Appendix I

Field Documentation

Impoundment Studies Field Worksheets

Upper Merrimack and Pemigewasset River Study
Impoundment Survey Samples for Laboratory Analysis
Grab Sample Collection

Impoundment Survey #1
June 2009

Sampler Name: J Lefkowitz

Garvins Falls
Hooksett Falls
Amoskeag

← Sample Number Information →

		Station	Type[1]	Event	Parameter[2]	Sample Depth feet	Total Depth feet	Time Collected	Sample Date	Comments
	I	001	G	1	Chla	8	16	2:45PM	6/25/2009	1 L amber bottle
Garvins Falls	I	010	G	1	TP	3	6	3:30P	6/24/09	60 cc unfiltered
	I	010	G	1	TP N	3	6	3:30P	↓	60 cc filtered
	I	010	G	1	Chla + CN	3	6	3:30P	↓	1 L amber bottle
	I	011	G	1	TP	5	10	4:15P	6/24/09	60 cc unfiltered
	I	011	G	1	TP N	5	10	4:15P	↓	60 cc filtered
	I	011	G	1	Chla + CN	5	10	4:15P	↓	1 L amber bottle
	I	012	G	1	TP	5	10	5:00P	6/24/09	60 cc unfiltered
	I	012	G	1	TP N	5	10	5:00P	↓	60 cc filtered
	I	012	G	1	Chla + CN	5	10	5:00P	↓	1 L amber bottle
	I	012	A	1	TP	9	10	5:10P	6/24/09	60 cc unfiltered
	I	012	A	1	TP N	9	10	5:10P	↓	60 cc filtered
	I	012	A	1	CN	9	10	5:10P	↓	1 L amber bottle
Hooksett Falls	I	013	G	1	TP	8'	16	8:20A	6/25/09	60 cc unfiltered
	I	013	G	1	TP N	8'	16	8:20A	↓	60 cc filtered
	I	013	G	1	Chla + CN	8'	16	8:20A	↓	1 L amber bottle
	I	014	G	1	TP	2'	6	8:45A	6/25/09	60 cc unfiltered
	I	014	G	1	TP N	2'	6	8:45A	↓	60 cc filtered
	I	014	G	1	Chla + CN	2'	6	8:45A	↓	1 L amber bottle
	I	015	G	1	TP	5'	11	9:10A	6/25/09	60 cc unfiltered
	I	015	G	1	TP N	5'	11	9:10A	↓	60 cc filtered
	I	015	G	1	Chla + CN	5'	11	9:10A	↓	1 L amber bottle
	I	015	A	1	TP	10'	11	9:20A	↓	60 cc unfiltered
	I	015	A	1	TP N	10'	11	9:20A	↓	60 cc filtered
	I	015	A	1	CN	10'	11	9:20A	↓	1 L amber bottle
Amoskeag	I	016	G	1	TP	5'	14	1:00P	6/25/09	60 cc unfiltered
	I	016	G	1	TP N	5'	14	1:00P	↓	60 cc filtered
	I	016	G	1	Chla + CN	5'	14	1:00P	↓	1 L amber bottle
	I	017	G	1	TP	9	18	12:15P	6/25/09	60 cc unfiltered
	I	017	G	1	TP N	9	18	12:15P	↓	60 cc filtered
	I	017	G	1	Chla + CN	9	18	12:15P	↓	1 L amber bottle
	I	018	G	1	TP	5	11	11:40A	↓	60 cc unfiltered
	I	018	G	1	TP N	5	11	11:40A	↓	60 cc filtered
	I	018	G	1	Chla + CN	5	11	11:40A	↓	1 L amber bottle
	I	017	A	1	TP	16	18	12:20P	↓	60 cc unfiltered
	I	017	A	1	TP N	16	18	12:20P	↓	60 cc filtered
	I	017	A	1	CN	16	18	12:20P	↓	1 L amber bottle

1) C: spatial composite; G: grab sample; R: equipment rinsate; B: blank; D: duplicate
2) TP: total phosphorus; PhChla: phytoplankton chlorophyll-a

Upper Merrimack and Pemigewasset River Study
Impoundment Survey Samples for Laboratory Analysis
Grab Sample Collection

Impoundment Survey #1
June 2009

Ayers Island
Franklin Falls
Eastman Falls

Sampler Name: Jamie Iefkowitz

← Sample Number Information →

		Station	Type[1]	Event	Parameter[2]	Sample Depth feet	Total Depth feet	Time Collected	Sample Date	Comments
	I	001	G	1	Chla	8	16	2:45 PM	6/25/2009	1 L amber bottle
Ayers Island	I	001	G	1	TP	5	13.5	12:15 P	6/23/09	60 cc unfiltered
	I	001	G	1	~~TP~~ N	5	13.5	12:15 P	↓	60 cc filtered
	I	001	G	1	Chla + CN	5	13.5	12:15P	↓	1 L amber bottle
	I	002	G	1	TP	10	23.0	1:10 P	↓	60 cc unfiltered
	I	002	G	1	~~TP~~ N	10	23.0	1:10 P	↓	60 cc filtered
	I	002	G	1	Chla + CN	10	23.0	1:10 P	↓	1 L amber bottle
	I	003	G	1	TP	10	24.0	2:20 P		60 cc unfiltered
	I	003	G	1	~~TP~~ N	10	24.0	2:20 P		60 cc filtered
	I	003	G	1	Chla + CN	10	24.0	2:20 P		1 L amber bottle
	I	002	A	1	TP	20	23.0	1:22 P	6/23/09	60 cc unfiltered
	I	002	A	1	~~TP~~ N	20	23.0	1:22 P	6/23/09	60 cc filtered
	I	002	A	1	CN	20	23.0	1:22 P	6/23/09	1 L amber bottle
Franklin Falls	I	004	G	1	TP	9	18	10:40A	6/24/09	60 cc unfiltered
	I	004	G	1	~~TP~~ N	9	18	10:40A	↓	60 cc filtered
	I	004	G	1	Chla + CN	9	18	10:40A	↓	1 L amber bottle
	I	005	G	1	TP	10	22.5	9:45A	6/24/09	60 cc unfiltered
	I	005	G	1	~~TP~~ N	10	22.5	9:45 A	↓	60 cc filtered
	I	005	G	1	Chla + CN	10	22.5	9:45A	↓	1 L amber bottle
	I	006	G	1	TP	10	23.0	9:05 A	6/24/09	60 cc unfiltered
	I	006	G	1	~~TP~~ N	10	23.0	9:05 A	↓	60 cc filtered
	I	006	G	1	Chla + CN	10	23.0	9:05A	↓	1 L amber bottle
	I	005	A	1	TP	20	22.5	10:00 A	6/24/09	60 cc unfiltered
	I	005	A	1	~~TP~~ N	20	22.5	10:00A	↓	60 cc filtered
	I	005	A	1	CN	20	22.5	10:00A	↓	1 L amber bottle
Eastman Falls	I	007	G	1	TP	10	29.0	12:10 P	6/24/09	60 cc unfiltered
	I	007	G	1	~~TP~~ N	10	29.0	12:10 P	↓	60 cc filtered
	I	007	G	1	Chla + CN	10	29.0	12:10 P	↓	1 L amber bottle
	I	008	G	1	TP	10	20	12:50 P	6/24/09	60 cc unfiltered
	I	008	G	1	~~TP~~ N	10	20	12:50 P	↓	60 cc filtered
	I	008	G	1	Chla + CN	10	20	12:50P	↓	1 L amber bottle
	I	009	G	1	TP	15	38	1:20P	6/24/09	60 cc unfiltered
	I	009	G	1	~~TP~~ N	15	38	1:20P	↓	60 cc filtered
	I	009	G	1	Chla + CN	15	38	1:20P	↓	1 L amber bottle
	I	007	A	1	TP	25	29	12:25P	6/24/09	60 cc unfiltered
	I	007	A	1	TP	25	29	12:25P	↓	60 cc filtered
	I	007	A	1	CN	25	29	12:25P	↓	1 L amber bottle

1) C: spatial composite; G: grab sample; A: additional depth sample; R: equipment rinsate; B: blank; D: duplicate
2) TP: total phosphorus; Chla: chlorophyll-a; CN: particulate C&N
N: nutrients

Upper Merrimack and Pemigewasset River Study
Impoundment Survey Samples for Laboratory Analysis
Grab Sample Collection

Impoundment Survey #1
June 2009

QA/QC Samples

Sampler Name: Jamie Lefkowitz

← Sample Number Information →

		Station	Type[1]	Event	Parameter[2]	Sample Depth feet	Total Depth feet	Time Collected	Sample Date	Comments
	I	001	G	1	Chla	8	16	2:45PM	6/25/2009	1 L amber bottle
Duplicates	I	003	D	1	TP	10	24	2:20P	6/23/09	not filtered
	I	003	D	1	~~TP~~ N	10	24	2:20P	↓	filtered
	I	003	D	1	Chla + C&N	10	24	2:20P	↓	1 L amber bottle
	I	008	D	1	TP	10	20	12:50P	6/24/09	not filtered
	I	008	D	1	~~TP~~ N	10	20	12:50P	↓	filtered
	I	008	D	1	C&N	10	20	12:50P	↓	1 L amber bottle
Blanks	I	020	B	1	TP	NA	NA	4:00P	6/24/09	not filtered
	I	020	B	1	~~TP~~ N	NA	NA	4:00P	↓	filtered
	I	020	B	1	Chla + C&N	NA	NA	4:00P	↓	1 L amber bottle
	I	022	B	1	TP	NA	NA		6/25/09	not filtered
	I	022	B	1	TP	NA	NA		↓	filtered
	I	022	B	1	C&N	NA	NA		↓	1 L amber bottle
Equipment Risnse	I	019	R	1	TP	NA	NA	9:00A	6/24/09	not filtered
	I	019	R	1	~~TP~~ N	NA	NA	9:00A	↓	filtered
	I	019	R	1	Chla + C&N	NA	NA	9:00A	↓	1 L amber bottle
	I	021	R	1	TP	NA	NA	8:20A	6/25/09	not filtered
	I	021	R	1	TP	NA	NA	8:20A	↓	filtered
	I	021	R	1	C&N	NA	NA	8:20A	↓	1 L amber bottle

1) C: spatial composite; G: grab sample; R: equipment rinsate; B: blank; D: duplicate
2) TP: total phosphorus; Chla: chlorophyll-a

Upper Merrimack and Pemigewasset River Study
Impoundment Stratification Survey Field Worksheet
In-Situ Data Collection

Ayers Island Impoundment

Sampler Name: Jamie Lefkowitz

Date/Time: 6/23/2009 12:30 pm

Sampling Station #: I001

Weather Conditions

Temperature: 67°F

Wind: very little / none

Cloud Cover: overcast

Precipitation: none

Secchi Disk Depth

down: 11' (all) up: NA

Comment: Secchi was visible for entire depth

Depth feet	Temp °C	pH	DO % sat	DO mg/l	Cond uS/cm	Comments
8	16.48	6.80	96.0	9.44	37	no apparent stratification
7	16.49	6.75	95.3	9.3	39	
6	16.49	6.74	95.2	9.29	39	
5	16.49	6.72	94.5	9.23	39	
4	16.50	6.72	94.5	9.22	39	
3	16.52	6.71	94.4	9.21	39	
2	16.60	6.71	94.3	9.19	37	

Upper Merrimack and Pemigewasset River Study
Impoundment Stratification Survey Field Worksheet
In-Situ Data Collection

Ayers Island Impoundment

Sampler Name: Jamie Lefkowitz

Date/Time: 6/23/2009 1:40 - 1:55

Sampling Station #: I002

Weather Conditions

Temperature: 68°F

Wind: none

Cloud Cover: overcast

Precipitation: random drizzle, not much

Secchi Disk Depth

down: 11.4 up: 10.1

Comment:

Depth feet	Temp °C	pH	DO % sat	DO mg/l	Cond uS/cm	Comments
20	16.54	6.61	2.2	0.23 ~~0.20~~	~~35~~ 45	very low DO
18	16.51	6.61	2.1	0.20	45	probe may have been in debris
16	16.53	6.60	89.0	8.69	41	DO jumped up
14	16.54	6.59	90.1	8.79	40	
12	16.55	6.59	90.8	8.87	39	
10	16.56	6.60	91.2	8.89	38	
8	16.60	6.60	91.6	8.93	38	
6	16.64	6.60	91.4	8.90	38	
4	16.75	6.60	91.7	8.91	38	
2	16.89	6.60	92.2	8.93	38	

Upper Merrimack and Pemigewasset River Study
Impoundment Stratification Survey Field Worksheet
In-Situ Data Collection

Ayers Island Impoundment

Sampler Name: Jamie Lefkowitz

Date/Time: 6/23/2009 2:30P

Sampling Station #: I003

Weather Conditions

Temperature: 67°F

Wind: none

Cloud Cover: overcast

Precipitation: none

Secchi Disk Depth

down: 10.3 up: 9.3

Comment: total depth ~26'

Depth feet	Temp °C	pH	DO % sat	DO mg/l	Cond uS/cm	Comments
~~22~~ 24	16.35	6.53	93.2	9.14	32	
~~20~~ 22	16.40	6.54	92.7	9.07	33	
~~18~~ 20	16.45	6.54	92.2	9.01	34	
~~16~~ 18	16.46	6.55	92.0	8.99	34	
16	16.47	6.55	91.7	8.95	34	
14	16.48	6.54	91.4	8.93	34	
12	16.49	6.54	91.4	8.93	35	
10	16.53	6.55	91.8	8.96	35	
8	16.54	6.55	92.1	8.99	34	
6	16.53	6.55	92.6	9.04	33	
4	16.61	6.55	92.0	8.96	35	
2	17.04	6.58	92.2	8.90	36	

Upper Merrimack and Pemigewasset River Study
Impoundment Stratification Survey Field Worksheet
In-Situ Data Collection

Franklin Falls Impoundment

Sampler Name: Jamie Lefkowitz

Date/Time: 6/24/09

Sampling Station #: 004

Weather Conditions

Temperature: 70°F

Wind: calm

Cloud Cover: cloudy, overcast

Precipitation: none (scattered sprinkles before)

Secchi Disk Depth

down: 7.9 up: 7.1

Comment: total depth ~18.5'

Depth feet	Temp °C	pH	DO % sat	DO mg/l	Cond uS/cm	Comments
18	16.97	6.67	93.2	9.01	34	
16	16.97	6.67	93.2	9.01	34	
14	16.97	6.68	93.3	9.02	34	
12	16.99	6.67	93.3	9.03	34	
10	17.00	6.67	93.3	9.02	34	
8	16.98	6.67	93.4	9.03	34	
6	17.01	6.67	93.3	9.02	34	
4	17.04	6.67	93.5	9.02	34	
2	17.08	6.67	93.3	9.00	35	

Upper Merrimack and Pemigewasset River Study
Impoundment Stratification Survey Field Worksheet
In-Situ Data Collection

Franklin Falls Impoundment

Sampler Name: Jamie Lefkowitz

Date/Time: 6/24/09 10:10 A

Sampling Station #: 005

Weather Conditions

Temperature: 68°F - 70°F

Wind: Calm

Cloud Cover: cloudy

Precipitation: none

Secchi Disk Depth

down: 8.1 up: 7.5

Comment:

total depth 22.5'

Depth feet	Temp °C	pH	DO % sat	DO mg/l	Cond uS/cm	Comments
20	17.05	6.69	93.8	9.06	34	
18	17.05	6.68	93.6	9.04	34	
16	17.05	6.68	93.7	9.05	34	
14	17.05	6.68	93.8	9.06	34	
12	17.05	6.68	93.7	9.05	34	
10	17.05	6.68	93.7	9.05	34	
8	17.06	6.69	93.8	9.06	34	
6	17.06	6.69	93.9	9.06	34	
4	17.08	6.69	93.9	9.06	34	
2	17.20	6.68	94.0	9.06	34	

Upper Merrimack and Pemigewasset River Study
Impoundment Stratification Survey Field Worksheet
In-Situ Data Collection

Franklin Falls Impoundment

Sampler Name: Jamie Lefkowitz
Date/Time: 6/24/09 9:15 A

Sampling Station #: 006

Weather Conditions

Temperature: 65°F
Wind: Breezy ~ 5 mph, gusts <10?
Cloud Cover: mostly cloudy, sun at times
Precipitation: none

Secchi Disk Depth

down: 7.5 up: 6.9
Comment: rippled water
total depth = 23'

Depth feet	Temp °C	pH	DO % sat	DO mg/l	Cond uS/cm	Comments
22	17.07	6.75	94.3	9.10	35	
20	17.08	6.75	94.4	9.11	35	
18	17.09	6.73	94.4	9.11	35	
16	17.09	6.73	94.4	9.11	35	
14	17.09	6.73	94.5	9.12	35	
12	17.10	6.72	94.6	9.13	35	
10	17.16	6.72	94.6	9.11	35	
8	17.18	6.72	94.8	9.12	35	
6	17.23	6.73	94.8	9.12	35	
4	17.24	6.72	94.8	9.12	35	
2	17.37	6.72	94.9	9.10	35	

Upper Merrimack and Pemigewasset River Study
Impoundment Stratification Survey Field Worksheet
In-Situ Data Collection

Eastman Falls Impoundment

Sampler Name: Jamie Lefkowitz

Date/Time: 6/24/09 12:25 P

Sampling Station #: 007

Weather Conditions

Temperature: 70°F

Wind: calm

Cloud Cover: overcast

Precipitation: spotty showers

Secchi Disk Depth

down: 8.3 up: 8.1

Comment: total depth 29'

Depth feet	Temp °C	pH	DO % sat	DO mg/l	Cond uS/cm	Comments
28	17.26	6.67	94.8	9.12	35	taking 4' intervals bc
26						of rain & not low DO
24	17.26	6.69	94.4	9.08	35	on bottom
22						
20	17.26	6.69	94.4	9.08	35	
18						
16	17.26	6.68	94.2	9.06	35	
14						
12	17.27	6.67	94.3	9.07	35	
10						
8	17.28	6.68	94.6	9.09	35	
6						
4	17.29	6.69	94.5	9.07	35	
2	17.32	6.68	94.4	9.07	35	

Upper Merrimack and Pemigewasset River Study
Impoundment Stratification Survey Field Worksheet
In-Situ Data Collection

Eastman Falls Impoundment

Sampler Name: J Lefkowitz

Date/Time: 6/24/09 1:00P

Sampling Station #: 008

Weather Conditions

Temperature: 70°F

Wind: slight breeze

Cloud Cover: overcast, spotty sun

Precipitation: spotty showers

Secchi Disk Depth

down: 7.2 up: 7.5

Comment: total depth 20'

Depth feet	Temp °C	pH	DO % sat	DO mg/l	Cond uS/cm	Comments
18	17.19	6.66	94.1	9.06	35	
16	17.19	6.66	94.1	9.06	35	
14	17.19	6.67	94.2	9.07	35	
12	17.21	6.66	94.2	9.07	35	
10	17.22	6.66	94.3	9.07	35	
8	17.24	6.67	94.4	9.08	35	
6	17.27	6.66	94.5	9.09	35	
4	17.35	6.67	94.6	9.08	35	
2	17.66	6.68	95.1	9.08	35	

Upper Merrimack and Pemigewasset River Study
Impoundment Stratification Survey Field Worksheet
In-Situ Data Collection

Eastman Falls Impoundment

Sampler Name: J Lefkowitz

Date/Time: 6/24/09

Sampling Station #: 009

Weather Conditions

Temperature: 68-70°F

Wind: breezy

Cloud Cover: overcast, partly sunny

Precipitation: spotty showers

Secchi Disk Depth

down: 7.2' up: 6.2'

Comment:

total depth ~36-38'

Depth feet	Temp °C	pH	DO % sat	DO mg/l	Cond uS/cm	Comments
36	17.20	6.66	94.1	9.05	35	measuring every 4ft
34	~~17.25~~	~~6.66~~				unless see change
32	17.25	6.66	94.2	9.06	35	
30						
28	17.27	6.66	94.4	9.07	35	
26						
24	17.24	6.66	94.3	9.07	35	
22						
20	17.27	6.66	94.3	9.07	35	
18						
16	17.25	6.66	94.3	9.06	35	
14						
12	17.20	6.66	94.2	9.06	35	
10						
8	17.20	6.66	94.2	9.07	35	
6						
4	17.30	6.66	94.5	9.08	35	
2	17.56	6.67	95.0	9.08	35	

Upper Merrimack and Pemigewasset River Study
Impoundment Stratification Survey Field Worksheet
In-Situ Data Collection

Garvins Falls Impoundment

Sampler Name: Lefkowitz

Date/Time: 6/24/2009

Sampling Station #: 010

Weather Conditions

Temperature: 70° F

Wind: breezy

Cloud Cover: overcast

Precipitation: none

Secchi Disk Depth

down: up:

Comment: fast flow, unable to drop disc

Depth feet	Temp °C	pH	DO % sat	DO mg/l	Cond uS/cm	Comments
3'	18.64	6.93	96.3	9.00	56	
2'	18.65	6.93	96.3	8.99	56	

Upper Merrimack and Pemigewasset River Study
Impoundment Stratification Survey Field Worksheet
In-Situ Data Collection

Garvins Falls Impoundment

Sampler Name: J Lefkowitz

Date/Time: 6/24/09 4:30 PM

Sampling Station #: 011

Weather Conditions

Temperature: 67°F

Wind: breeze

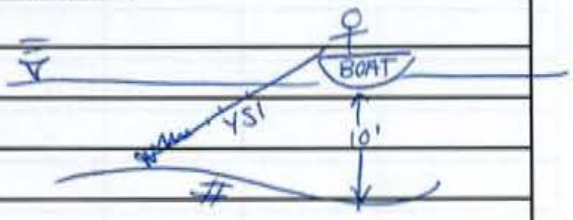
Cloud Cover: overcast

Precipitation: spotty showers

Secchi Disk Depth

down: up:

Comment: too high flow can't lower disc

Depth feet	Temp °C	pH	DO % sat	DO mg/l	Cond uS/cm	Comments
18'	18.64	6.90	95.3	8.90	56	see field book notes
16	18.65	6.9	95.3	8.90	56	for diagram of
14						YSI set-up;
12	18.65	6.90	95.3	8.90	56	unable to drop
10						YSI more than 3'
8	18.65	6.90	95.3	8.91	56	down
6						
4						
2	18.65	6.9	95.3	8.90	56	
↑ actual depth @ 2'						

Upper Merrimack and Pemigewasset River Study
Impoundment Stratification Survey Field Worksheet
In-Situ Data Collection

Garvins Falls Impoundment

Sampler Name: J Lefkowitz

Date/Time: 6/24/06 5:20 PM

Sampling Station #: 012

Weather Conditions

Temperature: 68°F

Wind: calm

Cloud Cover: overcast

Precipitation: none

Secchi Disk Depth

down: up:

Comment: unable to lower disc, high flow

Depth feet	Temp °C	pH	DO % sat	DO mg/l	Cond uS/cm	Comments
12	18.63	6.91	95.0	8.87	56	see notes for I011
10	18.63	6.91	94.9	8.86	56	for how YSI was
8	18.64	6.91	94.9	8.87	56	done
6						
4	18.64	6.90	94.8	8.86	56	
2	18.64	6.90	94.9	8.86	56	

Upper Merrimack and Pemigewasset River Study
Impoundment Stratification Survey Field Worksheet
In-Situ Data Collection

Hooksett Falls Impoundment

Sampler Name: Jlefkowitz

Date/Time: 6/25/09 8:30A

Sampling Station #: 013

total depth = 16'

Weather Conditions

Temperature: 65-67°F

Wind: calm

Cloud Cover: mostly cloudy

Precipitation: none

Secchi Disk Depth

down: up:

Comment: too much flow for secchi

Depth feet	Temp °C	pH	DO % sat	DO mg/l	Cond uS/cm	Comments
20	18.61	6.94	94.3	8.82	59	high flow, see notes
18	18.61	6.93	94.2	8.81	59	for Garvins Falls
16	18.61	6.93	94.4	8.82	59	on how YSI depths
14	18.61	6.93	94.4	8.82	59	were done
12	18.61	6.93	94.4	8.83	59	
10	18.61	6.93	94.4	8.83	59	
8	18.61	6.92	94.3	8.82	59	
6	18.60	6.93	94.4	8.83	59	
4	18.60	6.93	94.5	8.84	59	
2	18.61	6.92	94.5	8.83	59	(actual depth)

Upper Merrimack and Pemigewasset River Study
Impoundment Stratification Survey Field Worksheet
In-Situ Data Collection

Hooksett Falls Impoundment

Sampler Name: Jefkowitz

Date/Time: 6/25/09 8:50A

Weather Conditions

Temperature: 68-70° F

Wind: calm

Cloud Cover: mostly cloudy

Precipitation: none

Sampling Station #: 014

total depth 6'

Secchi Disk Depth

down: up:

Comment: too much flow for secchi

Depth feet	Temp °C	pH	DO % sat	DO mg/l	Cond uS/cm	Comments
5	18.61	6.93	94.6	8.84	59	
4	18.61	6.92	94.5	8.84	59	
3	18.62	6.92	94.6	8.84	59	
2	18.62	6.92	94.6	8.84	59	

Upper Merrimack and Pemigewasset River Study
Impoundment Stratification Survey Field Worksheet
In-Situ Data Collection

Hooksett Falls Impoundment

Sampler Name: Jlefkowitz

Date/Time: 6/25/2009 9:30A

Sampling Station #: 015

Weather Conditions

Temperature: 70-72°F

Wind: calm

Cloud Cover: mostly cloudy

Precipitation: none

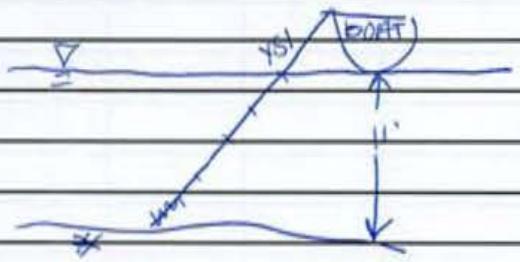
total depth 11'

Secchi Disk Depth

down: up:

Comment:

too much flow for DSC

Depth feet	Temp °C	pH	DO % sat	DO mg/l	Cond uS/cm	Comments
~~10~~ 12	19.22	6.90	94.8	8.75	60	flow causing some
~~8~~ 10	19.23	6.90	94.7	8.75	60	sideways movement, not
~~6~~ 8	19.23	6.90	94.8	8.75	60	as bad as Garvins or
~~4~~ 6	19.23	6.90	94.8	8.75	60	I013
~~2~~ 4	19.24	6.90	94.8	8.75	60	
2	19.25	6.90	94.8	8.75	60	

Upper Merrimack and Pemigewasset River Study
Impoundment Stratification Survey Field Worksheet
In-Situ Data Collection

Amoskeag Impoundment

Sampler Name: Jlefkowitz

Date/Time: 6/25/09 1:10P

Weather Conditions

Temperature: 75°F +

Wind: none

Cloud Cover: partly cloudy/sunny

Precipitation: none

Sampling Station #: 016

total depth 14'

Secchi Disk Depth

down: 5.2 up: 4.8

Comment:

flow pushing disc DS

Depth feet	Temp °C	pH	DO % sat	DO mg/l	Cond uS/cm	Comments
~~12~~ 14	19.80	6.88	98.8	9.01	61	see notes for 018...
~~16~~ 12						
10	19.82	6.89	98.7	9.01	61	
8						
6	19.85	6.88	98.5	8.98	61	
4						
2	19.86	6.89	98.7	8.99	61	

Upper Merrimack and Pemigewasset River Study
Impoundment Stratification Survey Field Worksheet
In-Situ Data Collection

Amoskeag Impoundment

Sampler Name: JLefkowitz

Date/Time: 6/25/09 12:30P

Sampling Station #: 017

Weather Conditions

Temperature: 75°F ±

Wind: breezy

Cloud Cover: partly cloudy/sunny

Precipitation: none

total depth 18'

Secchi Disk Depth

down: 5.9' up: 5.0'

Comment: flow was pushing disc D/S

Depth feet	Temp °C	pH	DO % sat	DO mg/l	Cond uS/cm	Comments
20	19.55	6.81	99.1	9.09	62	see 018 notes
18	19.55	6.82	98.9	9.07	62	
16	19.55	6.83	98.7	9.05	62	
14	19.55	6.84	98.6	9.04	62	
12						
10	19.56	6.84	98.5	9.03	62	
8						
6	19.57	6.85	98.4	9.03	62	
4	19.56	6.85	98.3	9.01	62	
2	19.58	6.86	98.2	9.01	62	

Upper Merrimack and Pemigewasset River Study
Impoundment Stratification Survey Field Worksheet
In-Situ Data Collection

Amoskeag Impoundment

Sampler Name: JLefkowitz

Date/Time: 6/25/09

Sampling Station #: 018

Weather Conditions

Temperature: 75°F

Wind: Calm

Cloud Cover: Partly cloudy

Precipitation: none

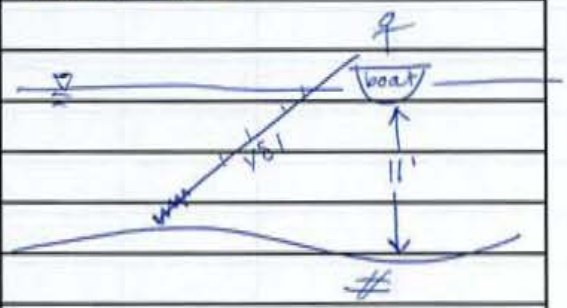
total depth 11ft

Secchi Disk Depth

down: up:

Comment: too much flow for secchi

Depth feet	Temp °C	pH	DO % sat	DO mg/l	Cond uS/cm	Comments
12	19.53	6.88	97.2	8.92	62	see Garvins falls notes
10	19.53	6.88	97.1	8.91	62	for how YSI measurements
8	19.54	6.88	97.1	8.91	62	were done
6	19.53	6.88	97.1	8.91	62	
4	19.55	6.87	96.9	8.89	62	
2	19.57	6.87	97.1	8.9	62	



Upper Merrimack and Pemigewasset River Study
Impoundment Survey Samples for Laboratory Analysis
Grab Sample Collection

Impoundment Survey #2
July 2009

Sampler Name: Jlefkowitz

Ayers Island
Franklin Falls
Eastman Falls
Garvins Falls

← Sample Number Information →

		Station	Type[1]	Event	Parameter[2]	Sample Depth feet	Total Depth feet	Time Collected	Sample Date	Comments
	I	001	G	1	Chla	8	16	2:45 PM	6/25/2009	1 L amber bottle
Ayers Island	I	001	G	2	TP	5'	12'	9:30 A	7/27/09	60 cc
	I	001	G	2	Chl-a					1 L amber bottle
	I	002	G	2	TP	5'	23.5'	10:00A		60 cc
	I	002	G	2	Chl-a					1 L amber bottle
	I	003	G	2	TP	5'	34'	10:35A		60 cc
	I	003	G	2	Chl-a					1 L amber bottle
	I	003	A	2	TP	30'	34	10:35A		60 cc
Franklin Falls	I	004	G	2	TP	15'	17'	1:20P	7/27/09	60 cc
	I	004	G	2	Chl-a					1 L amber bottle
	I	005	G	2	TP	5'	22'	1:00P		60 cc
	I	005	G	2	Chl-a					1 L amber bottle
	I	006	G	2	TP	5'	22'	12:25P		60 cc
	I	006	G	2	Chl-a					1 L amber bottle
	I	006	A	2	TP	20'	22'			60 cc
Eastman Falls	I	007	G	2	TP	5'	29.5'	9:00A	7/28/09	60 cc
	I	007	G	2	Chl-a					1 L amber bottle
	I	008	G	2	TP	5'	25' ~~22'~~	9:30 A		60 cc
	I	008	G	2	Chl-a					1 L amber bottle
	I	009	G	2	TP	5'	27'	10:00A		60 cc
	I	009	G	2	Chl-a					1 L amber bottle
	I	009	A	2	TP	25'	27'	10:05A		60 cc
Garvins Falls	I	010	G	2	TP	5'	8+'	11:40A	7/28/09	60 cc
	I	010	G	2	Chl-a					1 L amber bottle
	I	011	G	2	TP	5'	13'+	12:30		60 cc
	I	011	G	2	Chl-a					1 L amber bottle
	I	012	G	2	TP	5'	11'+	1:10P		60 cc
	I	012	G	2	Chl-a					1 L amber bottle
	I	012	A	2	TP	12'~	13'+	12:30		60 cc

