring

AUs Ending with:

0 =

1 =

2 =

3 =

4 =

5 =

6 =

7 =

8 =

9 =



Abbrev. Label

L*03

HUC 12

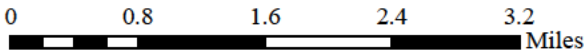
010700060201

AUID = NH

LAK

700060201-03

Assessment Unit IDs are derived from the HUC12 they reside within. The labels have been shortened on this map for presentation purposes. Example: the Label "L*03" in HUC12 = 010700060201 represents AUID = "NHLAK700060201-03" In rare cases where an AUID extends beyond the boundary of a single HUC12, additional portions of the end of the HUC 12 number have also been replaced.



Scale:1:76,480

Assessment Unit ID NHRIV700061203-11
 Assessment Unit Name BEAVER BROOK
 Primary Town DERRY

Size 7.5340 MILES

Beach N

Assessment Unit Category*~ 5-P

**DRAFT 2012, 305(b)/303(d) - All
 Reviewed Parameters by Assessment
 Unit**

Designated Use Description	*Desig. Use Category	Desig. Use Threat	Parameter Name	Parameter Threatened (Y/N)	Parameter Category*	TMDL Priority	Expected To Attain Date	Source Name (Impairments only)
Aquatic Life	5-P		Benthic-Macroinvertebrate Bioassessments (Streams)	N	3-ND			
			Chloride	N	5-P	LOW		Commerical Districts (Shopping/Office Complexes)
								Highway/Road/Bridge Runoff (Non-construction Related)
								Impervious Surface/Parking Lot Runoff
			Dissolved oxygen saturation	N	3-ND			
			Fishes Bioassessments (Streams)	N	3-ND			
			Oxygen, Dissolved	N	3-ND			
			pH	N	3-ND			
Drinking Water After Adequate Treatment	2-G							
Fish Consumption	4A-M		Mercury	N	4A-M			Atmospheric Deposition - Toxics
Primary Contact Recreation	3-ND		Escherichia coli	N	3-ND			
Secondary Contact Recreation	3-ND		Escherichia coli	N	3-ND			
Wildlife	3-ND							

Severe Not Supporting, Severe	Poor Not Supporting, Marginal	Likely Bad Insufficient Information - Potentially Not Supporting	No Data No Data	Likely Good Insufficient Information - Potentially Full Supporting	Marginal Full Support, Marginal	Good Full Support, Good
-----------------------------------------	-----------------------------------------	----------------------------------------------------------------------------	---------------------------	------------------------------------------------------------------------------	-------------------------------------------	-----------------------------------

*DES Categories; 2-G = Supports Parameter well above criteria, 2-M = Supports Parameter marginally above criteria, 2-OBS = Exceeds WQ criteria but natural therefore not a WQ exceedence, 3-ND = Insufficient Information/No data, 3-PAS= Insufficient Information/Potentially Attaining Standard, 3-PNS= Insufficient Information/Potentially Not Attaining Standard, (4A=Impaired/TMDL Completed, 4B=Impaired/Other Measure will rectify Impairment, 4C=Impaired/Non-Pollutant, 5=Impaired/TMDL needed) M=Marginal Impairment, P=Severe Impairment, T=Threatened (<http://des.nh.gov/organization/divisions/water/wmb/swqa/index.htm>)

Appendix F:
Fisheries and Aquatic Invertebrates Resource
Report and Impact Analysis

Appendix G:

Alteration of Terrain/401 Plan Set

Appendix H:

Stormwater Pollution Prevention Plan (SWPPP)(Draft)

Stormwater Pollution Prevention Plan



Eversource, Inc.

Northern Pass Transmission, LLC

Project No. 58467

October 2015

Stormwater Pollution Prevention Plan

prepared for

**Eversource, Inc.
Northern Pass Transmission, LLC
Manchester, New Hampshire**

Project No. 58467

October 2015

prepared by

**Burns & McDonnell Engineering Company, Inc.
Manchester, New Hampshire**

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DRAFT

CONTRACTOR/SUBCONTRACTOR NOTIFICATION

"I understand the terms and conditions of this SWPPP and the associated New Hampshire regulations that authorize the discharge of stormwater from construction activities associated with the Project."