1) C: spatial composite; G: grab sample; A: additional depth sample; R: equipment rinsate; B: blank; D: duplicate
2) TP: total phosphorus; Chla: chlorophyll-a; CN: particulate C&N

✓

Upper Merrimack and Pemigewasset River Study
Impoundment Survey Samples for Laboratory Analysis
Grab Sample Collection

Impoundment Survey #2
July 2009

Hooksett Falls
Amoskeag
QA/QC

Sampler Name: Lefkowitz

	Sample Number Information										
		Station	Type[1]	Event	Parameter[2]	Sample Depth feet	Total Depth feet	Time Collected	Sample Date	Comments
	I	001	G	1	Chla	8	16	2:45 PM	6/25/2009	1 L amber bottle
Hooksett Falls	I	013	G	2	TP	5'	8'	8:20A	7/29/09	60 cc
	I	013	G	2	Chl-a					1 L amber bottle
	I	014	G	2	TP	5'	13'	8:55A		60 cc
	I	014	G	2	Chl-a					1 L amber bottle
	I	015	G	2	TP	5'	13'	9:20A		60 cc
	I	015	G	2	Chl-a					1 L amber bottle
	I	0	A	2	TP	10'	13'	9:25A		60 cc
Amoskeag	I	016	G	2	TP	5'	14'	11:55A	7/29/09	60 cc
	I	016	G	2	Chl-a					1 L amber bottle
	I	017	G	2	TP	5'	14'	~~10:40A~~ 11:35A		60 cc
	I	017	G	2	Chl-a					1 L amber bottle
	I	018	G	2	TP	5'	11'	10:45A		60 cc
	I	018	G	2	Chl-a					1 L amber bottle
	I	018	A	2	TP	10'	11'	10:50A		60 cc
Dups	I	104	D	2	TP	5'	17'	1:20P	7/27/09	60 cc
	I	107	D	2	TP	5'	29.5'	9:00A	7/28/09	60 cc
	I	107	D	2	Chl-a	5'	29.5'	9:00A	7/28/09	1 L amber bottle
Blanks	I	202	B	2	TP	NA	NA	10:30A	7/27/09	60 cc
	I	209	B	2	TP			10:20A	7/28/09	60 cc
	I	202	B	2	Chl-a			10:30A	7/27/09	1 L amber bottle
Rinses	I	305	R	2	TP	NA	NA	1:00P	7/27/09	60 cc
	I	310	R	2	TP			11:40A	7/28/09	60 cc
	I	305	R	2	Chl-a			1:00P	7/27/09	1 L amber bottle

1) C: spatial composite; G: grab sample; A: additional depth sample; R: equipment rinsate; B: blank; D: duplicate

2) TP: total phosphorus; Chla: chlorophyll-a; CN: particulate C&N

Upper Merrimack and Pemigewasset River Study
Drinking Water Treatability Sampling **Sample #1 July 2009**
Grab Sample Collection

Sampler Name: Hefkowitz
Date/Time: 7/29/2009
Weather Conditions

Weather Conditions
Temperature: 85-90°F
Wind: calm
Cloud Cover: sunny
Precipitation: none

Additional Sampling Notes:

Time Collected	Parameter	Bottle Type	Notes
10:50A	Dissolved Organic Carbon	125 mL amber glass	
	UV254 absorption - filtered		
	Total Organic Carbon	125 mL amber glass	PRESERVATIVE
	Perchlorate	125 mL poly	
	pH	125 mL poly	
	Iron	250 mL poly	PRESERVATIVE
	Manganese		
	MTBE	3x amber vials	PRESERVATIVE
	Algae	500 mL poly	
	Alkalinity	4x amber vials	
	MIB and Geosmin		
	Turbidity		
	UV254 absorption		
X	Actinomycetes plate count	NA	NA

Upper Merrimack and Pemigewasset River Study
Impoundment Stratification Survey Field Worksheet
In-Situ Data Collection

Ayers Island Impoundment

Sampler Name: Liefkowitz

Date/Time: 7/27/09 9:30A

Sampling Station #: IC01

Weather Conditions

Temperature:

Wind: calm

Cloud Cover: part cloudy

Precipitation: none

Total Depth: 12'

Secchi Disk Depth

down: 3.5 up: 3.0

Comment: meters

Depth feet	Temp °C	pH	DO % sat	DO mg/l	Cond uS/cm	Comments
10	19.22	8.12	96.03	8.87	45/40	
8	19.21	7.77	95.95	8.87	45/40	
6	19.24	7.66	95.47	8.82	45/40	
4	19.26	7.58	96.26	8.89	45/40	
2	19.31	7.48	96.42	8.65	46/41	

Upper Merrimack and Pemigewasset River Study
Impoundment Stratification Survey Field Worksheet
In-Situ Data Collection

Ayers Island Impoundment

Sampler Name: Lefkowitz

Date/Time: 7/27/09 10:00A

Sampling Station #: I002

Weather Conditions

Temperature: 75-80°F

Wind: slight breeze

Cloud Cover: partial cloudy

Precipitation: none

Total Depth: 23.5

Secchi Disk Depth

down: 2.6 up: 2.3

Comment: meters

Depth feet	Temp °C	pH	DO % sat	DO mg/l	Cond uS/cm	Comments
22	19.01	7.14	93.24	8.65	43/38	
20	19.02	7.06	93.48	8.67	43/38	
18	19.02	7.01	93.64	8.69	43/38	
16	19.02	6.98	93.72	8.69	43/38	
14	19.03	6.92	93.88	8.71	43/38	
12	19.03	6.90	93.96	8.71	43/38	
10	19.08	6.88	94.12	8.72	43/38	
8	19.13	6.87	93.80	8.68	43/38	
6	19.17	6.87	93.88	8.68	43/38	
4	19.33	6.84	94.52	8.71	43/38	
2	20.05	6.80	95.07	8.64	43/38	

Upper Merrimack and Pemigewasset River Study
Impoundment Stratification Survey Field Worksheet
In-Situ Data Collection

Ayers Island Impoundment

Sampler Name: Lefkowitz

Date/Time: 7/27/2009 10:45A

Sampling Station #: I003

Weather Conditions

Temperature: 80°F

Wind: calm

Cloud Cover:

Precipitation:

Total Depth: 33'

Secchi Disk Depth

down: 2.6 up: 2.3

Comment: meters

Depth feet	Temp °C	pH	DO % sat	DO mg/l	Cond uS/cm	Comments
30	18.28	6.69	90.38	8.51	45/40	
26	18.40	6.65	91.49	8.59	44/38	
22	18.56	6.62	92.37	8.65	43/38	
18	18.87	6.63	93.56	8.71	44/39	
14	19.14	6.66	93.16	8.62	45/40	
10	19.20	6.63	93.16	8.61	51/46	
6	20.52	6.66	94.28	8.49	54/49	
2	22.52	6.70	95.31	8.25	57/55	

Upper Merrimack and Pemigewasset River Study
Impoundment Stratification Survey Field Worksheet
In-Situ Data Collection

Franklin Falls Impoundment

Sampler Name: Lefkowitz

Date/Time: 7/27/09 1:30P

Sampling Station #: I-004

Weather Conditions

Temperature: 85-90°F

Wind: calm

Cloud Cover: mostly sun

Precipitation: none

Total Depth: 17'

Secchi Disk Depth

down: 2.5 up: 2.0

Comment: meters

Depth feet	Temp °C	pH	DO % sat	DO mg/l	Cond uS/cm	Comments
16	19.45	6.6	95.23	8.76	41/37	
12	19.48	6.58	95.07	8.74	41/37	
8	19.55	6.57	95.15	8.73	41/37	
4	19.64	6.55	95.31	8.73	41/37	
2	19.74	6.55	96.16	8.79	41/37	

Upper Merrimack and Pemigewasset River Study
Impoundment Stratification Survey Field Worksheet
In-Situ Data Collection

Franklin Falls Impoundment

Sampler Name: LeKourtz

Date/Time: 7/27/09 1:05P

Sampling Station #: I005

Weather Conditions

Temperature: 85°F

Wind:

Cloud Cover:

Precipitation:

Total Depth: 23'

Secchi Disk Depth

down: 2.3 up: 2.0

Comment: meters

Depth feet	Temp °C	pH	DO % sat	DO mg/l	Cond uS/cm	Comments
20	19.46	6.72	94.12	8.65	42/37	
16	19.46	6.63	93.80	8.62	42/37	
12	19.46	6.62	93.64	8.61	42/37	
8	19.51	6.59	93.88	8.62	42/37	
4	19.77	6.60	94.04	8.59	41/37	
2	19.82	6.54	94.28	8.61	41/37	

Upper Merrimack and Pemigewasset River Study
Impoundment Stratification Survey Field Worksheet
In-Situ Data Collection

Franklin Falls Impoundment

Sampler Name: Lefkowitz

Date/Time: 7/27/09 2:40P

Sampling Station #: F006

Weather Conditions

Temperature: 85°F

Wind: breezy

Cloud Cover: most sunny

Precipitation: none

Total Depth: 22'

Secchi Disk Depth

down: 2.25 up: 1.75

Comment: meters

Depth feet	Temp °C	pH	DO % sat	DO mg/l	Cond uS/cm	Comments
20	19.63	6.77	93.24	8.54	43/38	
16	19.64	6.60	93.64	8.58	43/38	
12	19.65	6.57	93.72	8.58	43/39	
8	19.73	6.66	93.96	8.59	43/39	
4	19.90	6.67	94.44	8.61	43/38	
2	20.06	6.64	94.67	8.60	43/39	

Upper Merrimack and Pemigewasset River Study
Impoundment Stratification Survey Field Worksheet
In-Situ Data Collection

Eastman Falls Impoundment

Sampler Name: Lefkowitz

Date/Time: 7/28/09 9:05A

Sampling Station #: F007

Weather Conditions

Temperature: 75-80°F

Wind: calm

Cloud Cover: sunny

Precipitation: none

Total Depth: 29.5

Secchi Disk Depth

down: 3.0 up: 2.75

Comment: meters

Depth feet	Temp °C	pH	DO % sat	DO mg/l	Cond uS/cm	Comments
27.5	20.43	6.95	95.79	8.64	44/40	
26	20.46	6.83	95.95	8.65	44/40	
22	20.45	6.82	96.10	8.66	44/40	
18	20.45	6.81	95.95	8.65	44/40	
~~16~~ 14	20.50	6.78	96.18	8.66	44/40	
10	20.51	6.76	96.03	8.65	44/40	
6	20.58	6.73	96.50	8.68	44/40	
4	20.59	6.70	96.10	8.64	44/40	
2	20.57	6.67	96.28	8.66	44/40	

Upper Merrimack and Pemigewasset River Study
Impoundment Stratification Survey Field Worksheet
In-Situ Data Collection

Eastman Falls Impoundment

Sampler Name: Lefkowitz

Date/Time: 7/28/09 9:40A

Sampling Station #: I 008

Weather Conditions

Temperature: 75-80°F

Wind: calm

Cloud Cover: sunny

Precipitation: none

Total Depth: 26'

Secchi Disk Depth

down: 2.75 up: 2.5

Comment: meters

Depth feet	Temp °C	pH	DO % sat	DO mg/l	Cond uS/cm	Comments
25	20.03	6.47	93.56	8.50	44/40	
24	20.03	6.46	93.88	8.53	44/40	
20	20.04	6.48	94.04	8.55	44/40	
16	20.09	6.49	94.36	8.57	44/40	
12	20.16	6.51	94.99	8.61	44/40	
8	20.20	6.57	95.15	8.62	44/40	
6	20.29	6.56	95.79	8.66	44/40	
4	20.51	6.58	96.18	8.66	44/40	
2	20.72	6.58	96.50	8.65	44/40	

Upper Merrimack and Pemigewasset River Study
Impoundment Stratification Survey Field Worksheet
In-Situ Data Collection

Eastman Falls Impoundment

Sampler Name: Lefkowitz

Date/Time: 7/28/09 10:10A

Sampling Station #: I009

Weather Conditions

Temperature: 85-90°F

Wind: calm

Cloud Cover: sunny

Precipitation: none

Total Depth: 27'

Secchi Disk Depth

down: 3.25 up: 2.5

Comment: meters

Depth feet	Temp °C	pH	DO % sat	DO mg/l	Cond uS/cm	Comments
26.5	20.00	6.45	94.04	8.55	44/40	
24	20.01	6.44	94.28	8.57	44/40	
20	20.03	6.48	94.52	8.59	44/40	
16	20.04	6.51	94.52	8.59	44/40	
12	20.08	6.51	94.59	8.59	44/40	
8	20.24	6.49	94.59	8.60	44/40	
4	20.34	6.51	95.63	8.64	44/40	
2	20.75	6.51	96.34	8.63	44/40	

Upper Merrimack and Pemigewasset River Study
Impoundment Stratification Survey Field Worksheet
In-Situ Data Collection

Garvins Falls Impoundment

Sampler Name: Lefkowitz

Date/Time: 7/28/09 11:50 A

Sampling Station #: I010

Weather Conditions

Temperature: 90°F

Wind: calm

Cloud Cover: sunny

Precipitation: none

Total Depth: ~8'

Secchi Disk Depth

down: up:

Comment: too high flow

Depth feet	Temp °C	pH	DO % sat	DO mg/l	Cond uS/cm	Comments
8	21.73	6.51	98.65	8.67	57/53	depth may be
6	21.74	6.54	99.76	8.77	58/54	off slightly b/c
4	21.75	6.56	99.84	8.79	58/54	of flow
2	21.76	6.57	100.00	8.79	58/54	

Upper Merrimack and Pemigewasset River Study
Impoundment Stratification Survey Field Worksheet
In-Situ Data Collection

Garvins Falls Impoundment

Sampler Name: Leftkowitz

Date/Time: 7/28/09 1:15P

Sampling Station #: I011

Weather Conditions

Temperature: 85-90°F

Wind: breezy

Cloud Cover: partly cloudy

Precipitation: none

Total Depth: 12+'

Secchi Disk Depth

down: up:

Comment: too much flow

Depth feet	Temp °C	pH	DO % sat	DO mg/l	Cond uS/cm	Comments
12	21.83	6.53	98.25	8.62	59/55	depth may be
10	21.83	6.53	98.25	8.62	59/55	slightly off b/c
8	21.84	6.51	98.25	8.62	59/55	of high flow
6	21.85	6.53	98.33	8.62	59/55	
4	21.85	6.52	98.41	8.63	59/55	
2	21.86	6.52	98.41	8.63	59/55	

Upper Merrimack and Pemigewasset River Study
Impoundment Stratification Survey Field Worksheet
In-Situ Data Collection

Garvins Falls Impoundment

Sampler Name: Lefkowitz

Date/Time: 7/28/09 12:40P

Sampling Station #: I012

Weather Conditions

Temperature: 90°F

Wind: breezy

Cloud Cover: sunny

Precipitation: none

Total Depth: 12-15'

Secchi Disk Depth

down: up:

Comment: too high flow

Depth feet	Temp °C	pH	DO % sat	DO mg/l	Cond uS/cm	Comments
12	21.67	6.48	97.30	8.56	59/55	readings taken
10	21.68	6.49	97.38	8.57	59/55	at location of
8	21.68	6.50	97.46	8.58	59/55	continuous
6	21.71	6.53	97.62	8.58	59/55	meter
4	21.71	6.54	97.77	8.60	59/55	
2	21.76	6.54	97.93	8.60	59/55	

Upper Merrimack and Pemigewasset River Study
Impoundment Stratification Survey Field Worksheet
In-Situ Data Collection

Hooksett Falls Impoundment

Sampler Name: Lefkowitz

Date/Time: 7/29/09 8:25 A

Sampling Station #: I013

Weather Conditions

Temperature: 75°F

Wind: calm to breezy

Cloud Cover: hazy sunny

Precipitation: none

Total Depth: 8-10'

Secchi Disk Depth

down: up:

Comment: too high flow

Depth feet	Temp °C	pH	DO % sat	DO mg/l	Cond uS/cm	Comments
9	22.3	6.88	97.6	8.49	64/60	
8	22.3	6.83	97.7	8.49	64/60	
6	22.31	6.77	98.0	8.52	64/60	
4	22.31	6.75	97.8	8.50	64/60	
2	22.31	6.73	97.5	8.47	64/61	

Upper Merrimack and Pemigewasset River Study
Impoundment Stratification Survey Field Worksheet
In-Situ Data Collection

Hooksett Falls Impoundment

Sampler Name: Lefkowitz

Date/Time: 7/29/09 9:00 A

Sampling Station #: I014

Weather Conditions

Temperature: 80°F

Wind: breeze

Cloud Cover: hazy to sunny

Precipitation: none

Total Depth: 13'

Secchi Disk Depth

down: up:

Comment: too much flow

Depth feet	Temp °C	pH	DO % sat	DO mg/l	Cond uS/cm	Comments
12	22.29	6.70	97.3	8.46	63/60	
10	22.35	6.66	97.3	8.46	63/60	
8	22.37	6.65	97.3	8.45	63/60	
6	22.43	6.66	97.4	8.44	63/60	
4	22.50	6.67	97.2	8.42	63/60	
2	22.55	6.59	96.8	8.17	64/63	
	~~22.85~~				~~63/61~~	

Upper Merrimack and Pemigewasset River Study
Impoundment Stratification Survey Field Worksheet
In-Situ Data Collection

Hooksett Falls Impoundment

Sampler Name: Lefkowitz

Date/Time: 7/29/09 9:25A

Sampling Station #: I015

Weather Conditions

Temperature: 80°F

Wind: calm to breezy

Cloud Cover: sunny

Precipitation: none

Total Depth: 13'

Secchi Disk Depth

down: up:

Comment: too high flow

Depth feet	Temp °C	pH	DO % sat	DO mg/l	Cond uS/cm	Comments
12	22.82	6.64	96.8	8.33	63/61	
10	22.82	6.61	96.7	8.32	63/61	readings taken at
8	22.83	6.64	96.7	8.32	63/61	continuous probe
6	22.86	6.65	96.7	8.31	63/61	location
4	22.87	6.66	96.7	8.32	63/61	
2	22.87	6.65	96.8	8.32	63/61	

Upper Merrimack and Pemigewasset River Study
Impoundment Stratification Survey Field Worksheet
In-Situ Data Collection

Amoskeag Impoundment

Sampler Name: Lefkowitz

Date/Time: 7/29/09 12:00 P

Sampling Station #: I016

Weather Conditions

Temperature: 85°F

Wind: breeze

Cloud Cover: sunny, hazy

Precipitation: none

Total Depth: 14'

Secchi Disk Depth

down: up:

Comment:

Depth feet	Temp °C	pH	DO % sat	DO mg/l	Cond uS/cm	Comments
13'	23.27	6.47	100.0	8.53	63/61	
12'	23.27	6.46	99.8	8.51	63/61	
10	23.28	6.46	99.8	8.51	63/61	
8						
6	23.27	6.47	99.7	8.51	63/61	
4	23.31	6.49	99.8	8.51	63/61	
2	23.30	6.50	99.7	8.50	63/61	

Upper Merrimack and Pemigewasset River Study
Impoundment Stratification Survey Field Worksheet
In-Situ Data Collection

Amoskeag Impoundment

Sampler Name: Iefkowitz

Date/Time: 7/29/09 11:40A

Sampling Station #: I017

Weather Conditions

Temperature: 85°

Wind: breeze

Cloud Cover: partly cloudy, hazy

Precipitation: none

Total Depth: 14'

Secchi Disk Depth

down: 2.0 up: 1.5

Comment: meters

flow made measurement on sight angle

Depth feet	Temp °C	pH	DO % sat	DO mg/l	Cond uS/cm	Comments
12	23.32	6.40	98.8	8.42	63/61	
10	23.33	6.42	98.8	8.42	63/61	
8	23.33	6.43	98.8	8.42	63/61	
6	23.33	6.44	98.8	8.42	63/61	
4	23.33	6.46	98.8	8.42	63/61	
2	23.34	6.45	98.8	8.42	63/61	

Upper Merrimack and Pemigewasset River Study
Impoundment Stratification Survey Field Worksheet
In-Situ Data Collection

Amoskeag Impoundment

Sampler Name: Lefkowitz

Date/Time: 7/29/09 11:15A

Sampling Station #: IO 18

Weather Conditions

Temperature: 85-90°F

Wind: calm

Cloud Cover: sunny

Precipitation: none

Total Depth: 11'

Secchi Disk Depth

down: up:

Comment: too high flow

Depth feet	Temp °C	pH	DO % sat	DO mg/l	Cond uS/cm	Comments
10	23.24	6.38	99.0	8.46	63/61	
8	23.24	6.38	98.7	8.43	63/61	
6	23.26	6.37	98.6	8.42	63/61	
4	23.26	6.39	98.5	8.41	63/61	
2	23.27	6.39	98.5	8.40	63/61	

Upper Merrimack and Pemigewasset River Study
Impoundment Survey Samples for Laboratory Analysis
Grab Sample Collection

Impoundment Survey #3
August 2009

Hooksett Falls
Amoskeag
QA/QC

Sampler Name: J. LEFKOWITZ & S. LAVOIE

	Sample Number Information									
		Station	Type[1]	Event	Parameter[2]	Sample Depth feet	Total Depth feet	Time Collected	Sample Date	Comments
	I	001	G	1	Chla	8	16	2:45 PM	6/25/2009	1 L amber bottle
Hooksett Falls	I	013	G	~~2~~ 3	TP	3	7.5	8:45	8/24/2009	60 cc
	I	013	G	~~2~~ 3	Chl-a					1 L amber bottle
	I	014	G	~~2~~ 3	TP	4	9.4	9:20		60 cc
	I	014	G	~~2~~ 3	Chl-a					1 L amber bottle
	I	015	G	~~2~~ 3	TP	5'	13.7	10:00		60 cc
	I	015	G	~~2~~ 3	Chl-a					1 L amber bottle
	I	014	A	~~2~~ 3	TP	8	9.4	9:30		60 cc
Amoskeag	I	016	G	~~2~~ 3	TP	5'	13.8'	12:45	8/24/09	60 cc
	I	016	G	~~2~~ 3	Chl-a					1 L amber bottle
	I	017	G	~~2~~ 3	TP	5'	19.2	11:25		60 cc
	I	017	G	~~2~~ 3	Chl-a					1 L amber bottle
	I	018	G	~~2~~ 3	TP	5'	11.5	12:15		60 cc
	I	018	G	~~2~~ 3	Chl-a					1 L amber bottle
	I	017	A	~~2~~ 3	TP	18'	19.2	11:30		60 cc
Dups	I	115	D	~~2~~ 3	TP	5	13.7	10:00	8/24/09	60 cc
	I	106	D	~~2~~ 3	TP					60 cc FRANKLIN FALLS
	I	115	D	~~2~~ 3	Chl-a	5	13.7	10:00	8/24/09	1 L amber bottle
Blanks	I	214	B	~~2~~ 3	TP	NA	NA	9:20	8/24/09	60 cc
	I	201	B	~~2~~ 3	TP					60 cc AYERS ISLAND
	I	214	B	~~2~~ 3	Chl-a			9:20	8/24/09	1 L amber bottle
Rinses	I	303	R	~~2~~ 3	TP	NA	NA			60 cc AYERS ISLAND
	I	316	R	~~2~~ 3	TP			1:00 P	8/24/09	60 cc
	I	316	R	~~2~~ 3	Chl-a			1:00 P	8/24/09	1 L amber bottle

1) C: spatial composite; G: grab sample; A: additional depth sample; R: equipment rinsate; B: blank; D: duplicate

2) TP: total phosphorus; Chla: chlorophyll-a; CN: particulate C&N

Upper Merrimack and Pemigewasset River Study
Impoundment Survey Samples for Laboratory Analysis
Grab Sample Collection

Impoundment Survey #3
August 2009

Ayers Island
Franklin Falls
Eastman Falls
Garvins Falls

Sampler Name: J. LEFKOWITZ & S. LAVOIE

	← Sample Number Information →									
		Station	**Type[1]**	**Event**	**Parameter[2]**	**Sample Depth** feet	**Total Depth** feet	**Time Collected**	**Sample Date**	**Comments**
	I	001	G	1	Chla	8	16	2:45 PM	6/25/2009	1 L amber bottle
Ayers Island	I	001	G	2 3	TP	5'	13.7	11:36	8/25/2009	60 cc
	I	001	G	2 3	Chl-a					1 L amber bottle
	I	002	G	2 3	TP	5'	23.2	1:00		60 cc
	I	002	G	2 3	Chl-a					1 L amber bottle
	I	003	G	2 3	TP	5'	29.4	12:12		60 cc
	I	003	G	2 3	Chl-a					1 L amber bottle
	I	002	A	2 3	TP	22'	23.2	1:07		60 cc
Franklin Falls	I	004	G	2 3	TP	5'	22.6	10:03	8/25/2009	60 cc
	I	004	G	2 3	Chl-a					1 L amber bottle
	I	005	G	2 3	TP	5'	24.9	9:30		60 cc
	I	005	G	2 3	Chl-a					1 L amber bottle
	I	006	G	2 3	TP	5'	21.9	8:54		60 cc
	I	006	G	2 3	Chl-a					1 L amber bottle
	I	005	A	2 3	TP	18'	24.9	9:36.		60 cc
Eastman Falls	I	007	G	2 3	TP	5'	25'	11:30	8/26/2009	60 cc
	I	007	G	2 3	Chl-a					1 L amber bottle
	I	008	G	2 3	TP	5'	23.6	12:05		60 cc
	I	008	G	2 3	Chl-a					1 L amber bottle
	I	009	G	2 3	TP	5'	26.2	11:00		60 cc
	I	009	G	2 3	Chl-a					1 L amber bottle
	I	008	A	2 3	TP	23'	23.6	12:06		60 cc
Garvins Falls	I	010	G	2 3	TP	2.5	5.3	9:46	8/26/09	60 cc
	I	010	G	2 3	Chl-a					1 L amber bottle
	I	011	G	2 3	TP	~~5~~ 4'	7.8	9:10		60 cc
	I	011	G	2 3	Chl-a					1 L amber bottle
	I	012	G	2 3	TP	5'	14.2	8:30		60 cc
	I	012	G	2 3	Chl-a					1 L amber bottle
	I	011	A	2 3	TP	7'	7.8	9:13		60 cc

1) C: spatial composite; G: grab sample; A: additional depth sample; R: equipment rinsate; B: blank; D: duplicate
2) TP: total phosphorus; Chla: chlorophyll-a; CN: particulate C&N

TUESDAY MORNING → Franklin Falls (Franklin)
TUESDAY AFTERNOON → Ayers Island (Bristol)
WEDNESDAY MORNING → Garvins Falls (Concord)
WEDNESDAY AFTERNOON → Eastman Falls (Franklin)

Upper Merrimack and Pemigewasset River Study
Drinking Water Treatability Sampling **Sample #2 August 2009**
Grab Sample Collection

Sampler Name: J LEFKOWITZ
Date/Time: 8/24/09
Weather Conditions

Weather Conditions
Temperature: 80°F
Wind: breezy
Cloud Cover: partly
Precipitation: none

Additional Sampling Notes:

Time Collected	Parameter	Bottle Type	Notes
12:00	Dissolved Organic Carbon	125 mL amber glass	
	UV254 absorption - filtered		
"	Total Organic Carbon	125 mL amber glass	PRESERVATIVE
"	Perchlorate	125 mL poly	
"	pH	125 mL poly	
"	Iron	250 mL poly	PRESERVATIVE
	Manganese		
"	MTBE	3x amber vials	PRESERVATIVE
"	Algae	500 mL poly	
"	Alkalinity	4x amber vials	
	MIB and Geosmin		
	Turbidity		
	UV254 absorption		
"	Actinomycetes plate count	100 mL sterile poly	PRESERVATIVE

Upper Merrimack and Pemigewasset River Study
Impoundment Stratification Survey Field Worksheet
In-Situ Data Collection

Ayers Island Impoundment

Sampler Name: S. LAVOIE

Date/Time: 8/25/2009 11:40 AM

Sampling Station #: I001

FILL BLANK (I201-B3) W/ DISTILLED WATER

Weather Conditions

Temperature: 23°C

Wind: None

Cloud Cover: SUNNY

Precipitation: None

Total Depth: 13.7

Secchi Disk Depth

down: 3.25 m up: 3 m

Comment:

Depth feet	Temp °C	pH	DO % sat	DO mg/l	Cond uS/cm	Comments
~~20.91~~						
12	20.91	6.73	91.5	8.16	45/41	
10	20.91	6.64	91.0	8.12	45/41	
8	20.92	6.62	90.9	8.11	45/41	
6	20.95	6.61	90.8	8.10	45/41	
4	21.18	6.59	91.1	8.09	44/41	
2	21.36	6.56	91.0	8.06	44/41	

Upper Merrimack and Pemigewasset River Study
Impoundment Stratification Survey Field Worksheet
In-Situ Data Collection

Ayers Island Impoundment

Sampler Name: S. LAVOIE

Date/Time: 8/25/2009 1:10

Sampling Station #: I002

TAKE ADDITONAL SAMPLE FROM BOTTOM (I002-A3)

Weather Conditions

Temperature: 22°c

Wind: BREEZY

Cloud Cover: SUNNY

Precipitation: NONE

Total Depth: 23.2

Secchi Disk Depth

down: 2.75 m up: 2.25 m

Comment:

Depth feet	Temp °C	pH	DO % sat	DO mg/l	Cond uS/cm	Comments
22	20.81	6.53	89.5	8.00	42/39	
20	20.81	6.48	89.6	8.01	42/39	
18	20.82	6.43	89.3	7.99	42/39	
16	20.82	6.44	89.2	7.98	42/39	
14	20.84	6.41	89.2	7.98	42/39	
12	20.86	6.41	88.9	7.95	42/39	
10	20.89	6.43	88.9	7.94	42/39	
8	21.10	6.42	88.8	7.89	42/39	
6	21.95	6.42	89.2	7.81	42/39	
4	23.08	6.48	88.6	7.60	51/49	
2	24.06	6.51	87.4	7.35	57/56	

Upper Merrimack and Pemigewasset River Study
Impoundment Stratification Survey Field Worksheet
In-Situ Data Collection

Ayers Island Impoundment

Sampler Name: S. LAVOIE

Date/Time: 8/25/2009 12:25

Sampling Station #: I003

DO EQUIPMENT RINSATE SAMPLE HERE (I303-R3)

Weather Conditions

Temperature: 22°

Wind: NONE

Cloud Cover: SUNNY

Precipitation: NONE

Total Depth: 29.4

Secchi Disk Depth

down: 1.9 m up: 1.5 m

Comment:

Depth feet	Temp °C	pH	DO % sat	DO mg/l	Cond uS/cm	Comments
28	20.63	6.37	80.7	7.25	40/37	
26	20.73	6.34	81.3	7.28	41/38	
24	20.86	6.33	82.3	7.36	42/38	
22	20.88	6.32	82.4	7.37	42/39	
20	21.05	6.30	82.4	7.33	43/40	
18	21.16	6.32	82.6	7.34	44/41	
16	21.36	6.34	82.8	7.33	45/42	
14	21.68	6.34	81.7	7.18	49/46	
12	22.09	6.35	84.3	7.36	48/45	
10	22.21	6.39	84.9	7.39	48/46	
8	22.48	6.40	84.5	7.32	50/48	
6	22.74	6.42	85.2	7.35	52/50	
4	22.94	6.43	85.5	7.34	53/51	
2	23.75	6.43	85.9	7.26		

Upper Merrimack and Pemigewasset River Study
Impoundment Stratification Survey Field Worksheet
In-Situ Data Collection

Franklin Falls Impoundment

Sampler Name: S. LAVOIE

Date/Time: 8/25/2009 10:05

Sampling Station #: I004

Weather Conditions

Temperature: 22°c

Wind: NONE

Cloud Cover: SUNNY

Precipitation: NONE

Total Depth: 22.6

Secchi Disk Depth

down: 1.9 m up: 1.5 m

Comment:

Depth feet	Temp °C	pH	DO % sat	DO mg/l	Cond uS/cm	Comments
20	21.00	6.63	89.0	7.93	43/40	
18	21.00	6.61	88.6	7.90	43/40	
16	21.00	6.59	88.5	7.88	43/40	
14	21.00	6.58	88.4	7.88	43/40	
12	21.00	6.58	88.3	7.88	43/40	
10	21.00	6.58	88.3	7.87	43/40	
8	21.06	6.52	88.3	7.86	43/40	
6	21.10	6.57	88.4	7.86	43/40	
4	21.08	6.57	88.4	7.87	43/40	
2	21.14	6.56	88.4	7.87	43/40	

Upper Merrimack and Pemigewasset River Study
Impoundment Stratification Survey Field Worksheet
In-Situ Data Collection

Franklin Falls Impoundment

Sampler Name: S. LAVOIE

Date/Time: 8/25/2009 9:36 AM

Sampling Station #: I005

TAKE ADDITIONAL SAMPLE FROM BOTTOM (I005-A3)

Weather Conditions

Temperature: 22° C

Wind: NONE

Cloud Cover: SUNNY

Precipitation: NONE

Total Depth: 24.9

Secchi Disk Depth

down: 2.33 m up: 1.90 m

Comment:

Depth feet	Temp °C	pH	DO % sat	DO mg/l	Cond uS/cm	Comments
18	21.78	6.67	91.0	7.98	43/40	
16	21.78	6.60	90.4	7.94	43/40	
14	21.78	6.61	90.3	7.93	43/40	
12	21.82	6.60	90.0	7.90	43/40	
10	21.85	6.60	89.9	7.89	43/40	
8	21.88	6.58	89.8	7.86	43/41	
6	21.84	6.58	89.7	7.87	43/40	
4	21.87	6.58	89.7	7.87	43/41	
2	21.91	6.58	89.5	7.85	44/42	

Upper Merrimack and Pemigewasset River Study
Impoundment Stratification Survey Field Worksheet
In-Situ Data Collection

Franklin Falls Impoundment

Sampler Name: S. LAVOIE

Date/Time: 8/25/2009 9:00AM

Sampling Station #: I006

FILL DUPLICATE BOTTLE (I106-D3) 8:54

Weather Conditions

Temperature: 22 °C

Wind: NONE

Cloud Cover: SUNNY

Precipitation: NONE

Total Depth: 21.9'

Secchi Disk Depth

down: 2 m up: 1.75 m.

Comment:

Depth feet	Temp °C	pH	DO % sat	DO mg/l	Cond uS/cm	Comments
18	22.18	7.37	92.6	8.06	44/42	
16	22.18	7.04	92.0	8.01	44/42	
14	22.17	6.88	92.0	8.03	44/42	
12	22.17	6.79	91.6	7.98	44/42	
10	22.17	6.74	91.4	7.96	44/42	
8	22.17	6.70	91.1	7.93	44/42	
6	22.17	6.68	91.1	7.94	44/42	
4	22.19	6.66	91.1	7.94	45/42	
2	22.24	6.64	91.1	7.93	44/42	

Upper Merrimack and Pemigewasset River Study
Impoundment Stratification Survey Field Worksheet
In-Situ Data Collection

Eastman Falls Impoundment

Sampler Name: S. LAVOIE

Date/Time: 8/26/2009 11:35.

Sampling Station #: I007

Weather Conditions

Temperature: 24°

Wind: BREEZY

Cloud Cover: NONE. SUNNY.

Precipitation: NONE

Total Depth: 25

Secchi Disk Depth

down: 2.1 m. up: 1.8 m.

Comment:

Depth feet	Temp °C	pH	DO % sat	DO mg/l	Cond uS/cm	Comments
24	21.69	6.53	86.8	7.63	47/44	
22	21.73	6.51	87.1	7.69	47/44	
20	21.71	6.50	86.8	7.63	47/44	
18	21.73	6.50	86.7	7.60	47/44	
16	21.73	6.50	86.3	7.60	47/44	
14	21.74	6.50	87.1	7.64	47/44	
12	21.74	6.50	86.6	7.61	47/44	
10	21.76	6.47	86.7	7.62	47/44	
8	21.75	6.45	86.7	7.62	47/44	
6	21.76	6.47	86.7	7.61	47/44	
4	21.80	6.48	86.7	7.61	47/44	
2	21.80	6.47	86.7	7.61	47/44	

Upper Merrimack and Pemigewasset River Study
Impoundment Stratification Survey Field Worksheet
In-Situ Data Collection

Eastman Falls Impoundment

Sampler Name: S. LAVOIE

Date/Time: 8/26/2009 12:10

Sampling Station #: I 008

TAKE ADDITONAL SAMPLE FROM BOTTOM (I008-A3)

Weather Conditions

Temperature: 24°C

Wind: BREEZY

Cloud Cover: ~~NONE~~ SUNNY, Partly CLOUDY

Precipitation: NONE

Total Depth: 23.6'

Secchi Disk Depth

down: 2m up: 1.75 m.

Comment:

Depth feet	Temp °C	pH	DO % sat	DO mg/l	Cond uS/cm	Comments
22	21.66	6.54	86.8	7.64	48/43	
20	21.66	6.52	86.0	7.58	46/43	
18	21.66	6.50	85.9	7.55	46/43	
16	21.66	6.48	85.8	7.55	46/43	
14	21.66	6.46	85.5	7.51	46/43	
12	21.66	6.47	85.4	7.52	46/43	
10	21.67	6.47	85.4	7.52	46/43	
8	21.67	6.45	85.6	7.53	46/43	
6	21.77	6.46	85.5	7.51	47/44	
4	21.90	6.45	85.9	7.53	47/44	
2	22.01	6.47	86.0	7.51	47/44	

Upper Merrimack and Pemigewasset River Study
Impoundment Stratification Survey Field Worksheet
In-Situ Data Collection

Eastman Falls Impoundment

Sampler Name: S. LAVOIE

Date/Time: 8/26/2009 11:05 AM.

Sampling Station #: I009

Weather Conditions

Temperature: 24°C.

Wind: BREEZY

Cloud Cover: NONE, SUNNY.

Precipitation: NONE

Total Depth: 26.2

Secchi Disk Depth

down: 2 m up: 1.5

Comment:

Depth feet	Temp °C	pH	DO % sat	DO mg/l	Cond uS/cm	Comments
24	21.84	6.62	85.7	7.52	46/43	
22	21.83	6.58	85.4	7.49	46/43	
20	21.83	6.56	85.3	7.48	46/43	
18	21.84	6.52	85.4	7.49	46/43	
16	21.84	6.52	85.2	7.48	46/43	
14	21.84	6.49	85.2	7.48	46/43	
12	21.85	6.49	85.1	7.46	46/43	
10	21.85	6.46	85.1	7.47	46/43	
8	21.87	6.49	85.2	7.47	46/43	
6	21.91	6.48	85.2	7.46	47/44	
4	21.96	6.48	85.5	7.49	46/44	
2	22.09	6.48	85.7	7.48	47/44	

Upper Merrimack and Pemigewasset River Study
Impoundment Stratification Survey Field Worksheet
In-Situ Data Collection

Garvins Falls Impoundment

Sampler Name: S. LAVOIE

Date/Time: 8/26/2009 9:50

Sampling Station #: I010

Weather Conditions

Temperature: 22°c

Wind: BREEZY

Cloud Cover: NONE SUNNY

Precipitation: NONE

Total Depth: 5.3'

Secchi Disk Depth

down: up:

Comment: TOO MUCH FLOW

Depth feet	Temp °C	pH	DO % sat	DO mg/l	Cond uS/cm	Comments
5'	23.27	6.79	88.3	7.53	61/59	
4'	23.28	6.73	88.0	7.51	61/59	
3'	23.28	6.72	87.9	7.50	61/59	
2'	23.29	6.72	87.8	7.49	62/59	

Upper Merrimack and Pemigewasset River Study
Impoundment Stratification Survey Field Worksheet
In-Situ Data Collection

Garvins Falls Impoundment

Sampler Name: S. LAVOIE

Date/Time: 8/26/2009 9:15

Sampling Station #: I011

TAKE ADDITIONAL SAMPLE FROM BOTTOM (I011-A3)

Weather Conditions

Temperature: 22°C

Wind: BREEZY

Cloud Cover: NONE SUNNY.

Precipitation: NONE

Total Depth: 7.8'

Secchi Disk Depth

down: up:

Comment: TOO MUCH FLOW.

Depth feet	Temp °C	pH	DO % sat	DO mg/l	Cond uS/cm	Comments
7'	23.32	6.82	87.6	7.47	65/63	
6'	23.32	6.73	87.2	7.44	66/63	
4'	23.32	6.72	87.2	7.44	65/63	
2'	23.33	6.71	87.2	7.43	65/63	

Upper Merrimack and Pemigewasset River Study
Impoundment Stratification Survey Field Worksheet
In-Situ Data Collection

Garvins Falls Impoundment

Sampler Name: S. LAVOIE

Date/Time: 8/26/2009 8:35

Sampling Station #: I012

Weather Conditions

Temperature: 22°c

Wind: BREEZY

Cloud Cover: NONE. SUNNY.

Precipitation: NONE.

Total Depth: 14.2

Secchi Disk Depth

down: up:

Comment: TOO MUCH FLOW.

Depth feet	Temp °C	pH	DO % sat	DO mg/l	Cond uS/cm	Comments
13	23.57	6.87	86.7	7.36	67/65	
12	23.58	6.88	86.7	7.35	67/65	
10	23.58	6.80	86.6	7.35	68/66	
8	23.57	6.79	86.6	7.35	68/66	
6	23.58	6.78	86.6	7.35	68/66	
4	23.58	6.77	86.7	7.36	68/66	
2	23.58	6.75	86.7	7.36	68/66	

Upper Merrimack and Pemigewasset River Study
Impoundment Stratification Survey Field Worksheet
In-Situ Data Collection

Hooksett Falls Impoundment

Sampler Name: J. LEFKOWITZ S. LAVOIE

Date/Time: 8/24/2009 8:45

Sampling Station #: I013

Weather Conditions

Temperature: 24 °C

Wind: BREEZY

Cloud Cover: MOSTLY CLOUDY

Precipitation: NONE

Secchi Disk Depth

down: up:

Comment: TOO MUCH FLOW.

Total Depth: 7.5

SPCOND/COND

Depth feet	Temp °C	pH	DO % sat	DO mg/l	Cond uS/cm	Comments
6	24.81	7.25	94.6	7.84	79/79	
4	24.81	7.04	94.1	7.80	80/79	
2	24.81	6.96	93.8	7.78	79/79	

Upper Merrimack and Pemigewasset River Study
Impoundment Stratification Survey Field Worksheet
In-Situ Data Collection

Hooksett Falls Impoundment

Sampler Name: J. LEFKOWITZ S. LAVOIE

Date/Time: 8/24/2009 9:20 JRL

Sampling Station #: I014

TAKE ADDITIONAL SAMPLE FROM BOTTOM (I014-A3) AND BLANKS (I214-B3)

Weather Conditions

Temperature: 24°C

Wind: BREEZY

Cloud Cover: MOSTLY CLOUDY

Precipitation: NONE

Total Depth: 9.4

Secchi Disk Depth

down: up:

Comment: TOO MUCH FLOW

Depth feet	Temp °C	pH	DO % sat	DO mg/l	Cond uS/cm	Comments
8	24.82	6.91	95.4	7.90	81/80	
6	24.83	6.87	94.5	7.83	81/80	
4	24.83	6.85	93.8	7.77	81/81	
2	24.85	6.82	93.5	7.75	81/80	

Upper Merrimack and Pemigewasset River Study
Impoundment Stratification Survey Field Worksheet
In-Situ Data Collection

Hooksett Falls Impoundment

Sampler Name: S. Lavoie

Date/Time: 8/24/09 10:10A

Weather Conditions

Temperature: 75-80°F

Wind: calm

Cloud Cover: sunny

Precipitation: none

Total Depth: 13.7'

Sampling Station #: I015

COLLECT DUPLICATES HERE ~~(I15~~ (I115-D3)

Secchi Disk Depth

down: up:

Comment: too much flow

Depth feet	Temp °C	pH	DO % sat	DO mg/l	Cond uS/cm	Comments
12	24.91	6.89	90.9	7.52	81/81	
10	24.91	6.85	91.0	7.53	81/81	
8	24.92	6.84	91.0	7.53	81/81	
6	24.93	6.83	91.0	7.53	81/81	
4	24.94	6.83	91.0	7.53	81/81	
2	24.97	6.80	91.0	7.53	81/81	

Upper Merrimack and Pemigewasset River Study
Impoundment Stratification Survey Field Worksheet
In-Situ Data Collection

Amoskeag Impoundment

Sampler Name: S. LaVoie

Date/Time: 8/24/09 12:50P

Sampling Station #: I01b

DO EQUIPMENT RINSATE HERE (I316-R3)

Weather Conditions

Temperature: 85°F

Wind: breezy

Cloud Cover: partly

Precipitation: none

Total Depth: 13.8'

Secchi Disk Depth

down: up:

Comment: too much flow

Depth feet	Temp °C	pH	DO % sat	DO mg/l	Cond uS/cm	Comments
12	25.12	6.87	92.0	7.58	81/81	
10	25.13	6.86	92.0	7.58	81/81	
8	25.14	6.86	92.0	7.58	81/81	
6	25.15	6.86	91.9	7.58	81/81	
4	25.16	6.86	91.9	7.57	81/81	
2	25.17	6.86	92.0	7.57	81/81	

Upper Merrimack and Pemigewasset River Study
Impoundment Stratification Survey Field Worksheet
In-Situ Data Collection

Amoskeag Impoundment

Sampler Name: S. Lavoie

Date/Time: 8/24/09 11:30A

Sampling Station #: I017

TAKE ADDITIONAL SAMPLE FROM BOTTOM (I017-A3)

Weather Conditions

Temperature: 80°F

Wind: calm to breezy

Cloud Cover: partly cloudy

Precipitation: none

Total Depth: 19.2'

Secchi Disk Depth

down: 2 2/3 up: 2 1/3

Comment: flowing, but slower than survey 1 & 2

Depth feet	Temp °C	pH	DO % sat	DO mg/l	Cond uS/cm	Comments
~~16~~	~~24.88~~	~~6.87~~	~~103.7~~			
16	24.89	6.89	96.1	7.95	79/79	
14	24.90	6.86	95.3	7.88	79/79	
10	24.91	6.88	94.6	7.83	79/79	
6	24.92	6.84	94.3	7.80	79/79	
4	24.94	6.82	94.0	7.77	79/79	
2	24.96	6.85	93.8	7.75	~~80~~ 79/79	

Upper Merrimack and Pemigewasset River Study
Impoundment Stratification Survey Field Worksheet
In-Situ Data Collection

Amoskeag Impoundment

Sampler Name: S. lavoie

Date/Time: 8/24/09 12:00 P

Sampling Station #: I018

Weather Conditions

Temperature: 85°F

Wind: calm to breezy

Cloud Cover: partly cloudy

Precipitation: none

Total Depth: 11.5'

Secchi Disk Depth

down: up:

Comment: flow too high

Depth feet	Temp °C	pH	DO % sat	DO mg/l	Cond uS/cm	Comments
10	25.05	6.86	92.8	7.65	80 / 80	
8	25.05	6.86	92.0	7.59	80/80	
6	25.05	6.86	91.7	7.57	80/80	
4	25.06	6.83	91.5	7.56	80/80	
2	25.07	6.81	91.4	7.55	80/80	

Upper Androscoggin River Impoundment Survey
Impoundment Survey Sample Collection/Analysis
Grab Sample Collection

Impoundment Survey
September 2009

Sampler Name: Shawn Lavoie

Ayers Island
Franklin Falls
Eastman Falls
Garvins Falls

← Sample Number Information →

	Station	Sample Type (1)	Event	Parameter (2)	Sample Depth (ft)	Total Depth (ft)	Time Collected	Sample Date (mm/dd/yyyy)	Container (1 L amber bottle)
Ayers Island	I 001	G	4	TP	5'	9.4'	10:31	9/21/2009	60 cc
	I 001	G	4	Chl-a					1 L amber bottle
	I 002	G	4	TP	5'	22.8	12:07		60 cc
	I 002	G	4	Chl-a					1 L amber bottle
	I 003	G	4	TP	5'	30.8'	11:17		60 cc
	I 003	G	4	Chl-a					1 L amber bottle
	I 003	A	4	TP	28'	30.8'	11:27	Kept off bottom.	60 cc
Franklin Falls	I 004	G	4	TP	5'	16.9	2:[illegible]	9/21/2009	60 cc
	I 004	G	4	Chl-a					1 L amber bottle
	I 005	G	4	TP	5'	23.3	2:09		60 cc
	I 005	G	4	Chl-a					1 L amber bottle
	I 006	G	4	TP	5'	19.7	1:37		60 cc
	I 006	G	4	Chl-a					1 L amber bottle
	I 006	A	4	TP	16'	19.7	1:45		60 cc
Eastman Falls	I 007	G	4	TP	5'	27.5	9:04	9/22/2009	60 cc
	I 007	G	4	Chl-a					1 L amber bottle
	I 008	G	4	TP	5'	23.2	9:47		60 cc
	I 008	G	4	Chl-a					1 L amber bottle
	I 009	G	4	TP	5'	27.3	10:13		60 cc
	I 009	G	4	Chl-a					1 L amber bottle
	I 009	A	4	TP	26'	27.3	10:17		60 cc
Garvins Falls	I 010	G	4	TP	1.5	2.8	9:37	9/23/2009	60 cc
	I 010	G	4	Chl-a					1 L amber bottle
	I 011	G	4	TP	5'	9'	8:49		60 cc
	I 011	G	4	Chl-a					1 L amber bottle
	I 012	G	4	TP	5'	14'	8:06		60 cc
	I 012	G	4	Chl-a					1 L amber bottle
	I 012	A	4	TP	13'	14'	8:12		60 cc

1) C: spatial composite; G: grab sample; A: additional depth sample; R: equipment rinsate; B: blank; D: duplicate
2) TP: total phosphorus; Chla: chlorophyll-a; CN: particulate C&N

Sampler Name: Shawn Lavoie

Hooksett Falls
Amoskeag
QA/QC

	Sample Number Information									
	Station	Sample Type[1]	Event	Parameter[2]	Sample Depth (ft)	Water Depth (ft)	Time Collected	Date Sampled	Container
Hooksett Falls	I	013	G	4	TP	3'	6'	11:39	9/23/2009	60 cc
	I	013	G	4	Chl-a					1 L amber bottle
	I	014	G	4	TP	4'	7.3'	12:09		60 cc
	I	014	G	4	Chl-a					1 L amber bottle
	I	015	G	4	TP	5'	13'	12:35		60 cc
	I	015	G	4	Chl-a					1 L amber bottle
	I	015	A	4	TP	12'	13'	12:38		60 cc
Amoskeag	I	016	G	4	TP	3'	6.8'	11:05	9/24/2009	60 cc
	I	016	G	4	Chl-a					1 L amber bottle
	I	017	G	4	TP	5'	11.4'	10:19		60 cc
	I	017	G	4	Chl-a					1 L amber bottle
	I	018	G	4	TP	3'	7.4	9:06		60 cc
	I	018	G	4	Chl-a					1 L amber bottle
	I	018	A	4	TP	7'	7.4	9:09		60 cc
Dups	I	105	D	4	TP	5'	23.3	2:11	9/21/09	60 cc
	I	105	D	4	TP	5'	23.3	2:11	9/21/09	60 cc
	I	110	D	4	Chl-a	1.5'	2.8	9:39	9/23/09	1 L amber bottle
Blanks	I	201	B	4	TP	NA	NA	10:09	9/21/2009	60 cc
	I	201	B	4	Chl-a			10:09	9/21/2009	60 cc
	I	213	B	4	TP			11:23	9/23/2009	~~1 L amber bottle~~ 60 cc
Rinses	I	301	R	4	TP	NA	NA	10:21	9/21/2009	60 cc
	I	301	R	4	Chl-a			10:21	9/21/2009	60 cc
	I	313	R	4	TP			11:33	9/23/2009	~~1 L amber bottle~~ 60 cc

1) C: spatial composite; G: grab sample; A: additional depth sample; R: equipment rinsate; B: blank; D: duplicate

2) TP: total phosphorus; Chla: chlorophyll-a; CN: particulate C&N

Upper Merrimack and Pemigewasset River Study
Drinking Water Treatability Sampling **Sample #4 September 2009**
Grab Sample Collection

Sampler Name: S. LAVOIE
Date/Time: 9/23/2009 9:17.
Weather Conditions

Weather Conditions
Temperature: 23°C
Wind: BREEZY.
Cloud Cover: CLOUDY.
Precipitation: NONE.

Additional Sampling Notes:

Time Collected	Parameter	Bottle Type	Notes
9:33	Dissolved Organic Carbon	125 mL amber glass	
	UV254 absorption - filtered		
9:25 AM.	Total Organic Carbon	125 mL amber glass	PRESERVATIVE
9:25	Perchlorate		
9:36	pH		
9:38	Iron		VE
	Manganese		
9:20 AM.	MTBE		VE
9:41 AM	Algae		
9:26	Alkalinity		
	MIB and Geosmir		
	Turbidity		
	UV254 absorptior		
9:34	Actinomycetes pla		

don't input this page

Upper Merrimack and Pemigewasset River Study
Impoundment Stratification Survey Field Worksheet — Avoca Impoundment
Instrument Data Collection

Sampler Name: Shawn Lavoie

Date/Time: 9/21/2009

Sampling Station #: I001

Weather Conditions

Temperature: ~~14°C~~ 15°C

Wind: NONE

Cloud Cover: NONE. SUNNY.

Precipitation: NONE.

Total Depth: 9.4

Secchi Disk Depth

down: 9.4 ft up:

Comment: Secchi disc seen on bottom

Depth (m)	Temp. (°C)	pH	DO (% sat)	DO (mg/L)	Percent of % sat	Comments
8	14.74	8.09	94.3	9.54	97/78	
6	14.80	8.06	91.7	9.28	97/78	
4	14.95	7.91	90.8	9.16	97/78	
2	15.45	7.77	89.5	8.88	97/80	

Upper Merrimack and Pemigewasset River Study
Impoundment Stratification Survey Field Worksheet — Ayers Island Impoundment
Instrument Collection

Sampler Name: Shawn Lavoie

Date/Time: 9/21/2009 12:09

Sampling Station #: I002

Weather Conditions

Temperature: 18 °C

Wind: BREEZY

Cloud Cover: NONE SUNNY

Precipitation: NONE

Total Depth: 22.8

Secchi Disk Depth

down: 3.4 m up: 3.0 m

Comment:

Depth (m)	Temp (°C)	pH	DO (%sat)	DO (mg/L)	Cond (µS/cm)	Comments
22	15.90	7.04	82.7	8.18	97/80	
20	15.92	7.02	83.5	8.27	96/80	
18	16.09	7.02	83.0	8.17	96/79	
16	16.42	7.02	82.5	8.07	94/79	
14	16.81	7.01	81.0	7.86	93/78	
12	17.13	6.99	79.5	7.64	91/77	
10	17.37	6.96	77.8	7.45	89/76	
8	17.48	6.94	78.1	7.47	90/77	
6	17.54	6.92	78.4	7.49	89/77	
4	17.67	6.92	78.9	7.52	90/77	
2	18.82	6.92	80.7	7.50	90/79	

Upper Merrimack and Pemigewasset River Study
Impoundment Stratification Survey Field Worksheet — Ayers Island Impoundment
Insitu Multi-Parameter Collection

Sampler Name: Shawn Lavoie

Date/Time: 9/21/2009 11:30

Sampling Station #: I 003

Weather Conditions

Temperature: 16 °C

Wind: NONE

Cloud Cover: NONE SUNNY

Precipitation: NONE

Total Depth: 30.8

Secchi Disk Depth

down: 3.5m up: 3.0m.

Comment:

Depth (m)	Temp (°C)	pH	DO (%sat)	DO (mg/L)	Cond (uS/cm)	Comments
30	17.04	7.30	79.0	7.65	92/78	
28	17.16	7.21	75.0	7.22	91/77	
26	17.18	7.14	73.5	7.07	90/77	
24	17.22	7.10	73.9	7.11	91/77	
22	17.24	7.07	73.2	7.06	90/76	
20	17.28	6.99	72.0	6.93	89/75	
18	17.29	6.96	73.3	7.05	88/75	
16	17.30	6.94	73.3	7.03	88/75	
14	17.31	6.93	73.1	7.02	89/76	
12	17.33	6.91	73.1	7.02	88/75	
10	17.35	6.90	73.4	7.05	89/85	
8	17.40	6.88	73.5	7.05	89/76	
6	17.49	6.84	72.7	6.95	89/76	
4	17.60	6.83	73.0	6.95	89/76	
2	18.30	6.82	74.0	6.95	89/77	

Upper Monimoke Brook Impoundment Study
Impoundment Stratification Survey Field Worksheet — Pennington Impoundment
Instrument Collection

Sampler Name: S. LAVOIE

Date/Time: 9/21

Sampling Station #: I 004

Weather Conditions

Temperature: 18°C

Wind: NONE.

Cloud Cover: NONE. SUNNY.

Precipitation: NONE.

Total Depth: 16.9

Secchi Disk Depth

down: up:

Comment: can see bottom

Depth (m)	Temp (°C)	pH	DO (%sat)	DO (mg/L)	Cond (µS/cm)	Comments
16	16.01	7.00	79.9	7.90	84/70	
14	16.01	7.01	81.0	8.00	84/70	
12	16.02	7.02	81.3	8.02	84/70	
10	16.05	7.03	81.7	8.05	84/70	
8	16.12	7.05	82.1	8.08	84/70	
6	16.19	7.05	82.6	8.11	84/70	
4	16.52	7.06	83.1	8.10	84/71	
2	17.46	7.07	84.2	8.03	85/73	

Upper Merrimack and Contoocook River Study
Impoundment Stratification Survey Field Worksheet — Franklin Falls Impoundment
Fall 2009 Data Collection

Sampler Name: S. LAVOIE.

Date/Time: 9/21/09 2:15

Sampling Station #: I 005

Weather Conditions

Temperature: 18°

Wind: NONE

Cloud Cover: NONE

Precipitation: NONE.

Total Depth: 23.3

Secchi Disk Depth

down: 3m up: 2.5m

Comment:

Depth (m)	Temp (°C)	pH	DO (% sat)	DO (mg/L)	Cond (µS/cm)	Comments
22	15.99	7.05	79.7	7.86	84/69	
20	16.02	7.03	79.7	7.86	84/69	
18	16.04	7.02	79.9	7.88	84/70	
16	16.08	7.02	80.1	7.88	84/70	
14	16.15	7.02	80.1	7.87	84/70	
12	16.24	7.01	80.4	7.89	84/70	
10	16.43	7.01	80.7	7.89	84/70	
8	16.65	7.02	81.4	7.93	84/70	
6	16.74	7.02	81.7	7.93	84/71	
4	17.12	7.02	81.9	7.92	83/71	
2	18.66	7.02	84.1	7.84	83/73	

Upper Gunpowder River Study
Impoundments Stratification Survey Field Worksheet
Instrument Collection

Franklin Hill Impoundment

Sampler Name: S. Lavoie

Date/Time: 1:46

Sampling Station #: I 006

Weather Conditions

Temperature: 18°C

Wind: BREEZY

Cloud Cover: NONE. SUNNY.

Precipitation: NONE.

Total Depth: 19.7 ft.

Secchi Disk Depth

down: 3.6m up: 3.2m

Comment:

Depth (ft)	Temp (°C)	pH	DO (%sat)	DO (mg/L)	Cond (µS/cm)	Comments
18'	16.44	7.11	78.5	7.67	82/69	
16	16.46	7.09	78.8	7.70	82/69	
14'	16.47	7.08	78.9	7.70	82/69	
12'	16.48	7.07	79.3	7.74	82/69	
10'	16.51	7.06	79.5	7.77	82/69	
8'	16.62	7.05	80.6	7.85	82/69	
6	16.69	7.06	81.0	7.88	82/69	
4	16.87	7.06	81.5	7.89	82/69	
2	17.11	7.06	82.2	7.93	82/69	

Upper Mattaponi Watershed Study
Impoundment Verification Survey Field Worksheet — Potential Impoundments
Water Data Collection

Sampler Name: S. LAVOIE

Date/Time: 9/22/2009 9:10

Sampling Station #: I007

Weather Conditions

Temperature: 12°C

Wind: Light Breeze

Cloud Cover: partly overcast

Precipitation: NONE

Total Depth: 27.5

Secchi Disk Depth

down: 3.25 m up: 3m

Comment:

Depth (m)	Temp (°C)	pH	DO (%)	DO (mg/L)	Cond (µS/cm)	Comments
26.	16.52	7.72	86.8	8.56	83/70	
24.	16.52	7.57	85.3	8.32	83/70	
22	16.52	7.50	84.3	8.23	83/70	
20	16.54	7.42	83.6	8.16	83/70	
18	16.56	7.35	83.1	8.11	83/70	
~~16~~	~~16.56~~	~~7.31~~	~~83.2~~	~~8.10~~	~~83/70~~	
16	16.58	7.24	82.3	8.03	83/70	
14	16.60	7.20	82.3	8.03	83/70	
12	16.62	7.17	81.7	7.95	83/69	
10	16.63	7.14	81.2	7.91	83/69	
8	16.65	7.12	81.0	7.90	83/69	
6	16.71	7.10	81.2	7.89	82/69	
4	16.81	7.10	81.2	7.88	82/69	
2	17.00	7.09	81.7	7.89	81/69	

Upper Northland Candidate Impoundment Study
Impoundment Qualification Study Field Worksheet — Fraser Lake Impoundment
In Situ Data Collection

Sampler Name: S. LAVOIE

Date/Time: 9/22/2009

Sampling Station #: I008

Weather Conditions

Temperature: 12°C

Wind: Light Breeze

Cloud Cover: Partly Cloudy

Precipitation: NONE

Total Depth: 23.2

Secchi Disk Depth

down: 3.25 up: 2.9

Comment:

Depth (m)	Temp (°C)	pH	DO (% sat)	Turb (NTU)	Cond (µS/cm)	Comments
22	16.78	7.15	77.9	7.55	82/69	
20	16.78	7.10	77.8	7.55	82/69	
18	16.78	7.07	77.9	7.57	82/69	
16	16.80	7.05	78.4	7.60	82/69	
14	16.86	7.03	79.4	7.70	82/69	
12	16.89	7.03	79.5	7.70	82/70	
10	16.90	7.03	79.8	7.73	82/70	
8	16.98	7.01	80.0	7.74	82/70	
6	17.02	7.02	81.1	7.84	82/69	
4	17.03	7.02	81.6	7.88	82/70	
2	17.06	7.03	82.0	7.90	82/70	

Sampler Name: S. LAVOIE

Date/Time: 9/22/09

Sampling Station #: I009

Weather Conditions

Temperature: Light Breeze

Wind: 12°C

Cloud Cover: Partly cloudy

Precipitation: NONE.

Total Depth: 27.3

Secchi Disk Depth

down: 3.5m up: 3.0m

Comment:

Depth (m)	Temp (°C)	pH	DO (%sat)	DO (mg/L)	Cond (mS/cm)	Comments
26	16.84	7.10	78.0	7.56	82/69	
24	16.85	7.05	79.3	7.67	82/69	
22	16.86	7.04	78.5	7.61	82/69	
20	16.87	7.02	78.6	7.64	82/70	
18	16.90	6.99	78.9	7.64	83/70	
16	16.92	6.99	79.8	7.73	83/70	
14	16.95	6.99	79.5	7.69	83/70	
12	16.98	6.98	79.7	7.70	83/70	
10	16.99	6.98	80.2	7.75	82/70	
8	17.03	6.98	80.6	7.79	82/70	
6	17.06	6.98	81.1	7.82	82/70	
4	17.10	6.99	81.1	7.82	82/70	
2	17.36	6.99	82.1	7.87	82/70	

Upper Mississippi River Water Quality Monitoring Station Field Worksheet — Spring Fall Mississippi River Water Quality Monitoring Program

Sampler Name: S. LAVOIE.

Date/Time: 9/23/2009 9:40.

Sampling Station #: I010.

Weather Conditions

Temperature: 18°C

Wind: BREEZY.

Cloud Cover: CLOUDY

Precipitation: NONE.

Total Depth: ~~2.8'~~ 3.8'

Secchi Disk Depth

down: 3.8 ft up:

Comment: Can see bottom.