Signature	For	Responsible for
<hr/> (Name)	<hr/> (Company)	<hr/>
<hr/> (Position)	<hr/> (Street / P.O. Box)	<hr/>
<hr/> (Signature)	<hr/> (City, State, Zip)	<hr/>
<hr/> (Date)	<hr/> (Phone)	<hr/> (Activity)
<hr/> (Name)	<hr/> (Company)	<hr/>
<hr/> (Position)	<hr/> (Street / P.O. Box)	<hr/>
<hr/> (Signature)	<hr/> (City, State, Zip)	<hr/>
<hr/> (Date)	<hr/> (Phone)	<hr/> (Activity)
<hr/> (Name)	<hr/> (Company)	<hr/>
<hr/> (Position)	<hr/> (Street / P.O. Box)	<hr/>
<hr/> (Signature)	<hr/> (City, State, Zip)	<hr/>
<hr/> (Date)	<hr/> (Phone)	<hr/> (Activity)
<hr/> (Name)	<hr/> (Company)	<hr/>
<hr/> (Position)	<hr/> (Street / P.O. Box)	<hr/>
<hr/> (Signature)	<hr/> (City, State, Zip)	<hr/>
<hr/> (Date)	<hr/> (Phone)	<hr/> (Activity)

TABLE OF CONTENTS

	<u>Page No.</u>
1.0 INTRODUCTION.....	1-1
1.1 Project Location	1-1
1.2 Project Route and Description	1-2
1.3 Project Owner and Operator	1-3
1.4 Contractor/Subcontractor Notification.....	1-4
1.5 Standard Permit Conditions	1-4
1.5.1 Duty to Comply with Permit Conditions	1-4
1.5.2 Final Stabilization and Termination of Coverage.....	1-5
1.5.3 Retention of Records.....	1-5
 2.0 CONSTRUCTION ACTIVITIES AND SITE DESCRIPTION.....	 2-1
2.1 Overhead Transmission Line	2-1
2.2 Underground Transmission Line	2-3
2.3 Transition Station, Converter Station and Substation Expansion	2-5
2.4 Vegetation Removal.....	2-6
2.4.1 Clearing Methods.....	2-6
2.4.2 Danger Trees	2-7
2.5 Terrain and Natural Resources.....	2-7
2.5.1 Topography	2-7
2.5.2 Soils.....	2-8
2.5.3 Wetlands	2-8
2.5.4 Vegetation	2-9
2.6 Potential Pollutants	2-9
2.6.1 Sediment to Stormwater.....	2-10
2.6.2 Sources other than Sediment to Stormwater	2-10
2.7 Site Maps and Drawings	2-10
2.8 Waterbodies	2-10
2.8.1 Receiving Waterbodies	2-11
2.8.2 Impaired Waterbodies	2-12
2.9 Sensitive Areas to be Protected.....	2-13
2.9.1 White Mountain National Forest	2-13
2.9.2 Appalachian Trail.....	2-13
2.9.3 Silvio O. Conte National Fish and Wildlife Refuge	2-13
2.9.4 Franklin Falls Dam	2-13
2.10 Protected Species and Natural Communities.....	2-13
2.10.1 Plants.....	2-13
2.10.2 Wildlife	2-15

3.0	BEST MANAGEMENT PRACTICES	3-1
3.1	Erosion and Sediment Controls	3-1
3.2	Structural Control Practices	3-2
3.2.1	Temporary Erosion and Sediment Control Practices	3-2
3.2.2	Permanent Erosion and Sediment Control Practices	3-6
3.3	Stabilization Practices	3-7
3.3.1	Seeding.....	3-7
3.3.2	Erosion Control Blanket	3-7
3.3.3	Mulching.....	3-8
3.4	Erosion and Sediment Control Maintenance	3-8
3.5	Buffer Documentation	3-8
3.6	Clean up and Site Restoration.....	3-9
3.6.1	Procedure	3-9
3.6.2	Methods for Restoration	3-9
3.7	Inspections and Corrective Actions	3-11
4.0	GOOD HOUSEKEEPING	4-1
4.1	Material Handling	4-1
4.2	Solid and Liquid Waste Disposal.....	4-1
4.3	Concrete Containment	4-1
4.4	Hazardous Material	4-1
4.5	Sanitary Waste	4-2
4.6	Non-Stormwater Discharges	4-2
4.6.1	Dust Control.....	4-2
4.6.2	Uncontaminated Air Conditioning or Compressor Condensate	4-2
4.6.3	Uncontaminated Excavation Dewatering	4-2
4.7	Vehicle Washing.....	4-2
4.8	Water Source.....	4-3
5.0	SPILL PREVENTION AND CONTROL	5-3
5.1	Material Management Practices.....	5-3
5.1.1	Non-Petroleum Products.....	5-4
5.1.2	Petroleum Products	5-4
5.2	Spill Control and Cleanup.....	5-4
6.0	ENVIRONMENTAL TRAINING.....	6-1
6.1	Level 1	6-1
6.2	Level 2	6-1
6.3	Refresher Training	6-1
6.4	Pre-construction Meetings & Walk-overs	6-1
7.0	OTHER STATE AND FEDERAL REQUIREMENTS	7-1