Depth (feet)	Temp (°C)	DO (mg/L)	DO (%)	pH (s.u.)	Cond (µS/cm)	Comments
~~2.8~~						
T						
~~3.8'~~	~~17.14~~	~~85.4~~	~~8.23~~			sandy bottom, boat moved
3.8'	17.14	7.38	85.3	8.22	99/84	depth for profile different
3.	17.14	7.31	85.4	8.23	99/84	from samples.
2.	17.14	7.25	85.4	8.23	99/84	

Upper Mattaponi and Pamunkey River Tidal Water Quality Improvement Monitoring Program - Field Data Worksheet
In Situ Data Collection

Sampler Name: S. LAVOIE

Date/Time: 9/23/09 8:55

Sampling Station #: I011

Weather Conditions

Temperature: 18°C

Wind: BREEZY

Cloud Cover: CLOUDY

Precipitation: NONE

Total Depth: 9'

Secchi Disk Depth

down: 9 ft. up:

Comment: can see the bottom.

Depth (m)	Temp (°C)	pH	DO (%sat)	DO (mg/L)	Cond (µS/cm)	Comments
8	17.15	7.39	91.1	8.78	103/88	
6	17.15	7.34	91.5	8.82	103/88	
4	17.15	7.32	91.5	8.81	105/89	
2	17.16	7.30	91.6	8.82	104/89	

Upper Mohawk River Water Quality Impoundment Stratification Survey Field Worksheet
Instrument Collection

Cayuga Falls Impoundment

Sampler Name: S. LAVOIE

Date/Time: 9/23/09 8:20

Sampling Station #: IO12

Weather Conditions

Temperature: 18°C

Wind: BREEZY

Cloud Cover: CLOUDY

Precipitation: NONE

Total Depth: 14'

Secchi Disk Depth

down: 4.1 m up: 3.5 m.

Comment:

Depth (ft)	Temp (°C)	pH	DO % sat	DO mg/l	Cond µS/cm	Comment
12	17.09	8.04	82.4	7.94	110/93	
10	17.09	7.80	82.4	7.95	109/93	
8	17.09	7.61	82.8	7.99	109/93	
~~6~~	~~17.09~~	~~7.46~~	~~83.0~~	~~8.01~~	~~109/93~~	these were at 8ft.
6	17.09	7.31	83.2	8.03	109/93	
4	17.09	7.26	83.3	8.03	110/93	
2	17.10	7.23	83.4	8.04	110/93	

Upper Mainland Small Impoundments Survey
Impoundment Stratification Survey Field Worksheet
Impoundment Collection

Rockcastle Impoundment

Sampler Name: S. LAVOIE

Date/Time: 9/23/2009

Sampling Station #: I013

Weather Conditions

Temperature: 23 °C

Wind: NONE.

Cloud Cover: CLOUDY

Precipitation: NONE.

Total Depth: 6'

Secchi Disk Depth

down: 6 ft up:

Comment: can see bottom.

Depth (m)	Temp (°C)	pH	DO (%)	DO (mg/L)	Cond (µS/cm)	Comments
6	17.32	7.53	88.7	8.51	111/95	
4	17.40	7.42	88.3	8.45	109/94	
2	17.49	7.31	88.1	8.43	109/93	

Upper Kettle Creek and Tributaries Watershed Survey
Impoundment Stratification Survey Field Worksheet — Hooker Hollow Impoundment
Water Data Collection

Sampler Name: S. LAVOIE

Date/Time: 9/23/2009 12:10

Sampling Station #: I014

Weather Conditions

Temperature: 23°C

Wind: BREEZY

Cloud Cover: CLOUDY

Precipitation: NONE

Total Depth: 7.3'

Secchi Disk Depth

down: 7.3 ft. up:

Comment: can see disk on bottom.

Depth (ft)	Temp (°C)	pH	DO (%sat)	Eco (mg/l)	Cond (µS/cm)	Comments
7'	17.52	7.31	91.6	8.76	112/96	
6'	17.53	7.25	91.3	8.72	112/96	
4'	17.64	7.22	91.1	8.66	112/96	
2'	21.53	7.19	87.7	7.73	115/108	

Upper Merrimack and Pemigewasset River Study
Impoundment Stratification Survey Data Worksheet
Water Quality Collection

Hooksett Pool Impoundment

Sampler Name: S. LAVOIE.

Date/Time: 9/23/2009 12:45

Sampling Station #: I015

Weather Conditions

Temperature: 23°C

Wind: BREEZY

Cloud Cover: CLOUDY

Precipitation: NONE.

Total Depth: 13'

Secchi Disk Depth

down: 3.8 m. up: 3.3 m.

Comment:

Depth (m)	Temp (°C)	pH	DO (%sat)	DO (mg/L)	Cond (µS/cm)	Comments
12'	17.49	7.35	89.1	8.51	109/94	
10'	17.50	7.28	88.3	8.44	109/94	
8'	17.54	7.23	88.5	8.46	110/94	
6'	17.53	7.18	88.3	8.43	110/94	
4'	17.65	7.16	88.4	8.44	110/94	
2'	19.20	7.15	89.1	8.23	112/100	

Upper Connecticut River Water Quality Impairments Assessment Field Work Data Form
Water Column Collection

Sampler Name: S. LAVOIE

Date/Time: 9/28/09 11:07

Sampling Station #: I016

Weather Conditions

Temperature: 23°C

Wind: WINDY

Cloud Cover: PARTLY CLOUDY

Precipitation: NONE

Total Depth: 6.8'

Secchi Disk Depth

down: 6.8' up:

Comment: can see disk on bottom.

Depth (m)	Temp (°C)	pH	DO (%sat)	DO (mg/L)	Cond (µS/cm)	Comments
6'	18.93	7.62	86.0	7.98	113/110	
4'	18.93	7.54	86.0	7.99	113/100	
2'	18.96	7.47	86.3	8.01	113/100	

Upper Klamath Lake Water Quality Investigations/Limnology Field Work Log — Ameko Impoundment — Water Sample Collection

Sampler Name: S. LAVOIE.

Date/Time: 9/24/09

Sampling Station #: I017

Weather Conditions

Temperature: 23°C

Wind: BREEZY

Cloud Cover: PARTLY CLOUDY

Precipitation: NONE.

Total Depth: 11.4'

Secchi Disk Depth

down: 3.8 m up: 3.3 m

Comment:

Depth (m)	Temp (°C)	DO (mg/L)	DO (%)	pH (pH)	Cond (µS/cm)	Comments
10	18.31	7.78	83.8	7.87	118/103	
8	18.30	7.60	83.6	7.87	118/103	
6.	18.31	7.46	84.0	7.89	118/103	
4	18.31	7.37	84.2	7.92	118/103	
2	18.35	7.33	84.4	7.93	117/103	

Upper Merrimack and Pemigewasset River Study
Impoundment Stratification Survey Field Worksheet
In-Situ Data Collection

Amoskeag Impoundment

Sampler Name: S. LAVOIE

Date/Time: 9/24/2009

Sampling Station #: I 018

Weather Conditions

Temperature: 23°C

Wind: BREEZY

Cloud Cover: PARTLY CLOUDY

Precipitation: NONE.

Total Depth: 7.4'

Secchi Disk Depth

down: 7.4' up:

Comment: can see bottom

Depth feet	Temp °C	pH	DO % sat	DO mg/l	Cond uS/cm	Comments
7'	18.71	8.18	89.6	8.36	123/108	
6'	18.70	7.93	89.6	8.36	122/108	
4'	18.71	7.69	89.8	8.38	123/108	
2	18.71	7.57	90.1	8.46	122/107	
						had to sample upstream because of extremely low water in impoundment

Upper Merrimack and Pemigewasset River Study
Impoundment Survey Samples for Laboratory Analysis
Grab Sample Collection

Impoundment Survey #5
October 2009

Ayers Island
Franklin Falls
Eastman Falls
Garvins Falls

Sampler Name: _____

	Sample Number Information									
		Station	Type[1]	Event	Parameter[2]	Sample Depth feet	Total Depth feet	Time Collected	Sample Date	Comments
	I	001	G	1	Chla	8	16	2:45 PM	6/25/2009	1 L amber bottle
Ayers Island	I	001	G	4	TP	5	11	9:25	10/26/09	60 cc
	I	001	G	4	Chl-a					1 L amber bottle
	I	002	G	4	TP	5	18	9:50		60 cc
	I	002	G	4	Chl-a					1 L amber bottle
	I	003	G	4	TP	5'	30	10:20		60 cc
	I	003	G	4	Chl-a					1 L amber bottle
	I	003	A	4	TP	25'	30	10:25		60 cc
Franklin Falls	I	004	G	4	TP					60 cc
	I	004	G	4	Chl-a					1 L amber bottle
	I	005	G	4	TP					60 cc
	I	005	G	4	Chl-a					1 L amber bottle
	I	006	G	4	TP					60 cc
	I	006	G	4	Chl-a					1 L amber bottle
	I	006	A	4	TP					60 cc
Eastman Falls	I	007	G	4	TP	5'	27	12:15	10/26/09	60 cc
	I	007	G	4	Chl-a					1 L amber bottle
	I	008	G	4	TP	5'	23	12:50		60 cc
	I	008	G	4	Chl-a					1 L amber bottle
	I	009	G	4	TP	5'	26	1:10		60 cc
	I	009	G	4	Chl-a					1 L amber bottle
	I	009	A	4	TP	20'	26	1:15		60 cc
Garvins Falls	I	010	G	4	TP	5'	9.5	8:40	10/27/09	60 cc
	I	010	G	4	Chl-a					1 L amber bottle
	I	011	G	4	TP	3'	12'	9:10		60 cc
	I	011	G	4	Chl-a					1 L amber bottle
	I	012	G	4	TP	5'	17'	9:45		60 cc
	I	012	G	4	Chl-a					1 L amber bottle
	I	012	A	4	TP	10'	17'	9:50		60 cc

1) C: spatial composite; G: grab sample; A: additional depth sample; R: equipment rinsate; B: blank; D: duplicate
2) TP: total phosphorus; Chla: chlorophyll-a; CN: particulate C&N

0

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Upper Merrimack and Pemigewasset River Study
Impoundment Survey Samples for Laboratory Analysis
Grab Sample Collection

Impoundment Survey #5
October 2009

Hooksett Falls
Amoskeag
QA/QC

Sampler Name: _____

	Sample Number Information									
		Station	**Type[1]**	**Event**	**Parameter[2]**	**Sample Depth** feet	**Total Depth** feet	**Time Collected**	**Sample Date**	**Comments**
	I	001	G	1	Chla	8	16	2:45 PM	6/25/2009	1 L amber bottle
Hooksett Falls	I	013	G	4	TP	5'	9'	11:40	10/27/09	60 cc
	I	013	G	4	Chl-a					1 L amber bottle
	I	014	G	4	TP	5'	13'	12:00		60 cc
	I	014	G	4	Chl-a					1 L amber bottle
	I	015	G	4	TP	5'	10'	12:20		60 cc
	I	015	G	4	Chl-a					1 L amber bottle
	I	015	A	4	TP	7'	10'	12:30		60 cc
Amoskeag	I	016	G	4	TP	5'		10:05	10/28/09	60 cc
	I	016	G	4	Chl-a					1 L amber bottle
	I	017	G	4	TP	5'	18.5	8:50		60 cc
	I	017	G	4	Chl-a					1 L amber bottle
	I	018	G	4	TP	5'	12'	9:35		60 cc
	I	018	G	4	Chl-a					1 L amber bottle
	I	018	A	4	TP	10'	12'	9:40		60 cc
Dups	I	10~~5~~03	D	4	TP	5	30	10:20	10/26	60 cc
	I	10~~5~~03 12	D	4	TP	5	17	9:45	10/27	60 cc
	I	11~~0~~03	D	4	Chl-a	5	30	10:20	10/26	1 L amber bottle
Blanks	I	20~~1~~09	B	4	TP	NA	NA	1:20	10/26	60 cc
	I	20~~1~~09	B	4	Chl-a			1:20	10/26	60 cc
	I	21~~0~~8	B	4	TP			9:45	10/28	1 L amber bottle
Rinses	I	30~~1~~15	R	4	TP	NA	NA	12:40	10/27	60 cc
	I	30~~1~~15	R	4	Chl-a			12:40	10/27	60 cc
	I	313	R	4	TP					1 L amber bottle

1) C: spatial composite; G: grab sample; A: additional depth sample; R: equipment rinsate; B: blank; D: duplicate

2) TP: total phosphorus; Chla: chlorophyll-a; CN: particulate C&N

Upper Merrimack and Pemigewasset River Study
Drinking Water Treatability Sampling **Sample #4 October 2009**
Grab Sample Collection

Sampler Name:
Date/Time: 10/28 11 AM
Weather Conditions

Weather Conditions
Temperature:
Wind:
Cloud Cover:
Precipitation: drizzle

Additional Sampling Notes:

Time Collected	Parameter	Bottle Type	Notes
	Dissolved Organic Carbon	125 mL amber glass	
	UV254 absorption - filtered		
	Total Organic Carbon	125 mL amber glass	PRESERVATIVE
	Perchlorate	125 mL poly	
	pH	125 mL poly	
	Iron		RVATIVE
	Manganes		
	MTBE		RVATIVE
	Algae		
	Alkalinity		
	MIB and Ge		
	Turbidity		
	UV254 abso		
	Actinomycet		

don't input this page

Upper Merrimack and Pemigewasset River Study
Impoundment Stratification Survey Field Worksheet
In-Situ Data Collection

Ayers Island Impoundment

Sampler Name:

Date/Time: 9:30 10/26/09

Sampling Station #: 001

Weather Conditions

Temperature:

Wind:

Cloud Cover:

Precipitation:

Secchi Disk Depth

down: 1.5 up: 1.25

Comment:

Total Depth: 11'

Depth feet	Temp °C	pH	DO % sat	DO mg/l	Cond uS/cm	Comments
10	7.62	7.39	96.6	11.54	26/18	
8	7.62	7.28	96.7	11.56	26/18	
6	7.62	7.18	96.8	11.58	26/18	
4	7.62	7.14	96.9	11.58	26/18	
2	7.62	7.04	96.9	11.59	26/18	

Upper Merrimack and Pemigewasset River Study
Impoundment Stratification Survey Field Worksheet
In-Situ Data Collection

Ayers Island Impoundment

Sampler Name:

Date/Time: 10/26/09 9:55

Sampling Station #: 002

Weather Conditions

Temperature:

Wind: windy

Cloud Cover: clear

Precipitation: none

Total Depth: 18

Secchi Disk Depth

down: 1.3 up: 1.15

Comment:

meters

Depth feet	Temp °C	pH	DO % sat	DO mg/l	Cond uS/cm	Comments
17	7.82	7.00	95.5	11.35	26/17	
9	7.82	6.78	95.3	11.34	26/17	
3	7.79	6.75	95.6	11.38	26/17	

Upper Merrimack and Pemigewasset River Study
Impoundment Stratification Survey Field Worksheet
In-Situ Data Collection

Ayers Island Impoundment

Sampler Name:

Date/Time: 10/23/09 10:40

Sampling Station #: 003

Weather Conditions

Temperature:

Wind:

Cloud Cover:

Precipitation:

Secchi Disk Depth

down: 1.3 up: 1.0

Comment: meters

Total Depth: 30'

Depth feet	Temp °C	pH	DO % sat	DO mg/l	Cond uS/cm	Comments
28	8.05	6.74	94.0	11.13	23/16	
16	8.06	6.61	95.0	11.24	23/16	
7.5	8.08	6.53	95.1	11.24	23/16	
2	8.14	6.49	95.3	11.24	23/16	

Upper Merrimack and Pemigewasset River Study
Impoundment Stratification Survey Field Worksheet
In-Situ Data Collection

Franklin Falls Impoundment

Sampler Name:

Date/Time:

Sampling Station #: 05

Weather Conditions

Temperature:

Wind:

Cloud Cover:

Precipitation:

Total Depth:

Secchi Disk Depth

down: up:

Comment:

10/28 could not access ramp

Depth feet	Temp °C	pH	DO % sat	DO mg/l	Cond uS/cm	Comments

Upper Merrimack and Pemigewasset River Study
Impoundment Stratification Survey Field Worksheet
In-Situ Data Collection

Franklin Falls Impoundment

Sampler Name:

Date/Time:

Sampling Station #: 06

Weather Conditions

Temperature:

Wind:

Cloud Cover:

Precipitation:

Total Depth:

Secchi Disk Depth

down: up:

Comment:

10/28 could not access ramp

Depth feet	Temp °C	pH	DO % sat	DO mg/l	Cond uS/cm	Comments

Upper Merrimack and Pemigewasset River Study
Impoundment Stratification Survey Field Worksheet
In-Situ Data Collection

Eastman Falls Impoundment

Sampler Name:

Date/Time: 10/26/09 12:25

Sampling Station #: 007

Weather Conditions

Temperature:

Wind: calm

Cloud Cover:

Precipitation:

Total Depth: 27'

Secchi Disk Depth

down: ~1m up:

Comment: too much flow really

Depth feet	Temp °C	pH	DO % sat	DO mg/l	Cond uS/cm	Comments
~~16.5~~	~~7.97~~				~~24/16~~	water flowing very
17.0						fast through FF
~~16.5~~	7.97	6.4	106.3	12.6	24/16	tunnels
11.5	7.98	6.36	106.6	12.63	24/16	
10	7.97	6.32	106.5	12.62	24/16	very ~~too~~ high flow
6	7.97	6.29	106.5	12.61	24/16	
2	7.97	6.29	106.6	12.64	24/16	

Upper Merrimack and Pemigewasset River Study
Impoundment Stratification Survey Field Worksheet
In-Situ Data Collection

Eastman Falls Impoundment

Sampler Name:

Date/Time: 12:55 10/26/09

Sampling Station #: 008

Weather Conditions

Temperature:

Wind: calm

Cloud Cover: clear

Precipitation: none

Total Depth: 23'

Secchi Disk Depth

down: ~1 m up:

Comment:

high flow

Depth feet	Temp °C	pH	DO % sat	DO mg/l	Cond uS/cm	Comments
20	7.99	6.22	106.3	12.60	25/17	
15	7.99	6.22	106.4	12.61	25/17	
9	8.00	6.21	106.5	12.61	25/17	
5	8.01	6.20	106.5	12.61	25/17	
2	8.02	6.19	106.4	12.60	25/17	

Upper Merrimack and Pemigewasset River Study
Impoundment Stratification Survey Field Worksheet
In-Situ Data Collection

Eastman Falls Impoundment

Sampler Name:

Date/Time: 10/26/09 1:25

Sampling Station #: 009

Weather Conditions

Temperature:

Wind:

Cloud Cover:

Precipitation:

Secchi Disk Depth

down: up:

Comment:

Total Depth: 26'

Depth feet	Temp °C	pH	DO % sat	DO mg/l	Cond uS/cm	Comments
20	8.02	6.27	105.4	12.48	25/17	
12	8.02	6.19	105.5	12.48	25/17	
7	8.03	6.16	105.6	12.50	25/17	
2	8.04	6.17	105.6	12.50	25/17	

Upper Merrimack and Pemigewasset River Study
Impoundment Stratification Survey Field Worksheet
In-Situ Data Collection

Garvins Falls Impoundment

Sampler Name:

Date/Time: 10/27/09 8:45

Sampling Station #: 010

Weather Conditions

Temperature:

Wind: calm

Cloud Cover: cloudy

Precipitation: none

Total Depth: 9.5'

Secchi Disk Depth

down: up:

Comment:

very high flow
flooding
river up 3-5' from normal

Depth feet	Temp °C	pH	DO % sat	DO mg/l	Cond uS/cm	Comments
7'	7.98	6.85	100.2	11.87	37/25	
4'	7.98	6.75	100.4	11.89	37/25	
2'	7.98	6.69	100.5	11.91	37/25	

Upper Merrimack and Pemigewasset River Study
Impoundment Stratification Survey Field Worksheet
In-Situ Data Collection

Garvins Falls Impoundment

Sampler Name:

Date/Time: 9:15 10/27

Sampling Station #: 011

Weather Conditions

Temperature:

Wind:

Cloud Cover:

Precipitation:

Total Depth: 12'

Secchi Disk Depth

down: up:

Comment:

high flow

Depth feet	Temp °C	pH	DO % sat	DO mg/l	Cond uS/cm	Comments
5	7.95	6.6	100.2	11.88	37/25	
3	7.95	6.55	100.0	11.86	37/25	
2	7.95	6.53	100.0	11.86	37/25	

Upper Merrimack and Pemigewasset River Study
Impoundment Stratification Survey Field Worksheet
In-Situ Data Collection

Garvins Falls Impoundment

Sampler Name:

Date/Time:

Sampling Station #: 12

Weather Conditions

Temperature:

Wind:

Cloud Cover:

Precipitation:

Total Depth: 17'

Secchi Disk Depth

down: up:

Comment: too high flow

Depth feet	Temp °C	pH	DO % sat	DO mg/l	Cond uS/cm	Comments
6.5	7.95	6.53	102.2	12.12	39/26	
3.0	7.95	6.54	102.0	12.09	39/26	
1.5	7.95	6.50	101.9	12.08	38/26	

Upper Merrimack and Pemigewasset River Study
Impoundment Stratification Survey Field Worksheet
In-Situ Data Collection

Hooksett Falls Impoundment

Sampler Name:

Date/Time: 1145 10/27/09

Sampling Station #: 013

Weather Conditions

Temperature:

Wind:

Cloud Cover:

Precipitation:

Total Depth:

Secchi Disk Depth

down: 1 up: 0.8

Comment: meters

Depth feet	Temp °C	pH	DO % sat	DO mg/l	Cond uS/cm	Comments
7	8.00	6.60	102.8	39/26	12.17	sampled @ power
5	8.00	6.53	102.1	12.09	39/27	plant
2	8.00	6.50	102.0	12.08	40/27	

Upper Merrimack and Pemigewasset River Study
Impoundment Stratification Survey Field Worksheet
In-Situ Data Collection

Hooksett Falls Impoundment

Sampler Name:

Date/Time: 10/27/09 12:05

Sampling Station #: 014

Weather Conditions

Temperature:

Wind:

Cloud Cover:

Precipitation:

Total Depth:

Secchi Disk Depth

down: up:

Comment:

Depth feet	Temp °C	pH	DO % sat	DO mg/l	Cond uS/cm	Comments
12	8.01	6.54	103.4	12.23	39/26	
6	8.01	6.51	102.9	12.18	39/26	
4	8.01	6.51	102.8	12.18	39/26	
2	8.01	6.49	102.7	12.16	39/26	

Upper Merrimack and Pemigewasset River Study
Impoundment Stratification Survey Field Worksheet
In-Situ Data Collection

Hooksett Falls Impoundment

Sampler Name:

Date/Time: 10/27/09 12:45

Sampling Station #: 016

Weather Conditions

Temperature:

Wind:

Cloud Cover:

Precipitation:

Total Depth: 10'

Secchi Disk Depth

down: up:

Comment:

Depth feet	Temp °C	pH	DO % sat	DO mg/l	Cond uS/cm	Comments
7'	8:03	6.46	102.5	12.13	39/26	
5'	8.03	6.49	102.5	12.13	39/26	
3'	8.03	6.47	102.6	12.14	39/26	

Upper Merrimack and Pemigewasset River Study
Impoundment Stratification Survey Field Worksheet
In-Situ Data Collection

Amoskeag Impoundment

Sampling Station #: 016

Sampler Name:

Date/Time: 10/28/09 10:10

Weather Conditions

Temperature:

Wind:

Cloud Cover:

Precipitation:

Total Depth: 16'

Secchi Disk Depth

down: 1.3 up: 1.0

Comment:

Depth feet	Temp °C	pH	DO % sat	DO mg/l	Cond uS/cm	Comments
14.5	8.34	6.58	16.2	11.76	44/30	
7.0	8.34	6.61	102.1	12.00	44/30	
3	8.34	6.6	103.6	12.18	44/30	

Upper Merrimack and Pemigewasset River Study
Impoundment Stratification Survey Field Worksheet
In-Situ Data Collection

Amoskeag Impoundment

Sampler Name:

Date/Time: 10/28/09 9:00 AM

Sampling Station #: 017

Weather Conditions

Temperature:

Wind: breezy

Cloud Cover: cloudy

Precipitation: drizzle

Total Depth: 18.5

Secchi Disk Depth

down: up:

Comment: too high flow

Depth feet	Temp °C	pH	DO % sat	DO mg/l	Cond uS/cm	Comments
16	8.34	6.57	98.9	11.62	44/30	
10	8.34	6.57	99.0	11.63	44/30	
4	8.34	6.58	99.1	11.64	44/30	
2	8.34	6.58	99.1	11.64	44/30	

Upper Merrimack and Pemigewasset River Study
Impoundment Stratification Survey Field Worksheet
In-Situ Data Collection

Amoskeag Impoundment

Sampler Name:

Date/Time: 10/28 9:45

Sampling Station #: 018

Weather Conditions

Temperature:

Wind:

Cloud Cover:

Precipitation:

Total Depth: 12'

Secchi Disk Depth

down: up:

Comment: too much flow

Depth feet	Temp °C	pH	DO % sat	DO mg/l	Cond uS/cm	Comments
8	8.33	6.60	99.0	11.64	44/30	
4	8.33	6.58	99.0	11.63	44/30	
2	8.33	6.58	98.9	11.62	44/30	

Continuous Metering Field Log

July 20, 2009

CDM - Upper Merrimack River
WQ monitoring

Sonde	SN	Location	Cal
YSI 6920	99B1377A	Profiler	✓
YSI 6920	98G0511AC	C004	✓
YSI 600XLM	01J0851AB	C015	✓
YSI 600 XLM	01C0134AC	C014	✓
YSI 600XLM	98A0904AE	C009	✓

C014 - upstream of WWTF (Nashua)
1225 Depth profile WP 8

depth	Temp	Cond	pH	DO
0m	23.18	126	6.67	8.42
1	23.18	126	6.62	8.40
2	23.18	124	6.64	8.37
3	23.19	122	6.65	8.33
4.	23.19	123	6.66	8.31

file name = C014

3.95 m depth filename C014 0720.dat
voltage = 12.3 deployed at 1315
20 ft of line 3.5 ft depth of sonde
Sonde SN 01C0134AC

July 20, 2009
CRM Upper Merrimack River
WQ monitoring

C015 - 0.5 of WWTP (Nashua)
1530 Depth profile of C009

Depth	Temp	Cond	pH	DO
0	23.48	156	6.55	8.72
1	23.27	160	6.46	8.64
2	23.24	163	6.46	8.58
3	23.24	164	6.46	8.56
4	23.24	161	6.46	8.54
5	23.24	160	[illegible]	[illegible]

Site name C009
4.68 m total depth Filename C0150[illegible]
voltage 12.0 deployed at 1400
24 ft of line 3.5 ft depth of sonde

9 ft of scope on the [illegible]
C014 & C015

Sonde SN 01J0851AB

July 20, 2009
CRM Upper Merrimack River
Water Quality monitoring

C009 - U/S of Hooksett Falls WP10
1540 Depth profile

Depth	Temp	Cond	pH	DO
0	23.94	85	6.92	8.41
1	23.84	85	6.73	8.38
2	23.76	85	6.67	8.40
3	23.77	85	6.66	8.39
4	23.77	85	6.66	8.38

4.08 m total depth site name C009
Filename C0090720 dat
voltage 12.2 deployed at 1610
22 ft of line 3.5 ft depth of Sonde

9 ft of scope at C009

Sonde SN 98A0904AE

July 21, 2009
C010 - Upper Merrimack River
WQ Monitoring

Sonde	SN	Loc	Use
YSI 600XLM	99K0637AA	C010	✓
YSI 600XLM	01D1093AB	C008	✓
YSI 600XLM	99C0127AA	C007	✓
YSI 600XLM	99K1014AG	C011	✓

C010 R/S Hooksett 43.099 -71.46
Hor - 12pts profile WP12

Depth	Temp	Cond	pH	DO
0	22.45	88	6.92	8.74
1	22.45	88	6.89	8.11
2	22.45	88	6.84	8.07
3	22.45	88	6.86	8.06

Total depth 3.4 m voltage = 12.2
Site name = C010 Filename = 20100721.dat
SN: 99K0637AA
21 ft of line, 9 ft of scope
depth to sonde 3'11" deployed at 1140

July 21, 2009
C011 - Upper Merrimack River
WQ Monitoring - 1445-1500

C011 R/S Amoskeag 43.08 -71.47
Hor - 12pts profile WP13

Depth	Temp	Cond	pH	DO
0	23.53	89	7.06	8.41
1	23.53	89	6.97	8.4[illegible]
2	23.53	89	6.91	8.97
3	23.52	89	6.[illegible]	[illegible] to
4	[illegible]	[illegible]	[illegible]	[illegible]

Total depth 4.2 m Site name = C011
Filename = 20110721.dat voltage = 12.[illegible]
23 ft of line, 9 ft of scope
depth to sonde 3'4" deployed at 1030

SN: 99K1014AG.

July 21, 2004
CDM - Upper Merrimack River
WQ Monitoring

C007 D/S Garvins Falls 43.101 -71.499
1255 [illegible] WP13

Depth	Temp	Cond	pH	DO
	[illegible]	86	[illegible]	[illegible]
1	[illegible]	86	6.69	[illegible]
	[illegible]	86	[illegible]	[illegible]
3	[illegible]	87	[illegible]	[illegible]

depth 3.0 m voltage [illegible]
Site name = C008 Filename [illegible]
SN:
18 ft of line, 9 ft of scope
depth to sonde 3'6" deployed at [illegible]

raining moderately during deployment

July 21, 2004
CDM - Upper Merrimack River
WQ Monitoring

1437 - U/S of Garvins Falls 43.101 [illegible]
1440 - Profile WP14

Depth	Temp	Cond	pH	DO
0	[illegible]7	84	[illegible]	[illegible]
1	[illegible]	[illegible]	[illegible]	[illegible]
2	[illegible]	[illegible]	[illegible]	[illegible]
3	[illegible]	[illegible]	[illegible]	[illegible]
4	[illegible]17	[illegible]	[illegible]	[illegible]

depth 3.0 m voltage = [illegible]
Site name = C007 Filename = [illegible]
SN:
[illegible] ft of line, 9 ft of scope
depth to sonde 3'5", deployed at 1456

raining during deployment

July 22, 2009
CDM - Upper [illegible] Creek River
WQ Monitoring

Sonde	SN	Location	Cal
YSI 600XLM	01C334AA	C001	✓
YSI 600XLM	97L0102AB	C003	✓
YSI 6920	99B1377AA	Trailer	✓

	Cond	pH		DO
pre cal	1030	6.98	4.06	9.31
post cal	1000	7.00	4.00	9.21

C001 AYERS ISLAND DAM (A[illegible])
WAYPOINT 15

(m) DEPTH	(°C) TEMP	(µS) COND	pH	DO (mg/L)
0	22.07	59	6.70	9.10
1	21.82	58	6.62	9.12
2	21.74	58	6.56	9.07
3	21.38	58	6.40	8.80
4	21.04	61	6.36	8.63
5	20.87	61	6.27	8.37
6	20.70	61	6.26	8.36
7	20.60	61	6.22	8.29
8	20.45	63	6.18	8.18
9	20.23	61	6.15	6.85

~~to~~ TOTAL DEPTH 8.75 m

July 27, 2009 CDM - [illegible]

SITE C001 7/27/09
YSI IN 30' of water
attached to 45' of wire rope (Buoy to anchor)
SERIAL 01C0334AA
FILE NAME. C00107 22.DAT
BATTERY 12.5 VDC
deployed at 11:15

C003 - U/S Franklin Falls Dam WP15

Depth	Temp	Cond	pH	DO
0	20.63	62	6.35	8.62
1	20.15	61	6.30	8.58
2	20.00	61	6.24	8.51
3	19.94	61	6.23	8.44
4	19.91	61	6.22	8.41
5	19.91	61	6.21	8.37
6	19.90	61	6.20	8.36

bottom is at 5.6m, 30 ft of line, 1011 scope
SN 97L0102AB voltage = 12.0
file C0030722.dat site C003
deployed at 1350

July 22, 2009
CPM Upper [illegible]
[illegible]

C004 - [illegible] [illegible] 11:07

[illegible]	Temp	Cond	[illegible]	[illegible]
[illegible]	21.14	60	6.37	8.70
1	[illegible]	60	6.37	[illegible]
2	[illegible]	60	6.32	[illegible]
3	20.49	60	[illegible]	[illegible]
4	20.47	60	6.30	8.26
5	20.46	60	6.29	8.20
6	20.40	60	6.28	[illegible]
7	[illegible]	60	6.28	8.16

Total depth 11 6.7 m
Filename 090722 [illegible] site C004
volume 12.1
IN 14.6 [illegible]
deployed at 15:30

July 23, 2009
CPM Upper Avery Island
[illegible]

Sonde	SN	Location	
[illegible]	[illegible]D6956A	C013	✓
[illegible]	0230124D	C002	✓
[illegible]	0105474D	C005	✓
[illegible]	99B1377A	Profiler	✓

	Cond	pH 7	pH 4	DO
pre cal	1018	6.96	4.02	8.47
post cal	1000	7.00	4.00	8.10

C002 - D/S Avery Island

Depth	Temp	Cond	pH	DO
0.2	20.57	05	6.33	8.32

C000 [illegible]
measurement taken at 0.2 m
deployed at 1400 site C002, file [illegible] 23 [illegible]

Sonde is deployed near the bottom of the river on the right bank ~6 ft deep in swift water. The sonde is attached to a closed loop of wire rope connected to a tree on the bank to make a pulley to deploy + retrieve the sonde

July 23, 2009
CORM - Upper Merrimack River
WQ Monitoring
C005 - D/S Eastman Falls WP18

depth	Temp	Cond	pH	DO
0.1m	20.72	[illegible]	[illegible]	9.33

deployed at 1600 with a pulley out to the right bank

redeployed at [illegible] with a standard setup accessible by [illegible]

The "pulley" setup did not work due to the cable getting tangled in the rocks, debris and getting hung up. The sonde is deployed at a depth of ~4-5 ft. Water depth is 1.2 ft total line length is 20 ft [illegible] of scope

Jul 24, 2009
CORM - Upper Merrimack River
WQ Monitoring

Sonde	SN	Location	Cal
YSI 6920	99B1377A	C013	✓

	Cond	pH 7	pH 4	DO
pre cal	995	6.98	3.99	8.89
post cal	1000	7.00	4.00	9.09

C013 D/S Manch WTP - WP19

1300 Profile

Depth	Temp	Cond	pH	DO
0	20.82	100	6.78	8.97
1	20.83	100	6.78	8.95
2	20.83	100	6.79	8.94
3	20.83	100	6.80	8.94
4	20.82	101	6.81	8.93
5	20.83	101	6.91	8.92

Total depth 5.4 m, 34 ft of line, 14 ft of scope
SN 010 0956AA deployed at 14:00

July 27 2009
CDM - Upper Merrimack River
WQ Monitoring

Sonde	SN	Location	Cal
YSI 6120	99B1377AA		✓
YSI 6120	02B0071AA	C006	✓

	Cond	pH	pH	DO
[illegible]	1001	7.00	4.00	9.27
[illegible]	1000	7.00	4.00	8.64

C002 DB Avers Island redeployed
Sonde + 1050 (water dist [illegible]
[illegible] conventional [illegible]
[illegible] 20

July 27, 2009
CDM - Upper Merrimack River
WQ Monitoring

C006 Winnipesaukee Outfall

Depth Profile

Depth	Temp C	Cond	pH	DO mg/l
0	21.20	57	6.25	9.70
1	21.23	57	6.26	9.65
2	21.20	58	6.34	9.63
3				
4				

Total Depth = 2.2 meters
20 feet at line 5 feet at scope

Site name 406 filename C0060727
SN: 02B0071AA voltage: 12.7
WP22
deployed at 1350 depth of probe
~2-3 ft

July 27, 2009
CDM Upper Merrimack River
WQ Monitoring
Pt Sunny, ~85°F
C012

Depth	Temp	Cond	DO	pH
0	22	07 61	9.45	6.6

Depth = ~10 feet
30 feet of line to buoy
8 feet of line to weight

Site Name C012
File Name C0120727
SN 99B1577AA
Voltage 12.8

Waypoint 23
Deployed @ 16:30 7/27/09
Depth of probe ~3ft

July 28, 2009
CDM Upper Merrimack River
WQ Study
Pt. Sunny, 80°F

C015 Downstream Nashua WWTP

Downloaded File to handheld
File: C0150720
Serial # 015085 AB

	Cond	pH7	pH4	DO
pre cal	890	7.99	2.34	8.54
post cal	1000	7.00	4.00	7.97

C015 D/S Nashua WWTP
Depth Profile

Depth	Temp	Cond	DO	pH
0	21.79	120	9.23	6.41
1	21.78	123	9.15	6.37
2	21.75	118	9.09	6.34
3	21.75	116	9.03	6.31
4	21.74	117	9.01	6.25
5	21.76	117	8.99	6.22
6	21.72	116	8.92	6.19

C015 Redeployed @ 11:05 File C0150728

July 28, 2009

C01 Upper Merrimack River WQ Study

C014 Upstream Nashua WWTP

Downloaded File to handheld

File C0140720

SN: 01C0134AC

	Cond	pH 7	pH 4	DO
precal	933	6.95	4.05	8.38
postcal	1000	7.00	4.00	7.78

C014 US Nashua WWTP

Depth Profile

Depth	Temp	Cond	pH	DO
Bottom	22.31	84	6.57	8.70
Mid	22.33	84	6.62	8.65
Surface	22.42	86	6.76	8.60

Sonde Redeployed @ 12:25

Depth Finder indicated 18' Depth

Added 10' to scope

File C0140728

July 28 2009

C009 Upstream Hooksett

Downloaded File to handheld

File C0090720

SN 98A0904AE

Calibrate Sonde

	Cond	pH 7	pH 4	DO
precal	892	6.87	4.06	7.88
postcal	1000	7.00	4.00	7.62

Depth Profile

	Temp	Cond	pH	DO	Depth
Surface	22.57	66	6.01	8.67	0'
Upper Mid	22.52	66	6.06	8.69	5'
Low Mid	22.52	66	6.08	8.71	9'
Bottom	22.51	66	6.10	8.73	13'

Depth Finder indicated depth = 13'

Voltage = 12.2

C009 Redeployed @ 14:50

File C0090728

July 28 2009
CDM - Upper Merrimack WQ Study
C008 Downstream Garvins Falls

No data to be downloaded.
Old files deleted from sonde
Batteries were dead in sonde
Replaced batteries, restart logging program

C008 Calibration

	Cond	pH 7	pH 4	DO
pre-cal	907	7.01	3.98	4.07
post-cal	1000	7.00	4.00	7.19

Depth Profile

Meter	Temp	Cond	pH	DO
0	22.06	68	7.21	8.81
1 meter	22.06	68	7.12	8.70
2 meter	22.05	68	7.03	8.70
3	22.01	68	6.98	8.40

Depth of 3.3 meters Voltage = 12.3
Deployed @ 16 15
* DO sensor seems unstable. Change membrane next time onsite
Logger Program saved to file C0080728

July 29, 2009
CDM - Upper Merrimack WQ Study
C001 Above Amos Island Dam

Downloaded file C0010728

Calibrate SN01C0344AA

	Cond	pH 7	pH 4	DO
pre-cal	880	6.89	4.02	8.13
post-cal	1000	7.00	4.00	7.75

Depth Profile

Meter	Temp	Cond	pH	DO
0	23.99	56	5.86	8.65
1	22.79	56	[illegible]	7.78
2	22.41	55	5.91	8.21
3	21.52	55	5.93	8.77
4	21.06	53	5.95	8.76
5	20.77	52	5.95	8.77
6	20.52	53	5.92	8.76
7	20.23	53	5.94	8.77
8	20.08	53	6.00	8.67
8.6	19.82	52	5.98	7.62

Battery life 12.5 volts
Depth of 8.6 meters

Redeployed @ 10:25
File C0010729

July 29, 2002
CDM - Upper Merrimack WQ Study
C003 upstream Franklin Falls

Downloaded File C0030722
to handheld

Calibrate SN 97L062AB

	Cond	pH 7	pH 4	DO
pre cal	926	7.00	3.98	7.41
post cal	1000	7.00	4.00	7.51

Depth Profile (Depth is estimate)

	Temp	Cond	pH	DO
0	22.55	49	5.97	8.90
1	21.64	49	6.12	9.02
2	21.46	49	6.19	8.96
3	21.41	49	6.24	8.90
4	21.39	49	6.27	8.87
5	21.37	49	6.33	8.85
6	21.28	49	6.36	8.84

Set File C0030729; redeploy @ 12:10
Voltage = 12.0

July 29, 2009
CDM- Upper Merrimack River Study

C004- Below Franklin Falls
Upstream Eastman Falls

Downloaded File C0040722

	cond	pH 7	pH 4	DO
precal	940	6.86	4.02	7.32
postcal	1000	7.00	4.00	7.23

Depth Profile C004

	Temp	Cond	pH	DO
0	22.52	54	5.81	7.03
1	21.58	52	5.90	7.00
2	20.72	52	6.00	7.06
3	20.47	51	6.04	8.10
4	20.37	51	6.09	8.80
5	20.34	52	6.15	8.77
6	20.27	52	6.17	8.77
6.7	20.25	54	6.16	8.67

Set File C0040729, Volt = 12.1
Redeploy @ 13:59

July 29, 2009
CDM- Upper Merrimack River Study
C011- Upstream Amoskeag
Download C0110721

Calibrate

	Cond	pH 7	pH 4	DO
precal	875	6.97	3.93	8.10
postcal	1000	7.00	4.00	7.70

Depth Profile C011

meter	Temp	Cond	pH	DO
0	23.66	67	5.58	8.59
1	23.65	67	5.86	8.60
2	23.65	67	6.08	8.60
3	23.65	67	6.17	8.60
4	23.65	67	6.20	8.59

Redeployed File C0110729
Voltage 12.1
Redeploy @ 16:[illegible]

July 27, 2009

CDM - Upper Mississippi

CO10 Downstream Hocking

Download file CO10

Calibrate

pH	967	6.86	4	5.68
Vertical	1000	7.00		8.10

DO Recal

Depth Profile

0	23.57	6.8	6.55	
1	23.59	6.8	6.55	8.97
2	23.58	6.9	6.64	8.6

July 30, 2009
CDM- Upper Merrimack WQ Study

C005 D/S Eastman Falls
Pt. Sunny, ~80°F, Humid

Download File C0050723

Calibrate C005 Sonde

	Cond	pH7	pH4	DO
Precal	9.45	7.01	4.03	8.14
Postcal	1000	7.00	4.00	7.99

No Depth Profile - Dam release occuring

Program File C0050730
Logging active
Redeploy 07/30/09 @
Voltage = 12.1

Redeploy @ 12:30

July 30, 2009
CDM - Upper Merrimack WQ Study
C006 Winnipesaukee Outfall

Downloaded C0060727

	Cond	pH7	pH4	DO
precal	914	6.99	4.00	7.58
postcal	1000	7.00	4.00	7.69

Calibrated C006

Program File C0060730
Volt 12.1

Re-deployed @ 17:45

July 30, 2009
CDM - Upper Merrimack WQ Study
C007 - Upstream Garvins Falls

	Cond	pH7	pH4	DO
precal	949	6.84	4.05	8.16
postcal	1000	7.00	4.00	7.53

Downloaded C0070721
Calibrated C007

Program File C0070730
Volt 12.3

Redeployed @ 16:30

July 31, 2009
CDM- Upper Merrimack WQ Study

C 013 - Manchester WWTP outfall

✓Download C0130724
Calibrate Sonde

	cond	pH7	pH4	DO
precal	887	6.82	4.14	8.28
postcal	1000	7.00	4.00	8.35

Programmed. C013073)

Redeployed @ 1030

Volt: 12.1

July 31, 2009
CDM- Upper Merrimack WQ Study

C012 D/S Amoskeag

Download C0120727
Calibrate Sonde

	Cond	pH7	pH4	DO
precal	924	7.02	4.01	8.76
postcal	1000	7.00	4.00	8.56

CDM - Upper Merrimack WQ Study
August 3, 2009
J. Eisenhuth and Joel Dotty
~75°F, Sunny Clear

C014 Upstream Nashua WWTP

Downloaded File C0140728
Calibrate Sonde

	cond	pH7	pH4	DO
precal	976	6.99	4.01	8.18
postcal	1000	7.00	4.00	7.91

Programmed C0140803
Volts 12.4
Depth ~20ft

Redeployed @ 10:35

August 3, 2009
CDM - Upper Merrimack WQ Study

C015 - Downstream Nashua WWTP

Download C0150728

Calibrate Sonde

	cond	pH7	pH4	DO
precal	994	7.04	3.91	8.19
postcal	1000	7.00	4.00	8.00

Programmed C0150803
Depth = 19ft, Volts = 12.1

Redeployed @ 11:24

August 3, 2009
CDM- Upper Merrimack WQ Study

C011 Upstream Amoskeag

Downloaded C0110729

Calibrate Sonde

	Cond	pH7	pH4	DO
precal	987	7.03	3.98	7.80
postcal	1000	7.00	4.00	7.78

Program File C0110803
Volt = 12.2 Depth = 13 ft

Redeploy Sonde @ 14:05

August 3, 2009
CDM- Upper Merrimack WQ Study

C010 D/S Hooksett

Uploaded File C0100729

Calibrate Sonde

	Cond	pH7	pH4	DO
precal	998	7.04	3.92	8.21
postcal	1000	7.00	4.00	7.70

Program file C0100603
Volt 12.2 Depth = 13 ft

Redeploy sonde @ 15:17

August 3, 2009
CDM- Upper Merrimack WQ Study

C008- Downstream Garvins Falls

Downloading C0080728

Change DO Membrane

	cond	pH7	pH4	DO
precal	1020	7.07	3.92	10.55
postcal	1000	7.00	4.00	7.64

Programmed C0080803

Volt 12.2 Depth 12 Ft

Redeploy @ 16 45

August 4, 2009
CDM- Upper Merrimack WQ Study
Sunny ~72°F Clear Calm
C009- Upstream Hooksett

Download C0090728

Calibrate Sonde

	cond	pH7	pH4	DO
precal	1471	7.13	3.77	7.18
postcal	1413	7.00	4.01	8.55

Programmed C0090804

Volt 12.2 Depth 15

Redeploy @ 9:53

August 4, 2009
CDM- Upper Merrimack WQ Study

C001 U/S Ayres Island

Download C0010729

Calibrate Sonde

	Cond	pH7	pH4	DO
precal	1542	7.22	3.76	6.62
postcal	1413	7.00	4.01	7.67

Programmed C00108 14

Volt 12.5 Depth 20

Redeploy @ 12:01

August 4, 2009
CDM- Upper Merrimack WQ Study

C004 D/S Franklin / U/S Eastman

Download C0040729

Clean / Calibrate Sonde

	Cond	pH7	pH4	DO
precal	1541	7.12	3.80	7.18
postcal	1413	7.00	4.01	7.42

Programmed C00410804

Volt 12.2 Depth 24 ft

Redeploy @ 14:13

August 5, 2009
CDM- Upper Merrimack WQ Study

C013 D/S Manchester WWTP

Download C0130731
Change DO Membrane
Calibrate Sonde

	cond	pH7	pH4	DO
pre	1500	7.19	3.78	6.38
post	1413	7.00	4.00	8.07

Programmed file C0130805

Volt 12.2

Redeploy @ 10:55

August 5, 2009
CDM- Upper Merrimack WQ Study

C012 D/S Amoskeag

Could not find buoy/probe
Searched transects, no luck

C007 U/S Garvins falls

Download File C0070730
Calibrate Sonde

	cond	pH7	pH4	DO
pre	1493	7.08	3.84	7.68
post	1413	7.00	4.01	7.44

Program File C0070805

Volt 12.5
Redeploy @ 14:15

August 5, 2009
CDM- Upper Merrimack WQ Study

C006 Winnipesaukee WWTP

Download C00608730

Calibrate Sonde

	Cond	pH7	pH4	DO
pre	1506	7.04	3.85	7.72
post	1413	7.00	4.01	7.44

Programmed C0060805

Volts 12.1

Redeployed @ 16:50

August 6, 2009
CDM- Upper Merrimack WQ Study

C003 U/S Franklin

Download C00308729

Calibrate Sonde

	Cond	pH7	pH4	DO
pre	1482	7.07	3.86	8.04
post	1413	7.00	4.01	[illegible].76

Programmed C0030806
Volt. 12.2
Redeploy @ 12:56

* Checked on D/S Ayres Island Could not find buoy/sonde. Flow ~1870cfs. Will check next week.

August 6, 2009
CDM- Upper Merrimack WQ Study

C005 D/S Eastman

Download C0050730

	Cond	pH 7	pH 4	DO
pre	1505	7.17	3.78	7.88
post	1413	7.00	4.00	7.79

Programmed C0050806

Volt. 12.2

Redeployed @

August 10, 2009
J. Eisenhith / D. Mason
~80°F, Pt. Sunny

CDM- Upper Merrimack WQ Study

C015 D/S Nashua WWTP

Download C0150803
Calibrate Sonde

	Cond	pH 7	pH 4	DO
pre	1487	7.12	3.78	7.72
post	1413	7.00	4.01	7.46

Programmed C015 0810

Volt 12.2

Redeploy @ 11:12

August 10, 2009
CDM- Upper Merrimack WQ Study

C014 U/S Nashua WWTP

Download C0140803

Calibrate Sonde

	Cond	pH7	pH4	DO
pre	1508	7.09	3.83	8.52
post	1413	7.00	4.01	8.07

Program C0140810

Volts 12.5

Depth 14'

Redeploy @ 11:45

August 10, 2009
CDM- Upper Merrimack WQ Study

C009 U/S Hooksett

Download C0090804

Calibrate Sonde

	Cond	pH7	pH4	DO
pre	1455	7.03	4.00	8.49
post	1413	7.00	4.01	8.02

Program C0090810

Volts 12.3 Depth = 13'

Redeploy @ 13:52

August 10, 2009
CDM Upper Merrimack WQ Study

C008 D/S Gavins

Download C00808 03

Calibrate Sonde

	cond	pH7	pH4	DO
pre	1486	7.00	3.97	7.26
post	1413	7.00	4.01	7.92

Program C00808 10

Volt = 12.3 Depth = 10

Redeploy @ 14:46

August 10 2009
CDM- Upper Merrimack WQ Study

C011 U/S Amoskeag

Download C0110803

Calibrate Sonde

	Cond	pH7	pH4	DO
precal	1512	7.08	3.92	7.94
postcal	1413	7.00	4.01	7.93

Program C0110810

Volt 12.2 Depth 12

Redeploy @ 16:26

August 10, 2009
CDM- Upper Merrimack WQ Study

C010 D/S Hookset

Upload C0100803

Calibrate Sonde

	Cond	pH7	pH4	DO
precal	1501	7.06	3.86	8.22
postcal	1413	7.00	4.01	7.82

Program C0100810

Volt 12.2 Depth = 12'

Redeploy @ 17:17

August 11, 2009
J. Eisenhuth / D. Mason

C001 U/S Hookset

Upload C0010804

Calibrate Sonde
Changed DO Membrane. Charge was @ 19 and readings were low

	Cond	pH7	pH4	DO
precal	1471	6.81	4.03	8.46
postcal	1413	7.00	4.01	7.82

Program C0010811

Volt 12.3 Depth = 28

Redeploy @ 11:33

August 11, 2009
CDM- Upper Merrimack WQ Study

C003- u/s Franklin

Downloaded C0030806

Calibrate Sonde

	cond	pH7	pH4	DO
pre	1464	7.06	4.01	8.30
post	1413	7.00	4.01	7.82

Programmed C0030811

Volt- 12.2 Depth: 20

Redeploy @ 13:29

★ Note- Retrieved bouy/probe in debris catch bouys in front of Franklin Dam. Assumed to be missing Ayers Island sonde/setup. Was snarled at the cable from anchor.

August 11, 2009
CDM- Upper Merrimack WQ Study

C004 D/S Franklin

Download C0040804

Calibrate Sonde

	cond	pH7	pH4	DO
pre	1425	6.99	4.03	7.41
post	1413	7.00	4.01	7.33

Programmed C0040811

Volt 12.0 Depth: 22

Redeploy @ 15:05

August 12, 2009
CDM- Upper Merrimack WQ Study
~75°F Pt Sunny
C013 D/S Manchester WWTF

Upload C0130805

Calibrate Sonde

	cond	pH7	pH4	DO
pre	1430	7.01	4.03	11.14
post	1413	7.00	4.01	9.25

Programmed C0130812

Volts: 12.1

Redeploy @ 11:30

August 12, 2009
CDM- Upper Merrimack WQ Study

C007 U/S Garvins Falls

Upload C0070805

Calibrate Sonde

	cond	pH7	pH4	DO
precal	1387	7.07	3.98	8.46
postcal	1413	7.00	4.01	8.00

Programmed C0070812

Volts 12.5 Depth: 14'

Redeploy @ 15:30

August 13, 2009
CDM - Upper Merrimack WQ Study

C002 - D/S Ayres
*Attempt to DL Ayres Data
Probe indicates Logging is active. However, Active File C0020723 has no entries/data. Logging was left running - hopefully issue can be determined/data recovered.

August 13, 2009
CDM - Upper Merrimack WQ Study
~75°F, Cloudy, Rain in Area
C005 - D/S Eastman

Download File C0050503

Calibrate Sonde

	Cond	pH7	pH4	DO
pre cal	1355	6.98	4.07	8.93
post cal	1413	7.00	4.01	8.77

Program C0050813

Volt 12.2

Redeploy @ 12:15

August 13, 2009
CDM- Upper Merrimack WQ Study

C006 - Winnipesaukee WWTF

Download C0060805

Calibrate Sonde

	Cond	pH7	pH4	DO
pre	1351	7.03	4.02	8.61
post	1413	7.00	4.01	8.42

Volts 12.2

Program C0060813

Redeploy @ 14:00

August 17, 2009
CDM- Upper Merrimack WQ Study

C014 - Upstream Nashua WWTP

Sunny, Hazy, ~ 85°F, Hot/Humid

Download C0140810

Calibrate Sonde

	Cond	pH7	pH4	DO
precal	1410	6.99	4.05	7.23
postcal	1413	7.00	4.01	8.06

Volts 12.3 Depth = 15' estimate

Programmed C0140817

Redeploy @ 10:46

August 17, 2009
CDM- Upper Merrimack WQ Study
C015 - D/S Nashua WWTP

Download C0150810

Calibrate Sonde

	Cond	pH7	pH4	DO
pre	1424	7.02	3.97	7.56
post	1413	7.00	4.01	8.09

Program C0150817

Volt: 12.1

Redeploy @ 11:30

August 17, 2009
CDM- Upper Merrimack WQ Study
C011 - U/S Amoskeag

Download C0110810

Calibrate Sonde

	Cond	pH7	pH4	DO
pre	1413	7.00	3.95	6.57
post	1413	7.00	4.01	7.71

Program C0110817

Volt: 12.2

Redeploy @ 13:59

August 17, 2009

CDM- Upper Merrimack WQ Study

Upload C0100810

Calibrate Sonde

	cond	pH7	pH4	DO
pre	1443	6.95	4.01	9.49
post	1413	7.00	4.01	7.76

Program C0100817

Volt 12.2

August 17, 2009

CDM- Upper Merrimack WQ Study

Upload C0090810

Calibrate Sonde

	cond	pH7	pH4	DO
precond	1431	6.94	4.01	7.52
postcond	1413	7.00	4.01	7.59

program C0090817

Volt 12.2

Redeploy @ 16:10

August 17, 2001

CDM- Upper Merrimack WQ Study

Upload C0080810

Calibrate Sonde

	cond	pH7	pH4	DO
pre	1416	6.98	3.92	8.69
post	1413	7.00	4.01	7.00

Volts: 12.2

Redeploy @ 17:06

August 18, 2001

CDM- Upper Merrimack WQ Study

C001- U/S Ayres

Downloaded C0010811

Change battery- file indicates
battery voltage dropped
Samples not collected after 8/12

Tested second battery

	cond	pH7	pH4	DO
precal	1377	7.14	3.90	8.36
postcal	1413	7.00	4.01	7.73

Program C0010818

Volts 12.5 Redeploy @ 11:30

Verified probe is active running
for 100 Days, and file in directory

August 18, 2009

CDM- Upper Merrimack WQ Study

C003- U/S Franklin

Upload C0030811

Calibrate Sonde

	Cond	pH7	pH4	DO
pre	1413	7.00	3.98	7.32
post	1413	7.00	4.01	7.54

Programmed C0030818

Volts 12.5

Redeploy @ 13:10

August 18, 2009

CDM- Upper Merrimack WQ Study

C004 - D/S Franklin

Upload C0040811

	Cond	pH7	pH4	DO
precal	1429	6.98	3.97	7.68
postcal	1413	7.00	4.01	7.36

Programmed C0040818

Volts: 12.4

Redeploy @ 14:55

August 19, 2009

CDM- Upper Merrimack WQ Study

Upload C013 0812

Calibrate Sonde

	cond	pH7	pH4	DO
pre	1388	6.98	3.91	8.38
post	1413	7.00	4.01	8.24

Programmed C013 0819

Volts: 12.1

Redeployed @ 10:40

August 19, 2009

CDM- Upper Merrimack WQ Study

C006- D/S Winnipesaukee

Upload C006 0813

Calibrate Sonde

	Cond	pH7	pH4	DO
pre	1478	7.00	4.01	7.83
post	1413	7.00	4.01	7.66

Program C006 0819

Volts: 12.3

Redeploy @ 13:15

August 19, 2009

CDM- Upper Merrimack WQ Study

C007 - U/S Garvins

Download C0070812

Calibrate Sonde

	cond	pH7	pH4	DO
pre	1465	6.93	4.05	7.56
post	1413	7.00	4.01	7.78

Program C0070819

Volts 12.3

Redeploye 15:30

August 19, 2009

CDM- Upper Merrimack WQ Study

Calibrate Sonde SN: 99K1014

	cond	pH7	pH4	DO
pre	1430	7.50	3.97	8.78
post	1413	7.00	4.01	8.76

Calibrate Sonde 99K1014AB

	cond	pH7	pH4	DO
pre	1250	7.00	4.01	7.65
post	1413	7.00	4.01	8.74

Addendum: Sept 22, 2009 J. Detty

There is no mention in these notes of deploying a replacement sonde at C012 after the 1st sonde went missing. Sonde SN: 99K1014AB was deployed at C012 on August 20, 2009 at 15:30

August 20, 2009
CDM- Upper Merrimack WQ

C002- D/S Ayres Island

Redeployed new replacement probe

Depth ~ 6" to 7'

Used ~24' of line

Probe sat between 1 and 2 feet deep.

Did not have sample cap. Used calibration cap with bottom off to allow water to enter.

SN: 99K1014

Redeploy @ 11:45

August 20, 2009

CDM- Upper Merrimack WQ Study

C005- D/S Eastmas

Download C0050813

Calibrate Sonde

	cond	pH7	pH4	DO
pre	1481	7.05	4.02	7.28
post	1413	7.00	4.01	7.93

Programmed C0050820

Volts: 12.2

Redeploy @ 13:25

August 24, 2009

CDM- Upper Merrimack WQ Study

~75°F, Overcast/Pt Sunny, Humid

C014 U/S Nashua WWTP

Upload C0140817

Calibrate Sonde

	Cond	pH7	pH4	DO
pre	1410	7.02	3.98	8.05
post	1413	7.00	4.01	8.13

Programmed C0140824

Volts: 12.4 Depth: 16'

Redeploy @ 10:39

August 24, 2009

CDM- Upper Merrimack WQ Study

C015 D/S Nashua WWTP

Upload C0150817

Calibrate Sonde

	Cond	pH7	pH4	DO
precal	1419	7.02	4.01	8.08
postcal	1413	7.00	4.01	8.10

Programmed C0150824

Volts: 12.3 Depth: 16

Redeploy @ 11:17

August 24, 2009

CDM- Upper Merrimack WQ Study

C011 W/S Amoskeag

Download C0110817

Sonde stopped collecting data on 8/22/09. Deleted files on sonde, verified battery life and sufficient free memory available

Calibrate Sonde

	cond	pH7	pH4	DO
pre	1428	6.96	4.06	6.04
post	1413	7.00	4.01	7.87

Programmed C0110824

Volts 12.2

Redeploy @ 13:55

August 24, 2009

CDM- Upper Merrimack WQ Study

C010 D/S Hooksett

Download C0100817

Calibrate Sonde

	Cond	pH7	pH4	DO
pre cal	1417	7.04	3.98	6.39
post cal	1413	7.00	4.01	7.51

Programmed C0100824

Volts 12.2

Redeploy @ 14:55

August 24, 2007

CDM- Upper Merrimack WQ Study

C009 U/S Hooksett

Download C0090817

Calibrate Sonde

	cond	pH7	pH4	DO
pre	1422	7.01	4.03	8.17
post	1413	7.00	4.01	7.78

Program C0090824

Volts 12.3

Redoplay @ 16:10

August 24, 2007

CDM- Upper Merrimack WQ Study

C008 D/S Garvins Falls

Download C0090817

Calibrate Sonde

	Cond	pH7	pH4	DO
pre	1446	7.04	4.02	7.89
post	1413	7.00	4.01	7.71

Program C0080824

Volts 12.2

Redoplay @ 16:56

August 25, 2009

CDM- Upper Merrimack WQ Study

C001 - U/S Ayers Island

~75°F, Sunny, Breezy

Download C0010818

Calibrate Sonde

	cond	pH7	pH4	DO
pre	1416	6.81	4.09	7.89
post	1413	7.00	4.01	7.75

Programmed C0010825

Volts: 12.2

Redeploy @ 10:40

August 25, 2009

CDM- Upper Merrimack WQ Study

C003- U/S Franklin

Download C0030818

*Fish stopped collecting on 8/22 @ 22:15. Changed batteries on probe.

Calibrate Sonde

	cond	pH7	pH4	DO
pre	1391	6.94	4.05	8.29
post	1413	7.00	4.01	7.89

Program C0030825

Volts 12.1

Redeploy @ 12:22

August 25, 2009

CDM- Upper Merrimack WQ Study
C004 - D/S Franklin
Download C00108 18

Calibrate Sonde

	cond	pH 7	pH 4	DO
pre	1413	7.01	4.02	7.74
post	1413	7.00	4.01	7.64

Program C0040825

Volts: 12.1

Redeploy @ 14:25

August 26, 2009

CDM- Upper Merrimack WQ Study

C013 - Manchester WWTP

~70° F, Sunny, Mostly Clear, Breezy

Upload C0130819

Calibrate Sonde

	cond	pH 7	pH 4	DO
pre	1382	7.02	4.01	9.53
post	1413	7.00	4.01	8.48

Programmed C0130826

Volts: 12.1

Redeploy @ 9:55

August 26, 2009

CDM- Upper Merrimack WQ Study

C012 D/S Amoskeag

DO Membrane bubbled Charge of 1.2. Charged DO membrane.

Upload C0120821

Calibrate Sonde

	cond	pH7	pH4	DO
pre	1485	7.00	3.87	9.05
post	1413	7.00	4.01	7.80

Program C0120826

Volts 12.2

Redeploy @ 12:10

August 26, 2009

CDM- Upper Merrimack WQ Study

C007 U/S Garvins

Attempted File download. C0070819 had no samples in the file and had never collected. Replaced batteries on probe.

Calibrate Sonde

	cond	pH7	pH4	DO
precal	1408	7.03	3.94	7.18
postcal	1413	7.00	4.01	7.48

Programmed C0070826.