APPENDICES

APPENDIX A – SWPPP CERTIFICATE

APPENDIX B – GENERAL PERMIT

APPENDIX C – NOTICE OF INTENT

APPENDIX D – GENERAL VICINITY MAP

APPENDIX E – NOTICE OF TERMINATION

APPENDIX F – EROSION CONTROL BMP DRAWINGS AND DETAILS

APPENDIX G – INSPECTION AND MAINTENANCE REPORT FORM

APPENDIX H – RECORD OF REVISION AND CORRECTIVE ACTION LOG

APPENDIX I – SPILL FORMS

LIST OF TABLES

	<u>Page No.</u>
Table 1-1: Project Contacts.....	1-4
Table 2-1: Draft Project Schedule	2-1
Table 2-2: Common Soil Types	2-1
Table 2-3: Receiving Waterbodies	2-11
Table 2-4: Impaired Waterbodies	2-12
Table 2-5: Listed Plant Species and Exemplary Natural Communities.....	2-14
Table 2-6: Listed Wildlife Species and Their Distribution.....	2-15

1.0 INTRODUCTION

The U.S. Environmental Protection Agency (EPA) requires a National Pollutant Discharge Elimination System (NPDES) Permit for stormwater discharges from construction activities that disturb 1 or more acres of land. For the purposes of the NPDES program, construction activities are defined as clearing, excavating, grading, or other land-disturbing activities.

In most cases, the NPDES permit program is administered by authorized states. However, in New Hampshire this is not the case. Construction projects in New Hampshire are issued a certificate of permit coverage under the NPDES program and must follow the rules and regulations of the Construction General Permit (CGP). The Permit is issued pursuant to the Clean Water Act as amended (33 U.S.C. 1251 et. seq.). A copy of the Permit is located in Appendix B.

Coverage under the Permit is obtained by submitting an electronic Notice of Intent (eNOI) at least 14 days prior to initiation of construction activities; a copy of the authorized eNOI is located in Appendix C. A Stormwater Pollution Prevention Plan (SWPPP)¹ must be developed prior to submittal of the NOI. The SWPPP described herein establishes a plan to manage the quality of stormwater runoff from construction activities associated with the Northern Pass Transmission Project (Project) that runs through New Hampshire, starting at the Canadian border with the Town of Pittsburg and terminating in the Town of Londonderry. This SWPPP has been developed for the Project in accordance with requirements and guidelines specified in Part 7 of the CGP and in accordance with the AoT permit number (to be determined).

This document is a guide to be used by onsite construction personnel to reduce soil erosion and prevent potential onsite pollutants from leaving the Project site or entering waters of the State of New Hampshire. The SWPPP should be modified as necessary throughout the duration of the Project until final stabilization has been achieved. Best management practices (BMPs) should be moved, added, or redesigned as necessary to control erosion and sedimentation to the extent practicable. This SWPPP Plan was written with the assistance of and information from the following documents:

- New Hampshire Department of Environmental Service (NHDES) January 2010 *Best Management Practices Manual For Utility Maintenance In And Adjacent To Wetlands And Waterbodies In New Hampshire*,
- *New Hampshire Stormwater Manual, Volume 3, December 2008*, and
- EPA's 2007 *Developing Your Stormwater Pollution Prevention Plan: A Guide for Construction Sites*. Project Location and Description

¹ During a pre-application meeting with NHDES in March 2015, the agency requested that Northern Pass Transmission, LLC prepare the SWPPP document for inclusion with the Alteration of Terrain permit application to be filed with the SEC application. The SWPPP is typically prepared at point further in the design stage and after discussions have taken place with contractors which have not yet taken place. As such, this document is subject to change based on final project design and future dialogue with contractors.

1.1 Project Location

The Northern Pass Transmission Project (Northern Pass or Project) is a proposed 192-mile transmission project that will carry 1,090 MW of renewable hydroelectric power from Canada to New Hampshire (NH) and greater New England. The project will construct 158 miles of 320-kv, direct current (DC) transmission line from the Canadian border with the Town of Pittsburg to a converter terminal to be built in the Town of Franklin. There it will be converted to alternating current (AC) and sent via a 34-mile, 345-kv transmission line to a substation in the Town of Deerfield, where it will connect to the New England power grid that serves all customers in the region.

Other activities associated with the Project include upgrades to existing AC facilities (“AC System Support facilities”) at the Deerfield Substation in the Town of Deerfield and Scobie Pond Substation in the Town of Londonderry, and small modifications between these two substations along two existing 345-kV lines. Construction is scheduled to begin in the first quarter of 2017, and be completed in within 36 months. Refer to Appendix D for the Project’s General Vicinity Map.

1.2 Project Route and Description

The proposed Project route follows existing Public Service of New Hampshire (“PSNH” d/b/a Eversource Energy) transmission line right-of-way (“ROW”) or public road ROW for over 80% of its length. Within the existing PSNH ROWs, approximately 78 miles of existing transmission lines of various voltages will be relocated to make room for the new line. Approximately 32 miles of the project in northern New Hampshire will require the clearing of new ROW.

The Project route enters New Hampshire from Canada at Hall’s Stream, approximately 1,500 feet north of the Vermont state line and 1,000 feet west of Hall’s Stream Road in the Town of Pittsburg. Starting at this point, a 320-kV, DC overhead transmission line will be constructed for approximately 2 miles in new ROW. The transmission line will transition underground for approximately 0.5-mile segment beneath the Connecticut River and Route 3, resurface in the Town of Clarksville, and continue overhead for approximately 2.5 miles in new ROW to the vicinity of Wiswell Road and Route 145.

The overhead transmission line will then transition underground for an approximately 7.5-mile segment along the highway ROWs of Old County Road, North Hill Road, and Bear Rock Road, to the junction with Heath Road in the Town of Stewartstown. It will then transition to an overhead segment along a new 28-mile ROW through the towns of Stewartstown, Dixville, Millsfield, and Dummer, primarily through timber management property, and join the existing PSNH transmission ROW in the Town of Dummer near Route 16.

The overhead transmission line will then follow existing PSNH ROW for 40.5 miles to Route 302 in the Town of Bethlehem. This portion of the line passes over the Upper Ammonoosuc River in the Town of Stark, Otter Brook and the Israel River in the Town of Lancaster, John’s River in the Town of Dalton, and the Ammonoosuc River in the Town of Bethlehem. Along this segment the new transmission line will pass through, but not electrically interconnect with, the Lost Nation Substation in the Town of Northumberland and the Whitefield Substation in the Town of Whitefield.

At Route 302, the transmission line transitions underground and follows the road ROW of Routes 302, 18, 112, 116, and 3 for approximately 52 miles, through the towns of Bethlehem, Sugar Hill, Franconia, Easton, Woodstock, Thornton, Campton, Plymouth, and Bridgewater.,

The underground transmission line will then transition to overhead where the existing Eversource transmission line ROW crosses Route 3, and follows existing PSNH transmission line ROW for approximately 26 miles through the towns of Ashland, Bridgewater, Bristol, New Hampton, Hill, and Franklin. Along this segment the new transmission line will pass through, but not electrically interconnect with the Ashland Substation in Ashland, the Pemigewasset Substation in New Hampton, and the Webster Substation in the Town of Franklin. This segment of the line will pass over the Squam River (Town of Ashland), the Pemigewasset River (several towns), the Merrimack River (Franklin/Northfield townline), Turtle Pond (Town of Concord), the Soucook River (Concord/Pembroke townline), the Suncook River (Pembroke/Allenstown townline), and the Lamprey River (Town of Deerfield).

In the City of Franklin, an 8-acre converter terminal will be constructed to convert the 320-kV, DC transmission line to a 345-kV AC transmission line. The AC line will then continue overhead for 34 miles within existing PSNH ROW through the towns of Northfield and Canterbury, the City of Concord, and the Towns of Pembroke and Allenstown to the Deerfield Substation in the Town of Deerfield. This portion of the line will cross the Merrimack River (Franklin/Northfield line), Turtle Pond (City of Concord), The Soucook River (Concord/Pembroke town line), the Suncook River (Pembroke/Allenstown town line), and the Lamprey River (Town of Deerfield).

As part of the Project, minor upgrades (i.e., the replacement or vertical extension of approximately 10 existing H-frame structures) are required to two existing 345-kV transmission lines between Deerfield Substation and Scobie Pond Substation. These upgrades are required to support the operation of the new transmission interconnect resulting from the Northern Pass Project at Deerfield. The operating temperature of the lines will increase, which introduces additional line sag. The 10 structure modifications will be necessary ensure that all conductor to ground clearances meet the requirements of the National Electrical Safety Code (NESC).

1.3 Project Owner and Operator

The Project owner and operator, Eversource, Inc., is the responsible entity for completing the Project. Its address and telephone numbers are:

Eversource, Inc.
780 North Commercial Street
Manchester, NH 03101

The contact for the Project is Mr. Jerry Fortier, Project Director for Eversource, Inc. Mr. Fortier can be reached at (603) 634-2574. Burns & McDonnell Engineering Company, Inc. (BMcD) is the management company that will be overseeing the contractor(s) and subcontractor(s) responsible for verifying compliance with this SWPPP. The individuals listed in the table below can be contacted regarding the Project. This information will be updated as additional information becomes available.

Table 1-1: Project Contacts

Name	Title	Area of Responsibility	Phone Number
Jerry Fortier	Eversource; Project Director	Right-of-Way & Facilities	
John Kayser	Burns & McDonnell Project Manager	Transmission Construction	

1.4 Contractor/Subcontractor Notification

Contractor(s) and subcontractor(s) must sign a copy of the Contractor/Subcontractor Notification form (located near the front of this document, copy as needed) before initiating land disturbances or providing professional services. By signing it, organization signifies that they have read, understand, and will adhere to the SWPPP before conducting construction work that involves soil disturbance. The signed notification confirms that Burns & McDonnell has notified the contractor or subcontractor that a SWPPP has been prepared for the Project and that the contractor or subcontractor will perform the necessary actions that have been identified to comply with the SWPPP and the Permit.

1.5 Standard Permit Conditions

This section discusses Federal, State, and local penalties for non-compliance with the Permit as well as standard Permit conditions. The staff responsible for implementation of the SWPPP must be familiar with the requirements of this SWPPP and the Permit.