Handheld reading of Batt. Voltage/battery life is inaccurate. Disregard these measurements

Redeploy @ 2:20

August 27, 2009
CDM - Upper Merrimack - J. Detty & S. Lee

C002 D/S Ayers Island
Weather: Sunny ~70°F low humidity
Replaced batteries in Sonde

Calibration Filename: C0020827.dat

	DO	Temp	Cond	pH	pH
pre	10.80	13.2	1423	6.72	3.83
post	9.24		1413	7.00	4.01

Deployed with In Situ probe at 11:45

C005 D/S Eastman Falls
Weather: sunny ~70° low humidity
Replaced batteries in Sonde

Calibration

	DO	pH 7	pH 4	Cond
pre	6.45	7.01	4.00	1417
post	5.96	7.00	4.01	1413

Changed DO membrane - new DO = 8.64
Deployed at 1340 Filename C0050827.dat

August 27, 2009
CDM - Upper Merrimack J. Detty & S. Lee

C006 D/S Winn. T.P.
Weather: Sunny, 75, low humidity
Replaced 4 of 8 batteries in Sonde

Calibration

	DO	pH 7	pH 4	Cond
pre	7.28	7.01	3.97	1444
post	8.07	7.00	4.01	1413

Deployed at 1520

C011 - U/S Amoskeag

Need to change batteries
reading before changing batteries

	DO	pH	Cond	Temp
	7.06	6.81	77	24.24
After →	7.08	6.78	78	24.11

Changing batteries
Deployed at 1655
Filename: C0110827.dat

August 31, 2009
CDM- Upper Merrimack WQ Study
J. Eisenhuth and J. Dotty

~60°F, Overcast, Breezy

C014- U/S Nashua WWTP

Upload C0140824

- Charge batteries in sonde -

Calibrate Sonde

	cond	pH7	pH4	DO
pre	1443	6.99	3.96	8.54
post	1413	7.00	4.01	8.87

Program C0140831

Redeployed @ 11:46

August 31, 2009

CDM- Upper Merrimack WQ Study
J.E. and J.D. onsite

~65°F, Overcast, Breezy

C015- D/S Nashua WWTP

Upload C0150824

Charge batteries in Sonde
Calibrate Sonde

	cond	pH7	pH4	DO
pre-cal	1420	6.96	3.97	8.59
post-cal	1413	7.00	4.01	8.94

Program C0150831

Redeploy @ 12:42

August 31, 2009

CDM- Upper Merrimack WQ Study

C009- U/S Woodset

Upload C0090824

Change Batteries in Sonde

Calibrate Sonde

	cond	pH7	pH4	DO
pre	1364	6.99	4.00	8.88
post	1413	7.00	4.01	8.79

Program C0090831

Redeploy @ 14:53

August 31, 2009

CDM- Upper Merrimack WQ Study

C008- D/S Garvins

Upload C0080824

Change batteries in sonde

Calibrate Sonde

	Cond	pH7	pH4	DO
pre	1417	7.02	3.97	8.73
post	1413	7.00	4.01	8.45

Programmed C0080831

Redeploy @ 15:42

August 31, 2009

CDM- Upper Merrimack WQ Study
CO10 -
Download CO100824

Change Batteries

Calibrate Sonde
Change DO Membrane

	cond	pH7	pH4	DO
pre	1397	6.89	4.00	7.18
post	1413	7.00	4.01	8.35

Program CO100831

Redeploy @ 17:08

August 31, 2009

CDM- Upper Merrimack WQ Study

CO11 W/S Anderson

Download CO110827

DO change weak. Change membranes

	cond	pH7	pH4	DO
pre	1390	6.94	3.89	12.69
post	1413	7.00	4.01	8.98

Program CO110831

Redeploy @ 6:22

September 1, 2007
~60°F, Bright Sunny, Great Day
CDM Upper Mordmack WQ St

C001 - U/S Ayres Island

Upload C0010825

Change batteries

Calibrate Sonde

	cond	pH7	pH4	DO
pre	1410	7.22	3.95	8.46
post	1413	7.00	4.01	8.83

Program C0010901

Redeploy @ 10:37

September 1, 2007
~65°F, Sunny, Clear, No Clouds

CDM - Upper Mordmack WQ Study

C003 - U/S Franklin

Upload C0030825

Change Batteries

Calibrate Sonde

	cond	pH7	pH4	DO
pre	1423	7.01	3.98	8.63
post	1413	7.00	4.01	8.23

Program C0030901

Redeploy @ 12:32

September 1, 2009

CDM - Upper Merrimack WQ Study

Upload C0040825

Change Sonde Batteries

Calibrate Sonde

	cond	pH7	pH4	DO
pre	1396	7.01	3.98	8.04
post	1413	7.00	4.01	8.17

Programmed C040001

Redeploy @ 14:01

September 2, 2009

CDM - Upper Merrimack WQ Study

~65°F, Sunny, Clear

Arrive C013 - Manchester WWTP

Upload C0130826

Change Batteries in Sonde

Calibrate Sonde

	cond	pH7	pH4	DO
precal	1436	7.10	3.98	9.83
postcal	1413	7.00	4.01	9.89

Program C0130202

Redeploy @ 10:20

September 2, 2009
CDM- Upper Merrimack WQ Study
C012- D/S Amoskeag

Recover previously deployed probe several hundred yards downstream in rapids.

Download C0120731 (old Sonde)

Download C0120826 (New Sonde)
Change Batteries

Calibrate New Sonde

	cond	pH7	pH4	DO
pre	1430	7.00	3.98	8.26
post	1413	7.00	4.01	8.55

Program C0120902

Calibrate Olde Sonde

	cond	pH7	pH4	DO
pre	1477	7.05	3.79	8.52
post	1413	7.00	4.01	8.50

Redeploy new Sonde @ 12:47

September 2, 2009
CDM- Upper Merrimack WQ Study

C007- U/S Garvins Falls
75°F, Sunny, Clear

Download C0070826

Change Batteries

Calibrate Sonde

	cond	pH7	pH4	DO
pre	1410	7.06	4.00	8.17
post	1413	7.00	4.01	8.03

Change DO Membrane

Calibrate Membrane

	DO
pre	7.35
post	8.32

Program C0070902

Redeploy @ 3:05

September 3, 2009
CDM- Upper Merrimack WQ Study
~70°F Sunny, Humid, Clear
C002 D/S Ayres

Upload C0020827

Replaced Batteries in Sonde

Calibrate Sonde

	cond	pH7	pH4	DO
pre	1416	6.76	4.07	9.44
post	1413	7.00	4.01	8.89

Programmed C0020903

Redeploy @ 11:35

September 3, 2009
CDM- Upper Merrimack WQ Study
~75°F, Sunny, Some Clouds, Humid

C005 - D/S Eastman

Upload C0050827

Change batteries in Sonde

Calibrate Sonde

	Cond	pH7	pH4	DO
pre-cal	1405	7.04	4.09	7.82
post-cal	1413	7.00	4.01	7.75

programmed C0050903

Redeploy @ 13:20

September 3, 2009
CDM- Upper Merrimack

COOG - Winnipesaukee WWTF

Upload COOG0827

Change Batteries in Sonde

Calibrate Sonde

	Cond	pH7	pH4	DO
pre	1397	6.97	4.03	5.26
post	1413	7.00	4.01	7.32

Change DO ~~Probe in the~~ Sonde from old Amoshey

Recalibrate DO pre 10.97
post 6.82

Program COOG0927

Redeploy @ 13:45

September 8, 2009

CDM- Upper Merrimack WQ Study
~65°F Cloudy Slight Breeze
COI4 - U/S Nashua WWTP

Upload COI40831

Calibrate Sonde

	Cond	pH7	pH4	DO
pre	1407	7.01	4.06	8.21
post	1413	7.00	4.01	8.27

Program COI40708

Redeploy @ 11:05

September 8, 2009
CDM - Upper Merrimack

C015 D/S Nashua

Download C0150831

Calibrate Sonde

	cond	pH7	pH4	DO
pre	1404	7.01	4.02	8.07
post	1413	7.00	4.01	8.72

Program C0150908

Redeploy @ 11:58

September 8, 2009

CDM - Upper Merrimack

C009 U/S Hooksett

Download C0090831

Calibrate Sonde

	cond	pH7	pH4	DO
pre cal	1446	7.00	4.03	8.20
post cal	1413	7.00	4.01	8.50

Program C0090908

Redeploy @ 14:25

September 8, 2009

CDM- Upper Merrimack

C008 - D/S Garvins

Download C0080831

Calibrate Sonde

	cond	pH7	pH4	DO
pre	1913	6.94	4.05	7.49
post	1913	7.00	4.01	8.58

Program C0080908

Redeploy @ 15:29

September 8, 2009

CDM- Upper Merrimack

C011 U/S Amoskeag

Download C0110831

calibrate Sonde

	cond	pH7	pH4	DO
precal	1438	7.04	4.12	8.87
postcal	1410	7.00	4.01	8.57

Program C0110908

Redeploy @ 17:06

September 8, 2009
CDM- Upper Merrimack

C010 - D/S Hooksett

Download C0100831

Calibrate Sonde

	Cond	pH7	pH4	DO
pre	1400	7.06	4.08	8.89
post	1413	7.00	4.01	8.69

Program C0100908

Redeploy @ 18:02

September 9, 2009
CDM- Upper Merrimack

C001 - U/S Ayres

Upload C0010701

~65°F, Pt. Sunny, Breezy

Calibrate Sonde

	Cond	pH7	pH4	DO
pre	1426	6.81	4.14	7.04
post	1413	7.00	4.01	8.24

Program C0010709

Redeploy @ 10:55

September 9, 2009

CDM- Upper Merrimack WQ

C003- U/S Franklin

Download C0030901

Calibrate Sonde

	cond	pH7	pH4	DO
pre	1401	7.03	4.01	8.20
post	1413	7.00	4.01	8.98

Program C0030901

Redeploy @ 12:25

September 9, 2009

CDM- Upper Merrimack WQ

C004- D/S Franklin

Download C0040201

Calibrate Sonde.

	cond	pH7	pH4	DO
pre	1412	7.01	4.01	7.81
post	1413	7.00	4.01	8.41

Program C0040909

Redeploy @ 14:04

September 10, 2009
CDM- Upper Merrimack WQ Study

~60°F, Sunny, Breezy

Download C0130902

Calibrate Sonde

	cond	pH7	pH4	DO
pre	1420	7.11	3.88	6.86
post	1413	7.00	4.01	9.68

Program C0130910

Redeploy @ 10:10

September 10, 2009
CDM- Upper Merrimack WQ Study

C012 - D/S Amesbury

Download C012 0902

Calibrate Sonde

	cond	pH7	pH4	DO
pre	1402	7.11	3.96	9.50
post	1413	7.00	4.01	9.10

Program C0120910

Redeploy @ 11:45

September 10, 2009

CDM- Upper Merrimack

C006- D/S Winnipesaukee WWTP

Upload C0060903

Calibrate Sonde

	cond	pH 7	pH 4	DO
pre	1407	7.03	3.98	8.11
post	1413	7.00	4.01	8.35

Program C0060910

Redeploy @ 15:05

September 10, 2009

CDM- Upper Merrimack

C007- U/S Garvins

Upload C0070902

Calibrate Sonde

	cond	pH 7	pH 4	DO
pre	1421	~~7.02~~	3.96	9.47
post	1413	~~7.00~~	4.01	9.04

Program C0070910

Redeploy @ 17:10

September 11, 2009
CDM- Upper Merrimack WQ Study
C002 - D/S Ayres Island

~60°F, Sunny, Breezy, Clear

Download C0020903

Calibrate Sonde

	Cond	pH7	pH4	DO
pre	1414	7.35	3.93	10.50
post	1413	7.05	4.00	10.13

Program C0020911

Redeploy @ 11:30

September 11, 2009
CDM- Upper Merrimack WQ

C005 - D/S Eastman

Download C0050903

Calibrate Sonde

	Cond	pH7	pH4	DO
pre	1417	7.03	3.99	9.54
post	1413	7.00	4.01	9.13

Program C0050911

Redeploy @ 13:45

September 15, 2009
70°F, Sunny, Breezy
C014 - U/S Nashua WWTP

Attempted to pull anchor. Anchor is buried and cannot be pulled.

Upload C014 0908

Mark Waypoint 192 as final probe location

Calibrate Sonde

	Cond	pH7	pH4	DO
pre	1382	7.01	3.97	6.94
post	1413	7.00	4.01	8.49

Pulled probe @ 10:48

Anchor left in place

September 15, 2009

C015 - D/S Nashua WWTP

Attempted to pull Anchor could not make from bottom of river.

Cut cable on anchor.

Upload C015 0908

Calibrate Sonde

	Cond	pH7	pH4	DO
pre	1428	6.98	4.04	7.75
post	1413	7.00	4.01	8.84

Pulled probe @ 11:15

September 15, 2009
CO10- D/S Hookset
~75°, F, Sunny, Clear, Breezy

Successfully removed probe, Bouy, and Anchor from site.

Marked Waypoint 194 as location

Download CO100908

Calibrate Sonde

	cond	pH 7	pH 4	DO
pre	1416	7.00	3.96	8.72
post	1413	7.00	4.01	8.61

Removed sonde @ 12:55
Completed Calibration @ 13:28

September 15, 2009
CO11- U/S Anastasy

Successfully removed probe, Bouy, and Anchor from the site

Downloaded CO110908

Marked waypoint 196 as probe location

Calibrate Sonde

	Cond	pH 7	pH 4	DO
Pre cal	1411	7.03	3.95	9.03
Post cal	1413	7.00	4.01	8.74

Removed Sonde @ 13:45
Completed Calibration @ 14:15

September 15, 2009
CDM- Upper Merrimack WQ Study

COOX- D/S Garvins

Download C0080908

Successfully Removed probe and anchor from site

Marked waypoint 197 in GPS

Calibrate Sonde

	Cond	pH7	pH4	DO
pre	1423	7.00	3.98	5.31*
post	1413	7.00	4.01	8.57

Remove Sonde @ 15:30
Calibration complete @ 16:17

* DO out of range

September 15, 2009
CDM- Upper Merrimack WQ

C009- D/S Hooksett

Mark Waypoint 198 as location

Could not remove anchor, cut cord and left in place.

Download C0090908

Calibrate Sonde

	Cond.	pH7	pH4	DO
pre	1419	7.06	3.96	7.94
post	1413	7.00	4.01	9.07

Remove Sonde @ 16:20
Calibration complete @ 17:00

September 16, 2009
CDM- Upper Merrimack WQ
~55°F, Pt. Cloudy, Breezy

C001 - U/S Ayres

Download C0010909

Did not mark waypoint

Successfully removed probe, bouy, and anchor from site

Calibrate Sonde

	cond	pH 7	pH 4	DO
pre	1397	7.25	3.92	4.22*
post	1413	7.00	4.01	9.49

*= DO out of range (bad membrane)

Pulled probe @ 10:40
Completed Calibration @ 11:11

September 16, 2009
CDM- Upper Merrimack WQ
~65°F, Pt Sunny

C003- U/S Franklin

Upload C0030909

Marked waypoint 199

Successfully removed probe, bouy, and anchor from site.

	cond	pH 7	pH 4	DO
pre	1411	7.00	3.99	8.58
post	1413	7.00	4.01	8.92

Pulled probe @ 12:12
Completed Calibration @ 12:50

September 16, 2009

CDM- Upper Merrimack WQ Study

C004 - U/S Eastman

Upload C0040909

Successfully pulled probe, buoy, and bucket.

Marked waypoint 200 on GPS

Calibrate Sonde

	cond	pH 7	pH 4	DO
pre	1413	6.97	4.02	7.80
post	1413	7.00	4.01	8.84

Pulled probe @ 13:35

Completed Calibration @ 14:18

September 17, 2009

CDM- Upper Merrimack

55°F, Cloudy

C013- Manchester WWTP

Could not remove anchor. Remove sonde and buoy.

Did not mark waypoint

Upload C0130910

	cond	pH 7	pH 4	DO
pre	1419	6.97	4.08	1.52*
post	1413	7.00	4.01	7.74

* = DO out of range

Pulled probe @ 9:25

Completed calibration @ 10:01

September 17, 2009

CDM- Upper Merrimack WQ

C012- D/S Amoskeag

Successfully removed probe, bouy, and anchor.

Downloaded data to other handheld

Downloaded C0120910

Calibrate Probe

	cond	pH7	pH4	DO
pre	1409	6.91	4.06	9.61
post	1413	7.00	4.01	9.66

Pulled probe @ 11:00
Completed calibration @ 11:47

September 17, 2009

CDM- Upper Merrimack

C006 - Winnipesaukee WWTP

Successfully removed probe, bouy, and anchor

Download C006 0910

Calibrate Probe

	cond	pH7	pH4	DO
pre	1404	7.01	4.01	8.34
post	1413	7.00	4.01	8.97

Completed calibration @ 14:30

September 17, 2009
CDM- Upper Merrimack WQ

C007- U/S Garvins

Upload C0070910

Successfully removed probe, bouy, and anchor

Calibrate Sonde

	Cond	pH 7	pH 4	DO
pre	1400	7.06	4.00	9.88
post	1413	7.00	4.01	9.51

Completed calibration @ 1558

September 18, 2009

CDM- Upper Merrimack
600 ft. Pt. Sunset

C002- D/S Amoskeag

Upload C0020911

Removed probe and bouy, left anchor in place

Calibrate Sonde

	Cond	pH 7	pH 4	DO
pre	1410	6.66	4.14	8.32
post	1413	7.00	4.01	9.42

Completed Calibration @ 10:42

September 18, 2009

CDM - Upper Merrimack WQ

C005 - D/S Eastman

Pulled probe and bouy.
Could not get to anchor

Upload C0050911

Calibrate Sonde

	cond	pH 7	pH 4	DO
pre	1411	7.04	4.02	8.86
post	1413	7.00	4.01	8.75

Complete @ 12:15

Low Flow Event #1 Field Worksheets

Upper Merrimack and Pemigewasset River Study
Low-Flow Water Quality Survey #1
Early Morning Dissolved Oxygen Worksheet

Station #: T002

Date: 7/27

Time: 6:21 AM

Weather Conditions: Clear

Sampler Names: S. Lavoie
J. O'Donnell

1. record site # (001 through 072)
2. record conditions and site description
3. save waypoint in GPS unit
4. collect data with YSI
5. bacteria samples (fill out collection WS!)
6. vertical DO/temp profile (if necessary at the site)

Site Description

Coordinates (decimal degrees): 44°02' 50.507"N 71°39' 34.758"W (mark waypoint!)

Total water depth (units): 3 FEET

Alage coverage: NONE

Tree cover: NO OVER-HANGING TREE COVER

Wildlife: NONE

Other observations (sights, smells, etc)

Data Collection

Parameter	Time	Reading	Comment
Temperature °C	1 6:21 AM	15.4	
	2		
Conductivity ms/cm	1 6:21 AM	21.5	
	2		
Sp. Cond. ms/cm[c]	1 6:21 AM	26.5	
	2		
DO %	1 6:21 AM	92.8	
	2		
DO mg/L	1 6:21 AM	8.90	
	2		
pH su	1 6:21 AM	8.28	
	2		

Vertical Profile Measurements

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet): 3

Comments:

Depth feet	Temperature °C	DO %	DO mg/L
Bottom 3'	15.4	92.8	8.90
1.5'	15.4	89.3	8.65

Upper Merrimack and Pemigewasset River Study
Low-Flow Water Quality Survey #1
Early Morning Dissolved Oxygen Worksheet

Station #: T003

Date: 7-27-10

Time: 6:56 AM

Weather Conditions: SUNNY / CLEAR

Sampler Names: S. LAVOIE

J. O'DONNELL

1. record site # (001 through 072)
2. record conditions and site description
3. save waypoint in GPS unit
4. collect data with YSI
5. bacteria samples (fill out collection WS!)
6. vertical DO/temp profile (if necessary at the site)

Site Description

Coordinates (decimal degrees): 44° 01' 52.391" N 71° 40' 46.321" W (mark waypoint!)

Total water depth (units): 2 FEET

Alage coverage: ON SIDE OF RIVER AND MOSSY GROWTH ON RIVER BED

Tree cover: NONE

Wildlife: NONE

Other observations (sights, smells, etc) UNDER RAILROAD BRIDGE IN FRONT OF EAST BRIDGE ABUTMENT

Data Collection

Parameter		Time	Reading	Comment
Temperature °C	1	7:00 AM	15.6	
	2	7:05 AM	15.6	
Conductivity ms/cm	1	7:00 AM	38.3	
	2	7:05 AM	38.5	
Sp. Cond. ms/cm[c]	1	7:00 AM	46.6	
	2	7:05 AM	46.9	
DO %	1	7:00 AM	88.8	
	2	7:05 AM	87.3	
DO mg/L	1	7:00 AM	8.79	
	2	7:05 AM	8.52	
pH su	1	7:00 AM	7.18	
	2	7:05 AM	7.02	

Vertical Profile Measurements

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet): 2

Comments:

Depth feet	Temperature °C	DO %	DO mg/L
2	15.6	88.8	8.79
1	15.6	87.3	8.52

Upper Merrimack and Pemigewasset River Study
Low-Flow Water Quality Survey #1
Early Morning Dissolved Oxygen Worksheet

Station #: M006

Date: 7-27-10

Time: 7:23 AM

Weather Conditions: SUNNY/CLEAR

Sampler Names: S. LAUDE
J. O'DONNELL

1. record site # (001 through 072)
2. record conditions and site description
3. save waypoint in GPS unit
4. collect data with YSI
5. bacteria samples (fill out collection WS!)
6. vertical DO/temp profile (if necessary at the site)

Site Description

Coordinates (decimal degrees): 44° 01' 19.189" N 71° 40' 54.826" W (mark waypoint!)

Total water depth (units): 10 FEET

Alage coverage: NONE

Tree cover: NONE

Wildlife: NONE

Other observations (sights, smells, etc)

Data Collection

Parameter		Time	Reading	Comment
Temperature °C	1	7:40 AM	15.8	
	2	7:45 AM	15.8	
Conductivity ms/cm	1	7:40 AM	40.0	
	2	7:45 AM	39.9	
Sp. Cond. ms/cm[c]	1	7:40 AM	48.5	
	2	7:45 AM	48.4	
DO %	1	7:40 AM	76.7	
	2	7:45 AM	84.8	
DO mg/L	1	7:40 AM	7.39	
	2	7:45 AM	8.26	
pH su	1	~~[illegible]~~ 7:40 AM	6.66	
	2	7:45 AM	6.60	

Vertical Profile Measurements

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
If the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet): 10

Comments:

Depth feet	Temperature °C	DO %	DO mg/L
10	15.8	76.7	7.39
9	15.8	76.5	7.57
8	15.8	79.2	8.00
7	15.8	81.5	8.02
6	15.8	81.4	7.95
5	15.8	84.8	8.26
4	15.8	77.7	7.51
3	15.8	78.6	7.72
2	15.8	80.9	7.89
1	15.8	85.6	8.28

Upper Merrimack and Pemigewasset River Study
Low-Flow Water Quality Survey #1
Early Morning Dissolved Oxygen Worksheet

Station #: 1011

Date: 7/27/10
Time: 6:36 AM
Weather Conditions: Clear & Sunny

Sampler Names: Lauren Klonsky
Nate Desrosiers

1. record site # (001 through 072)
2. record conditions and site description
3. save waypoint in GPS unit
4. collect data with YSI
5. bacteria samples (fill out collection WS!)
6. vertical DO/temp profile (if necessary at the site)

Site Description

Coordinates (decimal degrees): 43.76809, -71.68580 (mark waypoint!)
Total water depth (units): ~3.5'
Alage coverage: None @ surface - @ depth on rocks
Tree cover: banks
Wildlife: None
Other observations (sights, smells, etc)

Data Collection

Parameter	Time	Reading	Comment
Temperature °C	1 6:50 AM	19.4°C	center
	2 6:52 AM	19.4°C	
Conductivity ~~ms/cm~~	1 6:50 AM		
	2 6:52 AM		units:
Sp. Cond. ms/cm[c]	1 6:50 AM	51.3	uS/cm
	2 6:52 AM	51.2	
DO %	1 6:50 AM	81.5%	
	2 6:52 AM	80.1%	
DO mg/L	1 6:50 AM	7.49	
	2 6:52 AM	7.38	
pH su	1 6:50 AM	7.44	
	2 6:52 AM	7.18	

Bacteria taken @ 6:54

YSI: 110101438

Vertical Profile Measurements

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet): ~3.5'

Comments: 6'.5'

Depth feet	Temperature °C	DO %	DO mg/L
~3'	19.4°C	80.3	7.39
~2'	19.4°C	80.2	7.39
~1'	19.4°C	80.2	7.39

Upper Merrimack and Pemigewasset River Study
Low-Flow Water Quality Survey #1
Early Morning Dissolved Oxygen Worksheet

Station #: M013

Date: 7/27/10
Time: 5:50 AM
Weather Conditions: Clear & cool

Sampler Names: LAUREN KLONSKY
NATE DESROSIERS

1. record site # (001 through 072)
2. record conditions and site description
3. save waypoint in GPS unit
4. collect data with YSI
5. bacteria samples (fill out collection WS!)
6. vertical DO/temp profile (if necessary at the site)

Site Description

Coordinates (decimal degrees): 43° 45' 00.810" 71° 40' 56.578" elev: 110.31 m (mark waypoint!)
Total water depth (units): approx. 5.5'
Alage coverage: none
Tree cover: moderate
Wildlife: ducks
Other observations (sights, smells, etc) flow was high & profile & depth measurements were difficult to take strictly vertical
sight sewage smell

Data Collection

Parameter	Time	Reading	Comment
Temperature °C	1 5:50 AM	19.6°C	middle of depth
	2 5:57 AM	19.6°C	middle
Conductivity ~~ms~~ uS/cm	1 ~~AM~~ 5:50AM	48.1	uS/cm
	2 5:58 AM	48.1	
Sp. Cond. ms/cm[c]	1		
	2		
DO %	1 5:50 AM	87.6	
	2 5:58 AM	86.8	
DO mg/L	1 5:50 AM	8.06	
	2 5:58	7.97	
pH su	1 ~~AM~~ 5:50 AM	7.72	
	2 5:58	7.29	

YSI: 110101438

Vertical Profile Measurements

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet): ~5.5'

Comments: depth was approximated since weighted measure tape wasn't weighted enough

Depth feet	Temperature °C	DO %	DO mg/L
~5'	19.6°C	87.2	8.00
~4'	19.6°C	87.~~8~~4	8.01
~3'	19.6°C	87.1	~~8.0~~ 7.99
~2'	19.6°C	87.0	7.97
~~4~~ ~0.5'	19.6°C	87.~~X~~0	7.98

Upper Merrimack and Pemigewasset River Study
Low-Flow Water Quality Survey #1
Early Morning Dissolved Oxygen Worksheet

Station #: M016

Date: 27 July 10

Time: 0501

Weather Conditions: Clear, cool

Sampler Names: DT / BS

1. record site # (001 through 072)
2. record conditions and site description
3. save waypoint in GPS unit
4. collect data with YSI
5. bacteria samples (fill out collection WS!)
6. vertical DO/temp profile (if necessary at the site)

Site Description

Coordinates (decimal degrees): (mark waypoint!)

Total water depth (units): 11.8 ft

Alage coverage: None

Tree cover:

Wildlife: Canada Geese (6)

Other observations (sights, smells, etc)

Data Collection

Parameter	Time	Reading	Comment
Temperature °C	1 0522	21.56 °C	
	2		
Conductivity ms/cm	1 0522	47	
	2		
Sp. Cond. ms/cm[c]	1 0522	51	
	2		
DO %	1 0522	92.7	
	2		
DO mg/L	1 0522	8.17	
	2		
pH su	1 0522	7.58	
	2		

Vertical Profile Measurements

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet):

Comments:

Depth feet	Temperature °C	DO %	DO mg/L
6	21.61	92.7	8.17
5	21.61	92.7	8.17
4	21.60	92.7	8.17
3	21.60	92.8	8.17
2	21.60	92.8	8.17
1	21.61	92.8	8.18

Upper Merrimack and Pemigewasset River Study
Low-Flow Water Quality Survey #1
Early Morning Dissolved Oxygen Worksheet

Station #: M017

Date: 27 July 10

Time: 0543

Weather Conditions: Clear, Sunny

Sampler Names: DT / BS

1. record site # (001 through 072)
2. record conditions and site description
3. save waypoint in GPS unit
4. collect data with YSI
5. bacteria samples (fill out collection WS!)
6. vertical DO/temp profile (if necessary at the site)

Site Description

Coordinates (decimal degrees): (mark waypoint!)

Total water depth (units): 23.3

Alage coverage: —

Tree cover: —

Wildlife: —

Other observations (sights, smells, etc) foggy along water surface

Data Collection

Parameter		Time	Reading	Comment
Temperature °C	1	0546	23.69	
	2	0550	23.74	
Conductivity ms/cm	1	0546	56	
	2	0550	56	
Sp. Cond. ms/cm[c]	1	0546	57	
	2	0550	57	
DO %	1	0546	88.6	
	2	0550	89.2	
DO mg/L	1	0546	7.52	
	2	0550	7.54	
pH su	1	0546	7.46	
	2	0550	7.24	

Vertical Profile Measurements

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet): 23.3

Comments: (Short cable)

Depth feet	Temperature °C	DO %	DO mg/L
1	23.72	89.0	7.53
2	23.75	89.4	7.57
3	23.75	89.5	7.57
4	23.75	89.6	7.58
5	23.75	89.6	7.58
6	23.73	89.8	7.60

Upper Merrimack and Pemigewasset River Study
Low-Flow Water Quality Survey #1
Early Morning Dissolved Oxygen Worksheet

Station #: M019

Date: 7/27/10
Time: 7:50 AM
Weather Conditions: clear & sunny

Sampler Names: LAUREN KLONSKY & Nate Desrosiers

1. record site # (001 through 072)
2. record conditions and site description
3. save waypoint in GPS unit
4. collect data with YSI
5. bacteria samples (fill out collection WS!)
6. vertical DO/temp profile (if necessary at the site)

Site Description

Coordinates (decimal degrees): (mark waypoint!)
Total water depth (units): ~3'
Alage coverage: None but bottom rocks slippery
Tree cover: banks
Wildlife: None
Other observations (sights, smells, etc)

Data Collection

Parameter	Time	Reading	Comment
Temperature °C	1 7:50 AM	22.8 °C	Taken by rt. bank of river (looking downstream). River was deep @ this spot. ~~unsure if this spot was d/s or u/s of tributary.~~ ok readings & samples taken u/s of trib.
	2 7:55 AM	22.8	
Conductivity ms/cm	1		
	2		
Sp. Cond. ms/cm[c]	1 7:50 AM	64.6	
	2 7:55	65.1	
DO %	1 7:50 AM	79.6 %	
	2 7:55	79.2 %	
DO mg/L	1 7:50 AM	6.82	
	2 7:55	6.80	
pH su	1 7:50 AM	7.44	
	2 7:55	7.20	

Bacteria sample taken @ 7:58

YSI: 11010143B

Vertical Profile Measurements

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet):

Comments:

Depth feet	Temperature °C	DO %	DO mg/L
~2.5'	22.8°C	78.0%	6.72
~1.5'	22.8°C	78.5%	6.74
~0.5'	22.8°C	78.5%	6.76

Upper Merrimack and Pemigewasset River Study
Low-Flow Water Quality Survey #1
Early Morning Dissolved Oxygen Worksheet

Station #: M023

Date: 27 July 2010

Time: 0700

Weather Conditions: Clear, sunny

Sampler Names: DT / BS

1. record site # (001 through 072)
2. record conditions and site description
3. save waypoint in GPS unit
4. collect data with YSI
5. bacteria samples (fill out collection WS!)
6. vertical DO/temp profile (if necessary at the site)

Site Description

Coordinates (decimal degrees): in gps (mark waypoint!)

Total water depth (units): 19.5 ft

Alage coverage: No

Tree cover: No

Wildlife: None

Other observations (sights, smells, etc)

Data Collection

Parameter		Time	Reading	Comment
Temperature °C	1	0701	22.46	
	2	0705	22.45	
Conductivity ms/cm	1	0701	55	
	2	0705	55	
Sp. Cond. ms/cm[c]	1	0701	58	
	2	0705	58	
DO %	1	0701	93.9	
	2	0705	94.7	
DO mg/L	1	0701	8.14	
	2	0705	8.20	
pH su	1	0701	7.54	
	2	0705	7.36	

Vertical Profile Measurements

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet): 19.5 ft

Comments: only have short cord

Depth feet	Temperature °C	DO %	DO mg/L
1	22.46	94.7	8.21
2	22.46	94.7	8.22
3	22.46	94.8	8.22
4	22.46	94.9	8.22
5	22.45	95.0	8.23
6	22.45	94.8	8.22

Upper Merrimack and Pemigewasset River Study
Low-Flow Water Quality Survey #1
Early Morning Dissolved Oxygen Worksheet

Station #: M025

Date: 7/27/10

Time: 0749

Weather Conditions: Sunny / Clear

Sampler Names: DT / BS

1. record site # (001 through 072)
2. record conditions and site description
3. save waypoint in GPS unit
4. collect data with YSI
5. bacteria samples (fill out collection WS!)
6. vertical DO/temp profile (if necessary at the site)

Site Description

Coordinates (decimal degrees): 345807.81N 757031.86E ← differs from GPS file (mark waypoint!)