1.5.1 Duty to Comply with Permit Conditions

The EPA has substantial penalties for non-compliance with the Permit. Failure to comply with any Permit condition is a violation of the Clean Water Act, K.S.A 65-164 and 65-165. Any noncompliance is grounds for enforcement action, revoking or terminating authorization, or amendment of authorization.

1.5.2 Final Stabilization and Termination of Coverage

Final stabilization has been achieved when all soil-disturbing activities along the ROW and at substation, converter station, and transition station sites have been completed and a uniform (i.e., evenly distributed, without large bare areas) perennial vegetative cover has been established on all unpaved areas. The vegetative cover must have a density of at least 85 percent of the native background vegetative cover for the area to be considered stabilized². For those areas not covered by permanent structures, an equivalent permanent stabilization measure (such as the use of riprap, gabions, or geotextiles) may be used. Upon achieving final stabilization, the Notice of Termination (NOT), located in Appendix E, must be submitted to EPA for termination of Permit coverage.

1.5.3 Retention of Records

The SWPPP and a copy of the EPA-authorized NOI must be maintained onsite, unless another location was identified in the NOI, from the date of Project initiation to final stabilization. Eversource, Inc. must retain the following records for a minimum period of 3 years from the Project NOT date:

- a. SWPPP and any amendments to the SWPPP
- b. NOI indicating authorization by EPA and supporting documentation used to apply for authorization under the Permit
- c. Site inspection records
- d. Copy of the NOT

² The CGP requires “established uniform vegetation (*e.g., evenly distributed without large bare areas*), which provides 70 percent or more of the density of coverage that was provided by vegetation prior to commencing earth-disturbing activities.” NPT will comply with the stricter NHDES standard of “85% soil surface uniformly covered with healthy stand of grass”.

2.0 CONSTRUCTION ACTIVITIES AND SITE DESCRIPTION

The proposed Project will be constructed, operated, and maintained in accordance with established industry practices, as well as pursuant to Eversource's specifications. Construction, operation, and maintenance activities also will conform to any conditions identified in the Certificate of Site and Facility and in federal and state permits obtained for the Project.

As shown in Table 2-1, Eversource will construct the proposed Project in several stages beginning in the first quarter of 2017, some overlapping in time.

Table 2-1: Draft Project Schedule

Activity	Scheduled Start / Finish Date
Submit SEC Applications & Corps Permit	4 th Quarter 2015
SEC Approved & Corps Permits Complete*	4 th Quarter 2016
Relocation of Existing Utility Infrastructure	1 st Quarter 2017 / 1 st Quarter 2018
Transmission Line Construction	2 nd Quarter 2017 / 4 th Quarter 2018
Deerfield / Scobie Pond Substation Upgrades	2 nd Quarter 2017 / 4 th Quarter 2018
Franklin Converter Station	1 st Quarter 2017 / 2 nd Quarter 2019
Transmission Underground Civil installation	2 nd Quarter 2017 / 3 rd Quarter 2018
Transmission Underground Cable installation	2 nd Quarter 2017 / 3 rd Quarter 2018
Energize New NPT Transmission Line	1 st Quarter 2019 / 2 nd Quarter 2019

2.1 Overhead Transmission Line

Due to the similarities between construction methods used for AC Overhead Transmission and HVDC Overhead Transmission lines, both AC and HVDC Overhead Transmission Line construction procedures are discussed in this section.

These portions of the Project will be constructed in several stages, some overlapping in time. In some areas, existing infrastructure or existing AC lines may need to be relocated prior to the construction of the new overhead lines. Such relocations will be planned and included as part of the construction sequencing activities.

Pre-construction activities begin with surveying/flagging/re-flagging of the ROW to identify access roads, structure locations, and sensitive resource areas. Erosion control measures are installed following vegetation clearing, prior to ground disturbance, and maintained until disturbed areas have been restored. ROWs are cleared of trees and brush to provide the necessary access for construction equipment and a safe work area for crews. Clearing the ROW provides for an environment that safely and reliably supports the construction and ongoing operation of the transmission lines.

Construction vehicles must be able to access the location of each structure that will support the transmission lines. BMPs such as NHDES *Best Management Practices for Fueling and Maintenance of Excavation and Earthmoving Equipment* (WD-DWGB-22-6) will be followed to prevent spills of fuel and other hazardous materials during construction and clearing activities where equipment is refueled in the field. Access roads are constructed, typically utilizing existing roads, developing new roads or by placing timber mats. Timber mats may be used in or around wetlands to protect environmentally sensitive areas. Silt fencing and other environmental controls are also used to stabilize the soil and protect wetlands during construction. With the consent of property owners, gates are placed across new access roads where these intersect with town or state roads. Gates help deter unauthorized access to the ROW. By landowner request, gates are also installed where access roads cross agricultural land containing livestock. Access road/work area development averages two to three days on each property.

Foundations for new transmission structures are then drilled. This involves drilling large holes which are typically filled with concrete for the steel structure foundation. Drilling operations occur for a few days at each new structure location. Once drilling is complete, a steel rebar cage is placed in each hole and concrete is poured to create a secure foundation for the new steel structure. Concrete trucks are used to deliver the concrete mix for the foundations.

For lattice towers, four footings will be installed for each structure and the structure will be modified to match the location and elevation of each footing. One method is what is referred to as a grillage or overburden foundation. This type of foundation requires an excavation to occur at each of the four base corners of a lattice structure to place steel of sufficient surface area into the ground to accommodate all of the groundline reactions from the structure design. For these particular foundations, there would be no concrete requirement. Another design option would be to have caisson foundations with embedded steel stubs at each of the four corners to which the lattice structure is bolted. A foundation with a diameter of 4 feet and a depth of 20 feet would require 9.3 cubic yards of concrete at each of the 4 corner foundations. This would equate to approximately 19 tons of concrete per corner foundation or 76 tons per tangent structure.

Some structures (such as steel or wood pole single pole or H-frame structures) are installed via direct-embed where a hole is excavated or blasted to the required depth based on the height of the structure, the base of the structure is inserted, and the hole is filled with a suitable backfill, rather than concrete. Once the foundation is cured, transmission structure installation can begin. The crews will begin framing, erecting and setting the structures. The erection crews will likely utilize temporary crane pads which are approximately 5,000 to 14,000 square feet. These are used to stage structure components for final on-site assembly and to provide a safe, level work base for the construction equipment used to erect transmission structures. The new steel structures often come in sections that are assembled on or near the foundation.

Cranes and/or bucket trucks are used to lift the structures and set them into position on the foundations. Helicopters may also be used in certain areas.

Once the new structures in place the wire ("conductor") is installed. The wire stringing operation requires equipment at each end of the section that is being strung including a small work pad approximately 100 feet by 200 feet that is used for material and the puller and tensioner equipment. Wire is pulled between these "pulling sites" through stringing blocks (pulleys) at each structure. These pulling sites are set up at various intervals along the ROW, typically wire pulls are several miles in length. Specific pulling sites are determined close to the time the stringing activity takes place. Once the wire is strung, the stringing blocks are removed and the wire clipped into its final hardware attachment. Helicopters may be used during wire stringing operations. After construction activities are completed, disturbed areas will be restored to original or improved condition. Native shrubs and ground cover are allowed to regrow. Environmental controls are removed, though some may remain until the area is stabilized.

Distribution lines are lower-voltage power lines that bring electricity to customers' homes. Sometimes, these lines are on transmission ROW. During construction, the removal of existing lines is carefully coordinated with the installation of new lines to allow workers to safely perform construction while customers continue to receive electrical power with no loss of service.

Where relocations are required, new distribution poles and wires are first installed in an alternate section of the ROW. Once complete, the existing distribution line is de-energized so that power can be transferred to the newly built line. The de-energized lines are then removed so that transmission line construction can continue.

Existing structures that require removal are de-energized and the overhead wires removed. Concrete foundations are removed below grade and the area is filled. All of the demolition debris such as wood poles, steel structures, insulators, conductor and concrete is taken offsite to an approved waste management facility for recycling or disposal.

2.2 Underground Transmission Line

The HVDC Underground Transmission Line construction will progress in a linear approach similar to that of installing a water or sewer main. It is expected that work at multiple sites will occur simultaneously in order to meet the project milestones for energization and will begin by first performing survey, staking and protection of any sensitive areas, and contacting Dig Safe for demarcation of existing utilities. The installation of the underground transmission line will follow the existing highway alignment to the extent possible and will include sections that are either under the roadway, in the roadway shoulder or in undeveloped areas within the roadway layout. Where the installation is in paved road, the pavement will be saw-cut on both sides of the trench to limit impact to the road surface. In undeveloped locations, temporary roads will be constructed for safe, efficient and environmentally compliant access to the work. The trench will be excavated to the design depth and the sidewalls shored for support to allow safe worker access and protect the public. Conduits will be installed into spacers to maintain their position in the trench. The conduits will be either backfilled with a granular material or a high slump concrete, then capped with a layer of concrete for protection against accidental dig-ups. Any temporary shoring will be

removed as the trench is backfilled. After backfill, roadways will be restored and paved and undeveloped areas will be restored. No portion of the trench will be left open and unattended. At the end of each workday, the trench will be either filled and closed or covered with appropriate roadplate.

Trenches terminate either at splice pits, vaults or a transition structure. The conduit systems will be “proofed” or tested by pulling a specified dimensional mandrel through the duct from splice location to splice location. After installation and testing of the duct bank, vault and transition structure system, the conductors will be pulled to the splice locations. Conductors will be spliced in the pits, vaults or terminated at the underground to overhead transition structures. When an underground section is complete there will be a series of electrical tests performed on the cable before it is energized.