Total water depth (units): 26.2 ft

Alage coverage: No

Tree cover: No

Wildlife: Geese (9)

Other observations (sights, smells, etc)

Data Collection

Parameter		Time	Reading	Comment
Temperature °C	1	0750	23.63	
	2	0755	23.65	
Conductivity ms/cm	1	0750	60	
	2	0755	60	
Sp. Cond. ms/cm[c]	1	0750	61	
	2	0755	61	
DO %	1	0750	81.9	
	2	0755	82.3	
DO mg/L	1	0750	6.92	
	2	0755	6.95	
pH su	1	0750	7.58	
	2	0755	7.41	

Courtesy @ temp for bacteria

Vertical Profile Measurements

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet): 26.5 ft

Comments: X

Depth feet	Temperature °C	DO %	DO mg/L
1	23.64	83.6	7.09
2	23.64	83.8	7.10
3	23.63	83.9	7.12
4	23.62	84.0	7.12
5	23.62	84.1	7.13
6	23.62	84.1	7.13

Upper Merrimack and Pemigewasset River Study
Low-Flow Water Quality Survey #1
Early Morning Dissolved Oxygen Worksheet

Station #: T028

Date: July 27, 2010

Time:

Weather Conditions: clear, 65°F

Sampler Names: J. Detty, W. French

1. record site # (001 through 072)
2. record conditions and site description
3. save waypoint in GPS unit
4. collect data with YSI
5. bacteria samples (fill out collection WS!)
6. vertical DO/temp profile (if necessary at the site)

Site Description

Coordinates (decimal degrees): 84_point_generic 342599.00 ft N 988259.04 ft E (mark waypoint!)

Total water depth (units): 3 feet

Alage coverage: none

Tree cover: none

Wildlife: none

Other observations (sights, smells, etc)

Data Collection

Parameter		Time	Reading	Comment
Temperature °C	1	~~23.98~~ 5:24	23.93 °C	
	2			
Conductivity ms/cm	1	~~5:25~~	~~97 µS/cm~~	
	2	5:27	91 µS/cm	
Sp. Cond. ms/cm[c]	1	5:27	93 µS/cm	
	2			
DO %	1	5:28	97.3 %	
	2			
DO mg/L	1	5:28	8.28 mg/L	
	2			
pH su	1	5:28	8.30	
	2			

Vertical Profile Measurements

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet): _____

Comments: _____

Depth feet	Temperature °C	DO %	DO mg/L

Upper Merrimack and Pemigewasset River Study
Low Flow Water Quality Survey #1
Early Morning Dissolved Oxygen Worksheet

Station #: M030

Date: 7/27/10
Time: 6:20
Weather Conditions: Clear, 64°F

Sampler Names: J. Detty, W. French

1. record site # (001 through 072)
2. record conditions and site description
3. save waypoint in GPS unit
4. collect data with YSI
5. bacteria samples (fill out collection WS!)
6. vertical DO/temp profile (if necessary at the site)

Site Description

Coordinates (decimal degrees): 330996.56 N 990382.05 E 85 Point_generic (mark waypoint!)

Total water depth (units): 6 ft

Alage coverage: none

Tree cover: none

Wildlife: none

Other observations (sights, smells, etc)

Data Collection

Parameter		Time	Reading	Comment
Temperature °C	1	6:22	23.26	
	2	6:29	23.24	
Conductivity ms/cm	1	6:22	73 µS/cm	
	2	6:29	79 µS/cm	
Sp. Cond. ms/cm[c]	1	6:22	76 µS/cm	
	2	6:29	77 µS/cm	
DO %	1	6:23	92.7	
	2	6:30	92.6	
DO mg/L	1	6:23	7.91	
	2	6:30	7.92	
pH su	1	6:24	7.56	
	2	6:30	7.32	

Vertical Profile Measurements

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet): _____

Comments: _____

Depth feet	Temperature °C	DO %	DO mg/L

Upper Merrimack and Pemigewasset River Study
Low-Flow Water Quality Survey #1
Early Morning Dissolved Oxygen Worksheet

Station #: M033

Date: July 27, 2010
Time: 7:29
Weather Conditions: Clear, 70°F

Sampler Names: J. Detty, W. French

1. record site # (001 through 072)
2. record conditions and site description
3. save waypoint in GPS unit
4. collect data with YSI
5. bacteria samples (fill out collection WS!)
6. vertical DO/temp profile (if necessary at the site)

Site Description

Coordinates (decimal degrees): 312248.71 ft N 991814.00 ft E 86 Point_generic (mark waypoint!)
Total water depth (units): 9 ft
Alage coverage: None
Tree cover: None
Wildlife: None
Other observations (sights, smells, etc)

Data Collection

Parameter		Time	Reading	Comment
Temperature °C	1	7:33	22.93	
	2	7:43	22.92	
Conductivity ms/cm	1	7:34	0.077	
	2	7:43	0.077	
Sp. Cond. ms/cm[c]	1	7:~~43~~ 34	0.080	
	2	7:44	0.080	
DO %	1	7:34	88.4	
	2	7:44	88.6	
DO mg/L	1	7:35	7.60	
	2	7:44	7.61	
pH su	1	7:35	7.15	
	2	7:44	7:06	

Vertical Profile Measurements - M033

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet): 9 ft

Comments: strong current & no depth sensor so guessing on depth

Depth feet	Temperature °C	DO %	DO mg/L
6 FT	22.93	88.4	7.59
5 FT	22.93	88.3	7.59
4 FT	22.93	88.4	7.59
3 FT	22.92	88.5	7.60
2 FT	22.92	88.6	7.61
1 FT	22.91	88.6	7.62

[redacted]

Station #: T035

Date: 7/27/10

Time: 6:50

Weather Conditions: Sunny, 60°F

Sampler Names: Andrew Poyant
Kevin Lerous

1. record site # (001 through 072)
2. record conditions and site description
3. save waypoint in GPS unit
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings
6. vertical DO/temp profile (if necessary at the site)
7. Collect samples (fill out WS!)

Site Description

Coordinates (decimal degrees): 2 8 6 159.83 ft N 1002105.43 ft E (mark waypoint!)

Total water depth (units): 6 Ft

Alage coverage: None

Tree cover: None

Wildlife: beaver

Other observations (sights, smells, etc)

Data Collection

Parameter		Time	Reading	Comment
Temperature °C	1	7:07	24.0	
	2	7:15	23.9	
Conductivity ms/cm	1	7:07	102.2	
	2		102.1	
Sp. Cond. ms/cm[c]	1			
	2			
DO %	1	7:07	91.2	
	2		91.6	
DO mg/L	1	7:07	7.48	
	2		7.67	
pH su	1	7:07	7.35	
	2		7.38	
Turbidity ntu	1			
	2			
Secchi Disk indicate units		1.9M	down	note units
			up	note units

Vertical Profile Measurements

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet): 6 ft

Comments:

Depth feet	Temperature °C	DO %	DO mg/L
6	23.6	78.6	6.67
5	23.7	86.5	7.36
4	23.9	90.9	7.61
3	24.0	89.3	7.54
2	24.0	87.0	7.40
1	23.9	86.2	7.24

[redacted]

Station #: M037

Date: 7/27/10

Time: 6:25 AM

Weather Conditions: clear, ≈ 60°F

Sampler Names: Andrew Poyant
Kevin Leroux

1. record site # (001 through 072)
2. record conditions and site description
3. save waypoint in GPS unit
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings
6. vertical DO/temp profile (if necessary at the site)
7. Collect samples (fill out WS!)

Site Description

Coordinates (decimal degrees): 285764.29 ft N 1005804.09 ft E (mark waypoint!)

Total water depth (units): 7 ft

Alage coverage: 0 %

Tree cover: None

Wildlife: blue heron

Other observations (sights, smells, etc)

Data Collection

Parameter	Time	Reading	Comment
Temperature °C	1 6:25 AM	23.5	
	2		
Conductivity ms/cm	1	80.6	
	2		
Sp. Cond. ms/cm[c]	1		
	2		
DO %	1	88.0	
	2		
DO mg/L	1	7.48	
	2		
pH su	1	6.93	
	2		
Turbidity ntu	1		
	2		
Secchi Disk indicate units	2.3 M	down	note units
		up	note units

Vertical Profile Measurements

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet): 7 ft

Comments:

Depth feet	Temperature °C	DO %	DO mg/L
6	23.5	88.5	7.51
5	23.5	87.7	7.40
4	23.5	87.5	7.40
3	23.5	88.1	7.47
2	23.5	87.6	7.48
1	23.5	86.0	7.30

Upper Merrimack and Pemigewasset River Study
Low-Flow Water Quality Survey #1
Early Morning Dissolved Oxygen Worksheet

Station #: M041

Date: 7/27/10

Time: 9:38 AM

Weather Conditions: Sunny, 70°F

Sampler Names: Andrew Poyant
Kevin Leroux

1. record site # (001 through 072)
2. record conditions and site description
3. save waypoint in GPS unit
4. collect data with YSI
5. bacteria samples (fill out collection WS!)
6. vertical DO/temp profile (if necessary at the site)

Site Description

Coordinates (decimal degrees): 246439.62Ft N 1022257.44Ft E (mark waypoint!)

Total water depth (units): 5M

Alage coverage: None

Tree cover: None

Wildlife:

Other observations (sights, smells, etc)

Data Collection

Parameter		Time	Reading	Comment
Temperature °C	1	9:53	24.39	
	2	9:58	24.43	
Conductivity ms/cm	1		99	
	2		99	
Sp. Cond. ms/cm[c]	1		100	
	2		101	
DO %	1		86.2	
	2		83.7	
DO mg/L	1		7.18	
	2		6.97	
pH su	1		5.64	
	2		5.61	

Vertical Profile Measurements

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet): 15

Comments:

Depth feet	Temperature °C	DO %	DO mg/L
15	24.35	79.5	6.70
14	24.35	85.0	7.11
13	24.35	85.9	7.21
12	24.35	86.7	7.03
11	24.35	88.0	7.25
10	24.35	85.8	7.17
9	24.36	84.7	7.13
8	24.36	87.3	7.29
7	24.37	80.0	6.61
6	24.36	82.9	7.00
5	24.37	89.3	7.46
4	24.37	89.1	7.42
3	24.38	89.0	7.30
2	24.39	86.1	7.10
1	24.40	86.1	7.16

Upper Merrimack and Pemigewasset River Study
Low-Flow Water Quality Survey #1
Early Morning Dissolved Oxygen Worksheet

Station #: M042

Date: 7/27/10

Time: 9:10

Weather Conditions: Sunny, 70s °F

Sampler Names: Andrew Pogant
Kevin Lerour

1. record site # (001 through 072)
2. record conditions and site description
3. save waypoint in GPS unit
4. collect data with YSI
5. bacteria samples (fill out collection WS!)
6. vertical DO/temp profile (if necessary at the site)

Site Description

Coordinates (decimal degrees): 242917.92 FtN 1024278.024 Ft E (mark waypoint!)

Total water depth (units): 4.7m

Alage coverage: None

Tree cover: None

Wildlife:

Other observations (sights, smells, etc)

Data Collection

Parameter		Time	Reading	Comment
Temperature °C	1	9:15	24.10	
	2	9:22	24.03	
Conductivity ms/cm	1	9:15	98	
	2		98	
Sp. Cond. ms/cm[c]	1	9:15	100	
	2		100	
DO %	1	9:15	82.9	
	2		84.9	
DO mg/L	1	9:15	7.15	
	2		7.16	
pH su	1	9:15	6.01	
	2		5.95	

Vertical Profile Measurements

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet):

Comments:

Depth feet	Temperature °C	DO %	DO mg/L
15	23.95	73.5	6.72
14	23.95	84.1	7.69
13	23.96	81.3	6.85
12	23.96	75.8	6.39
11	23.97	77.7	6.53
10	23.96	76.0	6.43
9	23.97	80.7	6.75
8	23.98	84.5	7.09
7	24.00	79.2	6.67
6	24.02	83.0	6.92
5	24.08	82.0	6.58
4	24.10	82.4	7.02
3	24.08	86.4	7.21
2	24.10	87.0	7.26
1	24.10	85.9	7.30

Upper Merrimack and Pemigewasset River Study
Low-Flow Water Quality Survey #1
Early Morning Dissolved Oxygen Worksheet

Station #: M045

Date: 7/27/10

Time: 0633

Weather Conditions: Clear, 50's

Sampler Names: CAF/JW

1. record site # (001 through 072)
2. record conditions and site description
3. save waypoint in GPS unit
4. collect data with YSI
5. bacteria samples (fill out collection WS!)
6. vertical DO/temp profile (if necessary at the site)

Site Description

Coordinates (decimal degrees): 236110.98 N 103513.18 E (mark waypoint!)

Total water depth (units): 6.5'

Alage coverage: No

Tree cover: NO

Wildlife: No

Other observations (sights, smells, etc)

Data Collection

Parameter	Time	Reading	Comment
Temperature °C	1 0633	24.16	
	2		
Conductivity ms/cm	1 0633	92	
	2		
Sp. Cond. ms/cm[c]	1 0633	93	
	2		
DO %	1 0633	91.8	
	2		
DO mg/L	1 0633	7.70	
	2		
pH su	1 0633	7.19	
	2		

Upper Merrimack and Pemigewasset River Study
Low Flow Water Quality Survey #1
Early Morning Dissolved Oxygen Worksheet

Station #: M045

Date: 7/27/10

Time: 0528

Weather Conditions: clear, 50's, foggy

Sampler Names: CAF / JW

1. record site # (001 through 072)
2. record conditions and site description
3. save waypoint in GPS unit
4. collect data with YSI
5. bacteria samples (fill out collection WS!)
6. vertical DO/temp profile (if necessary at the site)

Wrong sample location @ M049?

Site Description

Coordinates (decimal degrees): 220952.23 N 1037838.59E (mark waypoint!)

Total water depth (units): 7'

Alage coverage: No

Tree cover: No

Wildlife: Ducks

Other observations (sights, smells, etc)

Data Collection

Parameter	Time	Reading	Comment
Temperature °C	1 0528	25.77°C	
	2		
Conductivity ms/cm	1 0528	94	
	2		
Sp. Cond. ms/cm[c]	1 0528	93	
	2		
DO %	1 0528	99.8	
	2		
DO mg/L	1 0528	8.12	
	2		
pH su	1 0528	7.53	
	2		

Vertical Profile Measurements

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet): _____

Comments: _____

Depth feet	Temperature °C	DO %	DO mg/L

Upper Merrimack and Pemigewasset River Study
Low-Flow Water Quality Survey #1
Early Morning Dissolved Oxygen Worksheet

Station #: T046

Date: 7/27/10

Time: 0546

Weather Conditions: Clear, 50° F

Sampler Names: CAF / JW

1. record site # (001 through 072)
2. record conditions and site description
3. save waypoint in GPS unit
4. collect data with YSI
5. bacteria samples (fill out collection WS!)
6. vertical DO/temp profile (if necessary at the site)

Site Description

Coordinates (decimal degrees): 229464.83 N 1039068.82 E (mark waypoint!)

Total water depth (units): 1.2'

Alage coverage: No

Tree cover: 10%

Wildlife: No

Other observations (sights, smells, etc)

Data Collection

Parameter	Time	Reading	Comment
Temperature °C	1 0546	22.27°c	
	2		
Conductivity ms/cm	1 0546	106	
	2		
Sp. Cond. ms/cm[c]	1 0546	112	
	2		
DO %	1 0546	94.6	
	2		
DO mg/L	1 0546	8.22	
	2		
pH su	1 0546	7.22	
	2		

Vertical Profile Measurements

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet): _____

Comments: _____

_____

Depth feet	Temperature °C	DO %	DO mg/L

Upper Merrimack and Pemigewasset River Study
Low-Flow Water Quality Survey #1
Early Morning Dissolved Oxygen Worksheet

Station #: M047

Date: 7/27/10
Time: 0558
Weather Conditions: clear, 50's
Sampler Names: CAF/JW

1. record site # (001 through 072)
2. record conditions and site description
3. save waypoint in GPS unit
4. collect data with YSI
5. bacteria samples (fill out collection WS!)
6. vertical DO/temp profile (if necessary at the site)

Site Description

Coordinates (decimal degrees): 730328.16 N 1038558.76 E (mark waypoint!)
Total water depth (units): 9.0'
Alage coverage: No
Tree cover: No
Wildlife: No
Other observations (sights, smells, etc)

Data Collection

Parameter	Time	Reading	Comment
Temperature °C	1 0558	28.57°C	
	2		
Conductivity ms/cm	1 0558	101	
	2		
Sp. Cond. ms/cm[c]	1 0558	95	
	2		
DO %	1 0558	92.9	
	2		
DO mg/L	1 0558	7.20	
	2		
pH su	1 0558	7.35	
	2		

Vertical Profile Measurements

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet): _____

Comments: _____

_____

Depth feet	Temperature °C	DO %	DO mg/L

Upper Merrimack and Pemigewasset River Study
Low Flow Water Quality Survey #1
Early Morning Dissolved Oxygen Worksheet

Station #: M048

Date: 7/27/10
Time: 0607
Weather Conditions: Clear, 50°'s

Sampler Names: CAF/JW

1. record site # (001 through 072)
2. record conditions and site description
3. save waypoint in GPS unit
4. collect data with YSI
5. bacteria samples (fill out collection WS!)
6. vertical DO/temp profile (if necessary at the site)

Site Description

Coordinates (decimal degrees): 226026.29N 1037645.68E (mark waypoint!)
Total water depth (units): 9.0'
Alage coverage: No
Tree cover: No
Wildlife: No
Other observations (sights, smells, etc)

Data Collection

Parameter		Time	Reading	Comment
Temperature °C	1	0607	26.46	
	2			
Conductivity ms/cm	1	0607	96	
	2			
Sp. Cond. ms/cm[c]	1	0607	93	
	2			
DO %	1	0607	93.8	
	2			
DO mg/L	1	0607	7.55	
	2			
pH su	1	0607	7.30	
	2			

Vertical Profile Measurements

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet): 6.3'

Comments:

Depth feet	Temperature °C	DO %	DO mg/L
6'	27.25	84.6	6.71
4'	27.34	84.3	6.67
2'	27.51	84.4	6.66

Upper Merrimack and Pemigewasset River Study
Low-Flow Water Quality Survey #1
Early Morning Dissolved Oxygen Worksheet

Station #: M049

Date: 7/27/18

Time: 0621

Weather Conditions: clear, 50's

Sampler Names: CAF, JW

1. record site # (001 through 072)
2. record conditions and site description
3. save waypoint in GPS unit
4. collect data with YSI
5. bacteria samples (fill out collection WS!)
6. vertical DO/temp profile (if necessary at the site)

Site Description

Coordinates (decimal degrees): 220944.36N 1037884.13E (mark waypoint!)

Total water depth (units): 8.5'

Alage coverage: No

Tree cover: No

Wildlife: No

Other observations (sights, smells, etc)

Data Collection

Parameter	Time	Reading	Comment
Temperature °C	1 0621	25.72	
	2		
Conductivity ms/cm	1 0621	92	
	2		
Sp. Cond. ms/cm[c]	1 0621	91	
	2		
DO %	1 0621	92.9	
	2		
DO mg/L	1 0621	7.57	
	2		
pH su	1 0621	7.14	
	2		

Vertical Profile Measurements

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet): _____

Comments: _____

_____

Depth feet	Temperature °C	DO %	DO mg/L

Upper Merrimack and Pemigewasset River Study
Low Flow Water Quality Survey #1
Early Morning Dissolved Oxygen Worksheet

Station #: M053

Date: 7/27/10

Time: 0740

Weather Conditions: Sunny, 60's

Sampler Names: CAP/JW

1. record site # (001 through 072)
2. record conditions and site description
3. save waypoint in GPS unit
4. collect data with YSI
5. bacteria samples (fill out collection WS!)
6. vertical DO/temp profile (if necessary at the site)

Site Description

Coordinates (decimal degrees): 196948.68N 1038835.67 E (mark waypoint!)

Total water depth (units): 18.3'

Alage coverage: No

Tree cover: No

Wildlife: No

Other observations (sights, smells, etc)

Data Collection

Parameter	Time	Reading	Comment
Temperature °C	1 0740	26.01	
	2		
Conductivity ms/cm	1 0740	91	
	2		
Sp. Cond. ms/cm°	1 0740	89	
	2		
DO %	1 0740	95.7	
	2		
DO mg/L	1 0740	7.78	
	2		
pH su	1 0740	7.00	
	2		

Vertical Profile Measurements

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet): _____

Comments: _____

_____

Depth feet	Temperature °C	DO %	DO mg/L

Upper Merrimack and Pemigewasset River Study
Low Flow Water Quality Survey #1
Early Morning Dissolved Oxygen Worksheet

Station #: M054

Date: 7/27/10

Time: 0730

Weather Conditions: Sunny, 60's

Sampler Names: CAF / JW

1. record site # (001 through 072)
2. record conditions and site description
3. save waypoint in GPS unit
4. collect data with YSI
5. bacteria samples (fill out collection WS!)
6. vertical DO/temp profile (if necessary at the site)

Site Description

Coordinates (decimal degrees): 184102.56N 1036707.80 E (mark waypoint!)

Total water depth (units): 10.5'

Alage coverage: No

Tree cover: No

Wildlife: NO

Other observations (sights, smells, etc)

Data Collection

Parameter	Time	Reading	Comment
Temperature °C	1 0730	26.28	
	2		
Conductivity ms/cm	1 0730	95	
	2		
Sp. Cond. ms/cm[c]	1 0730	93	
	2		
DO %	1 0730	95.4	
	2		
DO mg/L	1 0730	7.70	
	2		
pH su	1 0730	7.16	
	2		

Vertical Profile Measurements

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet): _____

Comments: _____

_____

Depth feet	Temperature °C	DO %	DO mg/L

AM Readings

[redacted]

Station #: M055

Date: 7-27-16

Time: 0843

Weather Conditions: Sunny

Sampler Names: #7

1. record site # (001 through 072)
2. record conditions and site description
3. save waypoint in GPS unit
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings
6. vertical DO/temp profile (if necessary at the site)
7. Collect samples (fill out WS!)

Site Description

Coordinates (decimal degrees): -71.467630 42.981820 (mark waypoint!)

Total water depth (units): 4.6'

Alage coverage: Considerable, 70% ⊕ on bottom, long

Tree cover: little on banks, wide river

Wildlife: birds

Other observations (sights, smells, etc)

Data Collection

Parameter		Time	Reading	Comment
Temperature °C	1	26.06		
	2	26.07		
Conductivity ms/cm	1	91		
	2	91		
Sp. Cond. ms/cm[c]	1	89		
	2	89		
DO %	1	103.1		
	2	101.3		
DO mg/L	1	8.33		
	2	8.21		
pH su	1	7.32		
	2	7.28		
Turbidity ntu	1	0.8		
	2	0.70		
Secchi Disk indicate units			down	note units
			up	note units

Vertical Profile Measurements

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet):

Comments:

Depth feet	Temperature °C	DO %	DO mg/L

early morning DO

[redacted]

Station #: ~~#~~ 50 056

T056

Date: 7.27.10

Time: 750

Weather Conditions: Sunny

Sampler Names: #7

1. record site # (001 through 072)
2. record conditions and site description
3. save waypoint in GPS unit
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings
6. vertical DO/temp profile (if necessary at the site)
7. Collect samples (fill out WS!)

Site Description

Coordinates (decimal degrees): (mark waypoint!)

Total water depth (units): 1.3'

Alage coverage: 80%

Tree cover: 20-40%

Wildlife: birds

Other observations (sights, smells, etc) sampled downstream of mainst. middle of river bed.

Data Collection

Parameter		Time	Reading	Comment
Temperature °C	1	22.27		
	2	22.27		
Conductivity ms/cm	1	163		
	2	163		
Sp. Cond. ms/cm[c]	1	172		
	2	172		
DO %	1	89.6		
	2	88.9		
DO mg/L	1	7.78		
	2	7.72		
pH su	1	7.15		
	2	7.10		
Turbidity ntu	1	1.4		
	2	1.8		
Secchi Disk indicate units			down	note units
			up	note units

Vertical Profile Measurements

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet): _____

Comments: _____

_____

Depth feet	Temperature °C	DO %	DO mg/L

early morning DO

[redacted]

Station #: M058

Date: 7-27

Time: 0630 sample 7:02

Weather Conditions: Sunny

Sampler Names: #7

1. record site # (001 through 072)
2. record conditions and site description
3. save waypoint in GPS unit
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings
6. vertical DO/temp profile (if necessary at the site)
7. Collect samples (fill out WS!)

Site Description

Coordinates (decimal degrees): (mark waypoint!)

Total water depth (units): 1.8'

Alage coverage: Some on rocks

Tree cover: along banks

Wildlife: ducks,

Other observations (sights, smells, etc) rapids, fast moving water

Data Collection

Parameter	Time	Reading	Comment
Temperature °C	1 25.42		
	2 25.43		
Conductivity ms/cm	1 100		
	2 100		
Sp. Cond. ms/cm[c]	1 100		
	2 99		
DO %	1 92.3		
	2 92.4		
DO mg/L	1 7.54		
	2 7.58		
pH su	1 7.46		
	2 7.14		
Turbidity ntu	1 1.2		
	2 0.9		
Secchi Disk indicate units		down	note units
		up	note units

Vertical Profile Measurements

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet):

Comments:

Depth feet	Temperature °C	DO %	DO mg/L

copied from +B -JKL

AM Readings

[redacted]

Station #: M062

Date: 7/27/2010

Time: 0930

Weather Conditions:

Sampler Names: Team 7

1. record site # (001 through 072)
2. record conditions and site description
3. save waypoint in GPS unit
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings
6. vertical DO/temp profile (if necessary at the site)
7. Collect samples (fill out WS!)

Site Description

Coordinates (decimal degrees): (mark waypoint!)

Total water depth (units): 15.5'

Alage coverage:

Tree cover:

Wildlife:

Other observations (sights, smells, etc)

Data Collection

Parameter	Time	Reading	Comment
Temperature °C	1 25.73 →		
	2 25.90 →		
Conductivity ms/cm	1	108	
	2	108	
Sp. Cond. ms/cm[c]	1	106	
	2	106	
DO %	1	100.6	
	2	98.5	
DO mg/L	1	8.18	
	2	8.00	
pH su	1	7.11	
	2	7.13	
Turbidity ntu	1	0.4	
	2	0.4	
Secchi Disk indicate units		down 8.4	feet note units
		up 8.4	" note units

Vertical Profile Measurements

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet):

Comments:

Depth feet	Temperature °C	DO %	DO mg/L

[redacted]

Station #: T064

Date: 7-27-10

Time: ~~530~~ 535

Weather Conditions: Dry, clear, sunny

Sampler Names: J.G./M.D.

1. record site # (001 through 072)
2. record conditions and site description
3. save waypoint in GPS unit
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings
6. vertical DO/temp profile (if necessary at the site)
7. Collect samples (fill out WS!)

Site Description

Coordinates (decimal degrees): (mark waypoint!)

Total water depth (units): 1.25'

Alage coverage:

Tree cover: 20%

Wildlife: birds, small fish

Other observations (sights, smells, etc) some / little foam; some floating organics/leaves

Data Collection

Parameter		Time	Reading	Comment
Temperature °C	1	21.20		
	2	21.18		
Conductivity ms/cm	1	206		
	2	206		
Sp. Cond. ms/cm[c]	1	222		
	2	222		
DO %	1	97.6		
	2	97.0		
DO mg/L	1	8.65		
	2	8.61		
pH su	1	7.79		
	2	7.51		
Turbidity ntu	1	1.6		
	2	1.9		
Secchi Disk indicate units			down	note units
			up	note units

Vertical Profile Measurements

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet): _____

Comments: _____

_____

Depth feet	Temperature °C	DO %	DO mg/L

Upper Merrimack and Pemigewasset River Study
Low Flow Water Quality Survey #1
Early Morning Dissolved Oxygen Worksheet

Station #: M066

Date: 27 July 10

Time:

Weather Conditions: Clear, calm, 60s °F

Sampler Names: Mason, Maxwell

1. record site # (001 through 072)
2. record conditions and site description
3. save waypoint in GPS unit
4. collect data with YSI
5. bacteria samples (fill out collection WS!)
6. vertical DO/temp profile (if necessary at the site)

Site Description

Coordinates (decimal degrees): 42.80283N, 71.47063W (mark waypoint!)

Total water depth (units): 15 ft

Alage coverage: —

Tree cover: —

Wildlife: —

Other observations (sights, smells, etc): ✓

Data Collection

Parameter	Time	Reading	Comment
Temperature °C	1 0530	25.2	
	2 0623	25.1	
Conductivity ms/cm	1 0530	DM ~~1250~~ 0.125	
	2 0623	0.127	
Sp. Cond. ms/cm[c]	1 0530	0.127	
	2 0623	0.127	
DO %	1 0530	86.1	
	2 0623	87.5	
DO mg/L	1 0530	7.1	
	2 0623	7.13	
pH su	1 0530	8.35	
	2 0623	7.58	

Vertical Profile Measurements

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet): 15

Comments:

Depth feet	Temperature °C	DO %	DO mg/L
14	25.1	87.4	7.25
13	25.1	DM ~~88~~ 87.3	7.23
12	25.1	83.6	6.82
11	25.1	81.4	6.67
10	25.1	89.9	7.40
9	25.1	89.8	7.43
8	25.1	88.4	7.37
7	25.1	88.8	7.34
6	25.1	89.0	7.30
5	25.1	82.4	7.00
4	25.1	88.0	7.29
3	25.1	89.4	7.37
2	25.1	89.0	7.35
1	25.1	87.7	7.23

Upper Merrimack and Pemigewasset River Study
Low-Flow Water Quality Survey #1
Early Morning Dissolved Oxygen Worksheet

Station #: M071

Date: 27 July 11
Time: 0700
Weather Conditions: Sunny, Calm, low 70's

Sampler Names: Mason, Maxwell

1. record site # (001 through 072)
2. record conditions and site description
3. save waypoint in GPS unit
4. collect data with YSI
5. bacteria samples (fill out collection WS!)
6. vertical DO/temp profile (if necessary at the site)

Site Description

Coordinates (decimal degrees): 42.74384 71.43994 (mark waypoint!)
Total water depth (units): 10.5 ft
Alage coverage: —
Tree cover: —
Wildlife: GBH (2)
Other observations (sights, smells, etc) —

Data Collection

Parameter	Time	Reading	Comment
Temperature °C	1 0705	25.2	
	2 0719	25.2	
Conductivity ms/cm	1 ~~0.1576~~ 0705	0.1576	
	2 0719	0.157	
Sp. Cond. ms/cm²	1 ~~0.157~~ 0705	0.157	
	2 0719	0.157	
DO %	1 0705	100.2	
	2 0719	99.8	
DO mg/L	1 0705	8.26	
	2 0719	8.21	
pH su	1 0705	8.6	
	2 0719	8.74	

Vertical Profile Measurements

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet): 10.5

Comments:

Depth feet	Temperature °C	DO %	DO mg/L
10	25.2	98.2	8.05
9	25.2	98.1	8.08
8	25.2	98.2	8.06
7	25.2	99.5	8.22
6	25.2	99.8	8.14
5	25.2	99.4	8.20
4	25.2	99.8	8.21
3	25.2	99.7	8.19
2	25.2	100.3	8.25
1	25.2	99.4	8.17

Upper Merrimack and Pemigewasset River Study
Low-Flow Water Quality Survey #1
Field Measurement Worksheet

Station #: M001

Date: 7-27-10

Time: 9:30 AM

Weather Conditions: SUNNY/CLEAR

Sampler Names: S. LAVOIE

J. O'DONNELL

1. record site # (001 through 072)
2. record conditions and site description
3. save waypoint in GPS unit
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings
6. vertical DO/temp profile (if necessary at the site)
7. Collect samples (fill out WS!)

Site Description

Coordinates (decimal degrees): (mark waypoint!)

Total water depth (units): 6"

Alage coverage:

Tree cover: YES

Wildlife:

Other observations (sights, smells, etc)

Data Collection

Parameter	Time	Reading	Comment
Temperature °C	1 9:30	15.8	
	2		
Conductivity ms/cm	1 9:30	53.0	
	2		
Sp. Cond. ms/cm[c]	1 9:30	64.3	
	2		
DO %	1 9:30	84.1	
	2		
DO mg/L	1 9:30	8.13	
	2		
pH su	1 9:30	6.90	
	2		
Turbidity ntu	1	~~[illegible]~~ 0.44	
	2		
Secchi Disk indicate units		down	note units
		up	note units

Vertical Profile Measurements

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet): _____

Comments: _____

_____

Depth feet	Temperature °C	DO %	DO mg/L

Upper Merrimack and Pemigewasset River Study
Low-Flow Water Quality Survey #1
Field Measurement Worksheet

Station #: T002

Date: 7/27

Time: 6:20

Weather Conditions: clear

Sampler Names: S. Lavoie
J. O'Donnell

1. record site # (001 through 072)
2. record conditions and site description
3. save waypoint in GPS unit
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings
6. vertical DO/temp profile (if necessary at the site)
7. Collect samples (fill out WS!)