Typical techniques used for the underground construction are open trenching and direct bury duct banks with concrete caps, both described above. In some locations the use of a ‘Jack & Bore’ or Horizontal Direction Drilling is required.

Jack & Bore and micro-tunneling can be used for short distances when crossing under a railroad or highway particularly when depths exceed 20 feet. For this application, a reinforced jacking pit will be constructed to the depth of the proposed bore and similarly a reinforced receiving pit will be constructed at the termination point of the pipe. A concrete reaction wall will be poured inside the jacking pit opposite the exit point of the bore. Hydraulic equipment used to push the pipe string will be set up in the jacking pit. In Jack & Bore the pipe is pushed along its path, and spoils will be removed from the inside of the pipe by auger or by hand. Micro-tunneling is very similar to Jack & Bore, except a remote controlled boring machine goes along the bore path first excavating ahead of the pipes which are jacked in behind it as the spoils are removed. Alignment of the pipe will be monitored, and adjustments made as required until the pipe reaches the termination point in the receiving pit.

Horizontal Directional Drilling (HDD) can be used for long distance trenchless crossings. Typical applications are large stream or water body crossings. There are many advantages of HDD over conventional open trench installation such as a reduction in noise, traffic impacts, environmental impacts and duration of construction. Prior to installation, the process for HDD construction begins with establishing an electronic positioning sensor system. The crews will set up drill equipment including drill rig, mud mixer/reclaimer, pumps, miscellaneous support equipment, loaders, boom trucks and control booth. A pilot hole will be drilled using a ‘steerable’ drill bit or mud motor with electronic position sensing equipment attached to a string of steel pipe sections. The pilot hole will be drilled along the pre-determined bore path to the exit point. During the pilot hole drilling the bore will be kept full of bentonite water slurry to provide lubrication and cooling for the drill bit, to help support the hole and to carry cuttings back to the entry hole to be cleaned and reused. The mud motor will be removed when it reaches the exit pit, and replaced with a reamer bit used to enlarge the hole as the drill rig pulls the string back. During the pull back, additional pipe is attached to the reamer from the exit pit so that there will always be a string of pipe in the bore. After the reamer is pulled back, a series of larger and larger reamers are pulled through the bore until the size is adequate for pullback of the ‘casing pipe or conduit’. The casing pull back should be completed without stopping, to prevent friction buildup due to collapsed soil, so the entire length of casing is fused together into one long section before the pull back. Once the casing is in place, additional conduits may be attached or it may be terminated in a splice vault near the entry and exit pit.

Cable splice pits and vaults are installed along the underground cable route at intervals corresponding to the greatest length of cable that can be transported on a reel. This distance will vary depending upon the diameter and unit weight of the cable. Approximately 1,500 - 2,000 feet between locations is typical. The pits and vaults provide a protected location for making cable splices, and facilitate replacement cable installation when necessary. Typical vaults are constructed of precast concrete and are likely to be 6 x 8 x 20 feet. The vaults are buried with two (2) manhole covers per vault at grade.

Cable is installed using puller/tensioner equipment. A cable reel trailer with a braking system or tensioner will be stationed at one end of the pull and a cable puller will be stationed at the other end. The puller will utilize a wire rope attached to the end of the conductor to pull the conductor through the duct system.

2.3 Transition Station, Converter Station and Substation Expansion

The work activities associated with the expansion of the existing Deerfield and Scobie Pond substations, and construction of the new converter station and transition station locations are generally the same.

The Existing Substations Modifications will include connecting the new 345-kV AC line from the converter terminal to an existing terminal in the Deerfield Substation. In order to establish the new line position for the 345-kV line from the converter terminal, an existing 345-kV line connection in the substation will be relocated to an expanded area outside of the existing substation footprint. This will require the addition of terminal structures, 345-kV switches, breakers, bus work, instrument transformers and associated protection and control devices inside the existing Deerfield Substation. In addition, the 345-kV AC line from Buxton, Maine to Londonderry, New Hampshire that presently goes around the Deerfield Substation will be split into two segments and terminated at Deerfield Substation. Terminating this line at Deerfield will require the construction of an additional 345-kV bay position, which will be done within the existing substation yard. At the Scobie Pond 345-kV Substation, located in Londonderry, New Hampshire there will be 345-kV capacitor banks installed and will be constructed in an area adjacent to the existing substation yard.

The work at each station site will begin with the survey, staking and protection of any sensitive areas, access to the work site will be established and the required safety measures will be implemented to begin construction. The work site will then be cleared of any trees, shrubs and debris (if needed) and the temporary environmental erosion controls will be installed. Environmental control measures will be monitored throughout the process until the site is restored and stabilized. At this point the relocation of existing transmission or distribution lines will occur where necessary. The work site will be grubbed, stripped and graded to the designed elevations, and then the disturbed areas will be restored. Next steps will include excavating and installing foundations, drainage systems, perimeter fence, ground grid and underground conduits within the station footprint. Station materials, structures and equipment will be delivered to the site for installation. The steel structures and equipment will be installed on the foundations, buildings will be erected, control cables and conductors will be installed and terminated. Following the installation and prior to the energization an extensive electrical testing process begins to confirm that each piece of equipment and circuit is installed and operating in accordance with the specifications. As with the construction, the energization is a sequential process that energizes the

equipment and facilities in a logical order to coordinate with the equipment and system requirements to meet the project milestones. When construction is complete, final restoration of any disturbed areas will be restored. Environmental controls are removed, though some may remain until the area is completely stabilized.

2.4 Vegetation Removal

Clearing the ROW of shrubs and trees provides for an environment that safely and reliably supports the construction and ongoing operation of the transmission lines. No herbicides are used for clearing during construction or maintenance. To meet electric industry vegetation clearance standards, non-capable species of trees must be permanently removed. These are trees that could become tall enough to grow or fall into the high-voltage transmission lines.

Land clearing (forestry) contractors will be required to comply with New Hampshire Department of Resources and Economic Development (DRED), Best Management Practices for Erosion Control on Timber Harvesting Operations in New Hampshire.

2.4.1 Clearing Methods

Vegetation clearing crews must be able to access areas where vegetation removal is required for construction and within the clearance zones of the new 345-kV overhead lines, as well as to reach on-ROW or off-ROW danger and hazard trees. In order to reach areas where vegetation clearing is necessary, clearing crews will use both on- and off- ROW access roads.

During the vegetation clearing process, the Project will implement measures to minimize the environmental effects of vegetation removal. The following low-impact clearing measures may be used to minimize environmental impacts:

- a. Consider soil and weather conditions when conducting vegetation removal activities (e.g. remove vegetation during frozen ground conditions);
- b. Maximize use of uplands for clearing access routes and stockpiling cut timber and brush;
- c. Fell trees directionally (parallel to and within the ROW) to minimize impacts to off-ROW and residual vegetation, where practical;
- d. Adhere to project specific BMPs;
- e. Cut trees close to the ground, while leaving root systems and stumps, where practicable, to retain soil stability.
- f. Adhere to project-specific clearing schedules designed to protect wildlife species during critical life stages, such as breeding.

In general, the cleared areas will not be stumped or grubbed. An exception will be along areas of new ROW where the line will be installed underground. In these locations, the central portion of the ROW through which the underground conduit will be installed, and the immediately adjacent corridor will need to be stumped and grubbed to remove underground woody material and prevent the future disruption of the underground line by live roots.

2.4.2 Danger Trees

Danger trees will also be identified and cut down during vegetation removal and tree clearing stage of construction. “Danger trees” are dead, damaged, or dying trees located adjacent to the ROW itself that, due to their location or height, pose a risk of contact with the transmission line. Some danger trees may be within or adjacent to protected natural resources. Danger or hazard trees located outside the limits of the Project clearing may also be identified and removed. Landowners will be informed prior to the removal of any off-ROW danger or hazard trees.

2.5 Terrain and Natural Resources

This section describes the general topography found along the 192 mile ROW, and the soils types, wetland characteristics, and typical vegetation with regard to ecoregions.

2.5.1 Topography

The State of New Hampshire represents the northern limits of the Appalachian Highlands geologic province of the United States. Within the New Hampshire section of the Appalachian Highlands, there are three major physiographic regions: the White Mountains, the Eastern New England Upland, and the Coastal Lowland regions. The Project traverses the Eastern New England Upland and the White Mountains regions. Within these two physiographic regions, seven ecological regions are recognized: North Country, White Mountains, Connecticut River Valley, Monadnock - Sunapee Highlands, Southwest NH Lowlands, Lakes, and Merrimack River Valley.³ The majority of the Project area lies within the North Country, White Mountains, Lakes, and Merrimack River Valley regions.

The northernmost portion of the Project is located within the North Country region, north of the Presidential Range in Coös County. The terrain is generally a combination of mountains and large river valleys, including the upper reaches of the Connecticut, Androscoggin, and Ammonoosuc rivers. Elevations in this portion of the Project area range from 700 to 4,000 feet above sea level.

As it continues south, the Project crosses the White Mountains region. The White Mountains region is dominated by tall peaks, with elevations ranging from less than 1,000 to more than 6,000 feet. This region of New Hampshire is home to the Presidential Range and the upper reaches and headwaters of several rivers. The majority of the region drains into the Pemigewasset and Saco river systems, with northern portions of the region draining to the Connecticut and Androscoggin rivers.

South of the White Mountains region the Project passes through the Lakes Region, which is characterized by an abundance of lakes, hills, broad plains, and small mountain ranges. This region is home to several moderate sized rivers including the Saco, Bearcamp, and Winnepesaukee rivers. Elevations in this region

³ Sperduto, D.D. and Ben Kimball. 2011. The nature of New Hampshire: natural communities of the granite state. 1st Edition. NH Natural Heritage Bureau, Concord, NH. Pub. University Press of New England, Hanover and London, NH.