Site Description

Coordinates (decimal degrees): (mark waypoint!)

Total water depth (units): 3 ft.

Alage coverage: None

Tree cover: None

Wildlife: None

Other observations (sights, smells, etc)

Data Collection READING TIME

Parameter		~~Time~~	~~Reading~~	Comment
Temperature °C	1	21.5	6:20	
	2	21.5	6:30	
Conductivity ms/cm	1	24.6	6:20	
	2	24.5	6:30	
Sp. Cond. ms/cm[c]	1	26.4	6:20	
	2	26.2	6:30	
DO %	1	84.1	6:20	
	2	84.6	6:30	
DO mg/L	1	7.12	6:20	
	2	7.45	6:30	
pH su	1	6.82	6:20	
	2	6.77	6:30	
Turbidity ntu	1	0.86	6:20	
	2	0.56	6:30	
Secchi Disk indicate units			down	note units
			up	note units

Vertical Profile Measurements

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet):

Comments:

Depth feet	Temperature °C	DO %	DO mg/L
3'		See front.	
2'	21.5	85.4	7.47
1'	21.6	85.6	7.36

Upper Merrimack and Pemigewasset River Study
Low Flow Water Quality Survey #1
Field Measurement Worksheet

Station #: T003

Date: 7/27
Time: 5:30
Weather Conditions: clear.

Sampler Names: S. Lavare
S. O'Donnell

1. record site # (001 through 072)
2. record conditions and site description
3. save waypoint in GPS unit
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings
6. vertical DO/temp profile (if necessary at the site)
7. Collect samples (fill out WS!)

Site Description

Coordinates (decimal degrees): (mark waypoint!)
Total water depth (units): 2'
Alage coverage: —
Tree cover: —
Wildlife: —
Other observations (sights, smells, etc) —

Data Collection

Parameter		~~Time~~ READING	~~Reading~~ TIME	Comment
Temperature °C	1	22.0	5:30	
	2	21.9	5:40	
Conductivity ms/cm	1	44.8	5:30	
	2	44.7	5:40	
Sp. Cond. ms/cm[c]	1	37.6	5:30	
	2	47.5	5:40	
DO %	1	77.2	5:30	
	2	81.7	5:40	
DO mg/L	1	6.50	5:30	
	2	6.98	5:40	
pH su	1	6.71	5:30	
	2	6.67	5:40	
Turbidity ntu	1	0.67	5:30	
	2	0.67	5:40	
Secchi Disk indicate units			down	note units
			up	note units

Vertical Profile Measurements

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet):

Comments:

Depth feet	Temperature °C	DO %	DO mg/L
2'	see front		
1'	22	80.1	6.8

Upper Merrimack and Pemigewasset River Study
Low Flow Water Quality Survey #1
Field Measurement Worksheet

Station #: ~~[illegible]~~ T004

Date: 7/27

Time: 10:45

Weather Conditions: Clear

Sampler Names: J. O'Donnell
S. Lavoie

1. record site # (001 through 072)
2. record conditions and site description
3. save waypoint in GPS unit
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings
6. vertical DO/temp profile (if necessary at the site)
7. Collect samples (fill out WS!)

Site Description

Coordinates (decimal degrees): (mark waypoint!)

Total water depth (units): 3 ft.

Alage coverage: some green mossy Alage on sides

Tree cover: None

Wildlife: None

Other observations (sights, smells, etc)

Data Collection

Parameter		Time	Reading	Comment
Temperature °C	1	~~17.3~~ 10:45	17.3	
	2	11:15	17.8	
Conductivity ms/cm	1	10:45	29.7	
	2	11:15	29.8	
Sp. Cond. ms/cm[c]	1	10:45	34.8	
	2	11:15	34.6	
DO %	1	10:45	83.6	
	2	11:15	81.4	
DO mg/L	1	10:45	7.85	
	2	11:15	7.56	
pH su	1	10:45	6.8	
	2	11:15	6.76	
Turbidity ntu	1	10:45	0.57	
	2	11:15	1.51	
Secchi Disk indicate units			down	note units
			up	note units

Vertical Profile Measurements

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet):

Comments:

Depth feet	Temperature °C	DO %	DO mg/L
3	17.3	83.6	7.85
1.5	17.3	87.6	8.25

Upper Merrimack and Pemigewasset River Study
Low-Flow Water Quality Survey #1
Field Measurement Worksheet

Station #: M005

Date: 7-27-10

Time: 1:05

Weather Conditions: SUNNY/CLEAR

Sampler Names: S. LAMOTE / J. O'DONNELL

1. record site # (001 through 072)
2. record conditions and site description
3. save waypoint in GPS unit
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings
6. vertical DO/temp profile (if necessary at the site)
7. Collect samples (fill out WS!)

Site Description

Coordinates (decimal degrees): (mark waypoint!)

Total water depth (units): 3.25

Alage coverage: SOME / MOSS

Tree cover: NONE

Wildlife:

Other observations (sights, smells, etc)

Data Collection

Parameter		Time	Reading	Comment
Temperature °C	1	1:05	19.6	
	2	1:40	20	
Conductivity ms/cm	1	1:05	39.3	
	2	1:40	39.8	
Sp. Cond. ms/cm[c]	1	1:05	44.0	
	2	1:40	44.1	
DO %	1	1:05	86.5	
	2	1:40	83.9	
DO mg/L	1	1:05	7.64	
	2	1:40	7.46	
pH su	1	1:05	6.89	
	2	1:40	6.76	
Turbidity ntu	1	1:05	0.49	
	2	1:40	0.63	
Secchi Disk indicate units			down	note units
			up	note units

Vertical Profile Measurements

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet): 3.25

Comments:

Depth feet	Temperature °C	DO %	DO mg/L
3.25	19.6	86.5	7.64
2.25	19.6	79.6	7.20
1.25	19.7	86.2	7.80

Upper Merrimack and Pemigewasset River Study
Low-Flow Water Quality Survey #1
Field Measurement Worksheet

Station #: M006

Date: 7/27

Time: 4:55

Weather Conditions: clear

Sampler Names: S. Lavoie
J. O'Donnell

1. record site # (001 through 072)
2. record conditions and site description
3. save waypoint in GPS unit
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings
6. vertical DO/temp profile (if necessary at the site)
7. Collect samples (fill out WS!)

Site Description

Coordinates (decimal degrees): 44° 01' 19.189 (mark waypoint!)

Total water depth (units): 10'

Alage coverage:

Tree cover:

Wildlife:

Other observations (sights, smells, etc)

Data Collection READING TIME

Parameter		~~Time~~	~~Reading~~	Comment
Temperature °C	1	22.4	4:55	
	2	22.3	5:10	
Conductivity ms/cm	1	45.8	4:55	
	2	45.6	5:10	
Sp. Cond. ms/cm[c]	1	48.2	4:55	
	2	48.1	5:10	
DO %	1	82.0	4:55	
	2	71.6	5:10	
DO mg/L	1	~~6.55~~ 6.55	4:55	
	2	6.06	5:10	
pH su	1	6.76	4:55	
	2	6.72	5:10	
Turbidity ntu	1	0.70	4:55	
	2	0.89	5:10	
Secchi Disk indicate units			down	note units
			up	note units

Vertical Profile Measurements

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet):

Comments:

Depth feet	Temperature °C	DO %	DO mg/L
10'	22.3	88.5	7.28
9'	22.3	86.8	7.22
8'	22.4	85.4	7.20
7'	22.4	86.8	7.35
6'	22.4	86.1	7.24
5'	22.4	82.0	6.85
4'	22.3	76.1	6.52
3'	22.4	83.3	7.09
2'	22.3	77.6	6.38
1'	22.3	72.8	6.22

Upper Merrimack and Pemigewasset River Study
Low-Flow Water Quality Survey #1
Early Morning Dissolved Oxygen Worksheet

Station #: M007

Date: 7/27

Time: 2:04

Weather Conditions: clear

Sampler Names: J. O'Donnell
S. Lavoie

1. record site # (001 through 072)
2. record conditions and site description
3. save waypoint in GPS unit
4. collect data with YSI
5. bacteria samples (fill out collection WS!)
6. vertical DO/temp profile (if necessary at the site)

Site Description

Coordinates (decimal degrees): _____ (mark waypoint!)

Total water depth (units): ~2 ft

Alage coverage: green mossy alage on riversides

Tree cover: NO overhanging.

Wildlife: None

Other observations (sights, smells, etc) None

Data Collection

Parameter		Time	Reading	Comment
Temperature °C	1	20.5	2:20 PM	
	2	20.9	2:31 PM	
Conductivity ms/cm	1	40.3	2:20 PM	
	2	41.3	2:31	
Sp. Cond. ms/cm[c]	1	44.1	2:20 PM	
	2	44.9	2:31 PM	
DO %	1	92.1	2:20 PM	
	2	~~92.0~~ 86.7	2:31 PM	
DO mg/L	1	8.00	2:20 PM	
	2	7.53	2:31 PM.	
pH su	1	6.84	2:20 PM	
	2	6.84	2:31	
Turbidity		1.22	2:20	
		1.18	2:31	

Vertical Profile Measurements

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet):

Comments:

Depth feet	Temperature °C	DO %	DO mg/L
2	20.5	92.1	8.00
1'	20.5	89.8	7.84

Upper Merrimack and Pemigewasset River Study
Low-Flow Water Quality Survey #1
Field Measurement Worksheet

Station #: M008

Date: 7-27-10

Time: 3:05

Weather Conditions: SUNNY/CLEAR 85°F

Sampler Names: S. LAVOIE / J. O'DONNELL

1. record site # (001 through 072)
2. record conditions and site description
3. save waypoint in GPS unit
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings
6. vertical DO/temp profile (if necessary at the site)
7. Collect samples (fill out WS!)

Site Description

Coordinates (decimal degrees): (mark waypoint!)

Total water depth (units): 2 FEET

Alage coverage: NONE

Tree cover: NONE

Wildlife: NONE

Other observations (sights, smells, etc) BOTT LANDER / BEACH

Data Collection

Parameter	Time	Reading	Comment
Temperature °C	1 3:10	21	
	2 3:37	21.9	
Conductivity ms/cm	1 3:10	44.1	
	2 3:37	43.8	
Sp. Cond. ms/cm[c]	1 3:10	44.1	
	2 3:37	47.4	
DO %	1 3:10	87.3	
	2 3:37	92.7	
DO mg/L	1 3:10	7.51	
	2 3:37	7.97	
pH su	1 3:10	6.9	
	2 3:37	6.9	
Turbidity ntu	1 3:10	0.59	
	2 3:37	1.13	
Secchi Disk indicate units		down	note units
		up	note units

Vertical Profile Measurements

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet): 2

Comments:

Depth feet	Temperature °C	DO %	DO mg/L
2			
1	20.9	88.8	7.77

Upper Merrimack and Pemigewasset River Study
Low-Flow Water Quality Survey #1
Field Measurement Worksheet

Station #: ~~[illegible]~~ M009

Date: 7/27/10
Time: 1:05 PM
Weather Conditions: Sunny, warm, clear

Sampler Names: Lauren Klonsky
Nate Desrosiers

1. record site # (001 through 072)
2. record conditions and site description
3. save waypoint in GPS unit
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings
6. vertical DO/temp profile (if necessary at the site)
7. Collect samples (fill out WS!)

Site Description

Coordinates (decimal degrees): approx: 43.84704, -71.66137 (mark waypoint!)
Total water depth (units): 4-4.5
Alage coverage: none
Tree cover: banks w/ some overhang
Wildlife: fish
Other observations (sights, smells, etc) depth is variable within short distances

YSI: 02D0344AD

Data Collection

Parameter		Time	Reading	Comment
Temperature °C	1	1:27	20.57	Taken @ ~2' deep
	2	1:31	20.58	
Conductivity ~~ms/cm~~	1	1:27	47	units µS/cm
	2	1:31	47	
Sp. Cond. ms/cm[c]	1	1:27	52	units µS/cm c
	2	1:31	52	
DO %	1	1:27	101.9	
	2	1:31	100.3	
DO mg/L	1	1:27	9.16	
	2	1:31	9.01	
pH su	1	1:27	7.18	
	2	1:31	6.74	
Turbidity ntu	1	1:27	-0.3	
	2	~~1:27~~ 1:31	-0.2	
Secchi Disk indicate units		clear to bottom	down	note units
			up	note units

YSI: 02D0344AD

Vertical Profile Measurements

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet): ~ 4.5'

Comments:

TIME: 1:30 PM

Depth feet	Temperature °C	DO %	DO mg/L
~3.5' ~~~4'~~ deep	20.54°C	101.0	9.08
~2.5' ~~~3'~~ deep	20.54°C	100.8	9.065
~1' deep	20.61°C	100.6	9.06
~0.5' deep	20.64°C	100.5	9.02

Upper Merrimack and Pemigewasset River Study
Low-Flow Water Quality Survey #1
~~Early Morning~~ Dissolved Oxygen Worksheet

Station #: ~~[illegible]~~ T010

Date: 7/27/10

Time: 12:15 AM

Weather Conditions: sunny & clear

Sampler Names: Lauren Klonsky
Nate ~~[illegible]~~ Desrosiers

1. record site # (001 through 072)
2. record conditions and site description
3. save waypoint in GPS unit
4. collect data with YSI
5. bacteria samples (fill out collection WS!)
6. vertical DO/temp profile (if necessary at the site)

Site Description

Coordinates (decimal degrees): 43° 50' 56.858" N 71° 38' 17.937" W (mark waypoint!)

Total water depth (units): ~1.5' - 2' deep

Alage coverage: alage on bottom rocks

Tree cover: canopy in places creating shade

Wildlife:

Other observations (sights, smells, etc)

measurements taken @ 1'

Data Collection

Parameter	Time	Reading	Comment
Temperature °C	1 ~~11:40~~ 12:40	19.47°C	
	2 12:42 PM	19.49°C	
Conductivity ~~ms~~ µS/cm	1 12:40 PM	43	units µS/cm
	2 12:42 PM	43	
Sp. Cond. ms/cm[c]	1 12:40 PM	48	units µS/cm C
	2 12:42 PM	48	
DO %	1 12:40 PM	101.2 %	
	2 12:42 PM	101.1 %	
DO mg/L	1 12:40 PM	9.3	
	2 12:42 PM	9.29	
pH su	1 12:40 PM	6.93	
	2 12:42 PM	6.78	

TURB 12:40 -0.4
12:42 -0.35

SECHI clear! :)

YSI: 02D0344AD

Vertical Profile Measurements

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet): _____

Comments: _____

Depth feet	Temperature °C	DO %	DO mg/L

Upper Merrimack and Pemigewasset River Study
Low-Flow Water Quality Survey #1
Field Measurement Worksheet

Station #: T011

Date: 7/27/10
Time: 6:00 PM
Weather Conditions: clear & warm

Sampler Names: Lauren Klonsky & Nate Desrosiers

1. record site # (001 through 072)
2. record conditions and site description
3. save waypoint in GPS unit
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings
6. vertical DO/temp profile (if necessary at the site)
7. Collect samples (fill out WS!)

Site Description

Coordinates (decimal degrees): approx: 43.76809, -71.68580 (mark waypoint!)
Total water depth (units): ~ 1.5'
Alage coverage: alage growing on rocks.
Tree cover: along banks
Wildlife: fish & a big frog
Other observations (sights, smells, etc)

Data Collection

Parameter	Time	Reading	Comment
Temperature °C	1 6:25 PM	24.19	
	2 6:27 PM	24.18	
Conductivity ~~ms/cm~~	1 6:25 PM	62	units: µS/cm
	2 6:27 PM	62	
Sp. Cond. ~~ms/cm°~~	1 6:25 PM	63	units: µS/cm°
	2 6:27 PM	64	
DO %	1 6:25 PM	96.6	
	2 6:27 PM	96.6	
DO mg/L	1 6:25 PM	8.11	
	2 6:27 PM	8.11	
pH su	1 6:25 PM	7.12	
	2 6:27 PM	7.07	
Turbidity ntu	1 6:25 PM	0.3	
	2 6:27 PM	0.3	
Secchi Disk indicate units	can see the bottom!	down	note units
		up	note units

YSI: 02D0344AD

Vertical Profile Measurements

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet): _____

Comments: _____

Depth feet	Temperature °C	DO %	DO mg/L

Upper Merrimack and Pemigewasset River Study
Low-Flow Water Quality Survey #1
Early Morning Dissolved Oxygen Worksheet

Station #: M012

Date: 7/27/10

Time: 2:50 PM

Weather Conditions: clear, sunny, warm

Sampler Names: Lauren Klonsky
Nate Desrosiers

1. record site # (001 through 072)
2. record conditions and site description
3. save waypoint in GPS unit
4. collect data with YSI
5. bacteria samples (fill out collection WS!)
6. vertical DO/temp profile (if necessary at the site)

Site Description

Coordinates (decimal degrees): 43.75710, -71.68565 (mark waypoint!)

Total water depth (units): 2.5'

Alage coverage: none

Tree cover: on banks

Wildlife: none

Other observations (sights, smells, etc)

YSI: 02D 0344AD

Data Collection

Parameter		Time	Reading	Comment
Temperature °C	1	2:43	22.65°C	
	2	2:45	22.66°C	
Conductivity ms/cm	1	2:43	51	
	2	2:46	51	
Sp. Cond. ms/cm[c]	1	2:43	54	
	2	2:45	54	
DO %	1	2:43	102.9	
	2	2:45	102.9	
DO mg/L	1	2:43	8.88	
	2	2:45	8.88	
pH su	1	2:43	7.00	
	2	2:46	6.99	
TURB.		2:43	0.0	
		2:45	0.0	

sechi: clear to the bottom

Vertical Profile Measurements

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet): _____

Comments: _____

Depth feet	Temperature °C	DO %	DO mg/L

Upper Merrimack and Pemigewasset River Study
Low Flow Water Quality Survey #1
Field Measurement Worksheet

Station #: M013

Date: 7/27/10
Time: 3:55
Weather Conditions: sunny, clear

Sampler Names: Lauren Klonsky
Nate Desrosiers

1. record site # (001 through 072)
2. record conditions and site description
3. save waypoint in GPS unit
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings
6. vertical DO/temp profile (if necessary at the site)
7. Collect samples (fill out WS!)

Site Description

Coordinates (decimal degrees): 43°45'00.810" 71°40'56.578" (mark waypoint!)
Total water depth (units): 4' ↳ measured in AM
Alage coverage: none
Tree cover:
Wildlife:
Other observations (sights, smells, etc) silty bottom
DO doesn't change with depth

Data Collection

Parameter	Time	Reading	Comment
Temperature °C	1 3:51	23.16 °C	
	2 3:52	23.17 °C	
Conductivity ~~ms/cm~~	1 3:51	53	units µS/cm
	2 3:52	53	
Sp. Cond. ~~ms/cm^c~~	1 3:50	55	units µS/cm^c
	2 3:52	55	
DO %	1 3:51	101.9%	
	2 3:52	102.3%	
DO mg/L	1 3:51	8.72	
	2 3:52	8.74	
pH su	1 3:51	7.00	
	2 3:52	6.95	
Turbidity ntu	1 3:51	-1	
	2 3:52	0	
Secchi Disk indicate units	clear to bottom	down	note units
		up	note units

YSI: 02D0344AD

Vertical Profile Measurements

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet): _____

Comments: _____

Depth feet	Temperature °C	DO %	DO mg/L

Upper Merrimack and Pemigewasset River Study
Low-Flow Water Quality Survey #1
Field Measurement Worksheet

Station #: M014

Date: 7/27/10
Time: 4:30 PM
Weather Conditions: sun, warm, clear

Sampler Names: Lauren Klonsky
Nate Desrosiers

1. record site # (001 through 072)
2. record conditions and site description
3. save waypoint in GPS unit
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings
6. vertical DO/temp profile (if necessary at the site)
7. Collect samples (fill out WS!)

Site Description

Coordinates (decimal degrees): approx: 43.74070, -71.67750 (mark waypoint!)
Total water depth (units): ~~DM~~ 1.5'
Alage coverage: None
Tree cover: banks
Wildlife: small fish
Other observations (sights, smells, etc)
YSI: 02D0344AD

Data Collection

Parameter	Time	Reading	Comment
Temperature °C	1 4:35	23.4°C	
	2 4:38	23.41°C	
Conductivity ~~ms/cm~~	1 4:35	54	units µs/cm
	2 4:38	54	
Sp. Cond. ~~ms/cm~~	1 4:35	56	units µs/cm
	2 4:38	56	
DO %	1 4:35	106.6	
	2 4:38	104.6	
DO mg/L	1 4:35	9.07	
	2 4:38	8.9	
pH su	1 4:35	6.99	
	2 4:38	6.92	
Turbidity ntu	1 4:35	-.1	
	2 4:38	0	
Secchi Disk indicate units	clear to bottom	down	note units
		up	note units

Vertical Profile Measurements

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet): _____

Comments: _____

Depth feet	Temperature °C	DO %	DO mg/L

Upper Merrimack and Pemigewasset River Study
Low-Flow Water Quality Survey #1
~~Early Morning~~ Dissolved Oxygen Worksheet

Station #: T015

Date: July 27 2010
Time: 10:53 AM
Weather Conditions: sunny clear hot

Sampler Names: Lauren Klonskey
Nate Desrosiers

1. record site # (001 through 072)
2. record conditions and site description
3. save waypoint in GPS unit
4. collect data with YSI
5. bacteria samples (fill out collection WS!)
6. vertical DO/temp profile (if necessary at the site)

Site Description

Coordinates (decimal degrees): 43°41'10.432"N 71°38'35.143"W (mark waypoint!)
Total water depth (units): 4.5'
Alage coverage: none
Tree cover: shrubs
Wildlife: small fish
Other observations (sights, smells, etc) no vert. profile. No Δ in D.O
New YSI 02D0344AD
from Team 3

Data Collection

Parameter	Time	Reading	Comment
Temperature °C	1 11:25	23.22°C	midway down depth ~2.75'
	2 11:27	23.24°C	
Conductivity ~~ms~~ uS/cm	1 11:25	57	
	2 11:27	57	
Sp. Cond. ~~ms~~ uS/cm	1 11:25	59	
	2 11:27	59	
DO %	1 11:25	96.6%	
	2 11:27	96.6%	
DO mg/L	1 11:25	8.25	
	2 11:27	8.25	
pH su	1 11:25	7.56	
	2 11:27	7.4	

Turbid 11:25 0.6
11:27 0.5 } taken from YSI

Sechi - clear to bottom

Vertical Profile Measurements

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet):

Comments:

not recorded since there was no vertical change in DO

Depth feet	Temperature °C	DO %	DO mg/L

Upper Merrimack and Pemigewasset River Study
Low Flow Water Quality Survey #1
Field Measurement Worksheet

Station #: M016

Date: 27 July 2010

Time: 1934

Weather Conditions: Clear

Sampler Names: DT / BS

1. record site # (001 through 072)
2. record conditions and site description
3. save waypoint in GPS unit
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings
6. vertical DO/temp profile (if necessary at the site)
7. Collect samples (fill out WS!)

Site Description

Coordinates (decimal degrees): In GPS (mark waypoint!)

Total water depth (units): 11.4

Alage coverage: –

Tree cover: –

Wildlife: –

Other observations (sights, smells, etc): –

Data Collection

Parameter		Time	Reading	Comment
Temperature °C	1	1936	23.9	
	2	2002	23.4	
Conductivity ms/cm	1	1936	0.052	
	2	2002	0.052	
Sp. Cond. ms/cm[c]	1	1936	0.053	
	2	2002	0.054	
DO %	1	1936	89.0	
	2	2002	91.6	
DO mg/L	1	1936	7.19	
	2	2002	7.72	
pH su	1	1936	7.14	
	2	2002	6.92	
Turbidity ntu	1	1936	2.37	
	2	2002	1.75	
Secchi Disk indicate units		1937	down 8.0	note units
			up 7.5	note units

Vertical Profile Measurements

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet):

Comments:

Depth feet	Temperature °C	DO %	DO mg/L
10	22.1	89.3	7.90
9	22.2	90.8	7.88
8	22.5	90.1	7.78
7	22.6	91.3	7.93
6	22.6	91.6	7.93
5	23.0	92.8	7.95
4	23.4	89.6	7.59
3	23.7	89.8	7.63
2	23.8	91.1	7.64
1	24.2	91.7	7.70

Upper Merrimack and Pemigewasset River Study
Low Flow Water Quality Survey #1
Field Measurement Worksheet

Station #: M017

Date: 7/27/10

Time: 1843

Weather Conditions: Sunny Clear

Sampler Names: DT BS

1. record site # (001 through 072)
2. record conditions and site description
3. save waypoint in GPS unit
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings
6. vertical DO/temp profile (if necessary at the site)
7. Collect samples (fill out WS!)

Site Description

Coordinates (decimal degrees): In GPS (mark waypoint!)

Total water depth (units): 23.0

Alage coverage: —

Tree cover: —

Wildlife: —

Other observations (sights, smells, etc) —

Data Collection

Parameter		Time	Reading	Comment
Temperature °C	1	1843	25.2	
	2	1708	25.3	
Conductivity ms/cm	1	1843	0.061	
	2	1708	0.061	
Sp. Cond. ms/cm[c]	1	1843	0.061	
	2	1708	0.061	
DO %	1	1843	87.7	
	2	1708	90.7	
DO mg/L	1	1843	7.22	
	2	1708	7.43	
pH su	1	1843	7.14	
	2	1708	6.97	
Turbidity ntu	1	1843	2.52	
	2	1709	1.89	
Secchi Disk indicate units		1843	down 5.0	note units
			up 6.0	note units

Vertical Profile Measurements

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet): 23.0

Comments:

Depth feet	Temperature °C	DO %	DO mg/L
22	22.3	85.5	7.38
20	22.3	80.5	6.99
18	22.8	81.0	6.97
16	23.7	83.9	7.11
14	23.7	87.5	7.40
12	23.8	84.9	7.16
10	24.3	87.1	7.28
8	24.8	82.6	6.84
6	24.9	85.6	7.09
4	25.2	90.8	7.45
2	25.4	90.1	7.37

Upper Merrimack and Pemigewasset River Study
Low Flow Water Quality Survey #1
Field Measurement Worksheet

Station #: M018

Date: 7/27/10
Time: 8:15 AM
Weather Conditions: warm, sunny, clear

Sampler Names: Lauren Klonsky
Nate Desrosiers Team # 2

1. record site # (001 through 072)
2. record conditions and site description
3. save waypoint in GPS unit
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings
6. vertical DO/temp profile (if necessary at the site)
7. Collect samples (fill out WS!)

Site Description

Coordinates (decimal degrees): 43.59620, -71.71855 (mark waypoint!)
Total water depth (units): ~3.5
Alage coverage: slippery rocks, but no alage usable
Tree cover: banks
Wildlife: none
Other observations (sights, smells, etc)

Data Collection

Parameter	Time	Reading	Comment
Temperature °C	1 8:40	23.3°	
	2 9:17	23.3°	
Conductivity ms/cm	1 8:40	.058	readings taken u/s of tributary
	2 9:17	.059	
Sp. Cond ms/cm[c]	1 8:40	.061	~~[illegible]~~
	2 9:17	.060	YSI was changed to show units of ms/cm versus
DO %	1 8:40	89.7%	
	2 9:17	77.3%	
DO mg/L	1 8:40	7.63	previously recording µs/cm
	2 9:17	6.58	
pH su	1 8:40	7.29	
	2 9:17	7.02	
Turbidity ntu	1 9:12	1.87	
	2 9:23	1.66	
Secchi Disk indicate units	visible to bottom	down	note units
		up	note units

YSI: 110101438

Vertical Profile Measurements

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet): _____

Comments: _____

_____

Depth feet	Temperature °C	DO %	DO mg/L

Upper Merrimack and Pemigewasset River Study
Low-Flow Water Quality Survey #1
Field Measurement Worksheet

Station #: M019

Date: 7/27/10
Time: 7:30 PM
Weather Conditions: sunset, warm

Sampler Names: Lauren Klonsky
Nate Desroisers

1. record site # (001 through 072)
2. record conditions and site description
3. save waypoint in GPS unit
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings
6. vertical DO/temp profile (if necessary at the site)
7. Collect samples (fill out WS!)

Site Description

Coordinates (decimal degrees): approx: 43.59577, -71.72496 (mark waypoint!)
Total water depth (units): ~2.5'
Alage coverage: alage covering rocks underwater
Tree cover: banks
Wildlife: ducks
Other observations (sights, smells, etc) site was difficult to navigate. could not get a reading exactly center pt took one as close as possible

Data Collection

Parameter	Time	Reading	Comment
Temperature °C	1 7:40 PM	23.21°C	
	2 7:43 PM	23.21°C	
Conductivity ms/cm	1 7:40 PM	55	units µs/cm
	2 7:43 PM	55	
Sp. Cond. ms/cm^c	1 7:40 PM	57	units µs/cm^c
	2 7:43 PM	57	
DO %	1 7:40 PM	87.9%	
	2 7:43 PM	89.9%	
DO mg/L	1 7:40 PM	7.54	
	2 7:43 PM	7.69	
pH su	1 7:40 PM	6.84	
	2 7:43 PM	6.78	
Turbidity ntu	1 7:40 PM	1.0	
	2 7:43 PM	0.9	
Secchi Disk indicate units		down	note units
		up	note units

visibility was poor but secchi disk reading was not taken

YSI: 02D0344AD

Vertical Profile Measurements

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet):

Comments: No variability with depth

Depth feet	Temperature °C	DO %	DO mg/L

Upper Merrimack and Pemigewasset River Study
Low-Flow Water Quality Survey #1
Field Measurement Worksheet

Station #: M020

Date: 27 July 2010

Time: 1120

Weather Conditions: Clear + Sunny

Sampler Names: DT / BS

1. record site # (001 through 072)
2. record conditions and site description
3. save waypoint in GPS unit
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings
6. vertical DO/temp profile (if necessary at the site)
7. Collect samples (fill out WS!)

Site Description

Coordinates (decimal degrees): (mark waypoint!)

Total water depth (units): 3.3 ft

Alage coverage: —

Tree cover: —

Wildlife: —

Other observations (sights, smells, etc)

Data Collection

Parameter		Time	Reading	Comment
Temperature °C	1	1129	23.6	
	2	1150	23.6	
Conductivity ms/cm	1	1129	.056	
	2	1150	.056	
Sp. Cond. ms/cm[c]	1	1129	.058	
	2	1150	.058	
DO %	1	1129	91.2	
	2	1150	93.0	
DO mg/L	1	1129	7.73	
	2	1150	7.90	
pH su	1	1129	7.23	
	2	1150	7.13	
Turbidity ntu	1	N/A		
	2	N/A		
Secchi Disk indicate units		↑	down	note units
			up	note units

can see bottom

Note - Now using YSI from Team 2

Vertical Profile Measurements

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet): 3.3ft

Comments: did not take - took only at mid pt
-did not have guard for the YSI probes
- looked very well mixed in this site

Depth feet	Temperature °C	DO %	DO mg/L

Upper Merrimack and Pemigewasset River Study
Low Flow Water Quality Survey #1
Field Measurement Worksheet

Station #: T021

Date: 7/27/10

Time: 20~~:~~40

Weather Conditions: Clear

Sampler Names: DT / BS

1. record site # (001 through 072)
2. record conditions and site description
3. save waypoint in GPS unit
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings
6. vertical DO/temp profile (if necessary at the site)
7. Collect samples (fill out WS!)

Site Description

Coordinates (decimal degrees): ~~[illegible]~~ 397310.75N 965017.19E (mark waypoint!)

Total water depth (units): 2' 6"

Alage coverage: –

Tree cover: Partial canopy

Wildlife: –

Other observations (sights, smells, etc)

Data Collection

Parameter	Time	Reading	Comment
Temperature °C	1 20~~:~~40	24.4	
	2		
Conductivity ms/cm	1 20~~:~~40	0.041	
	2		
Sp. Cond. ms/cm[c]	1 20~~:~~40	0.042	
	2		
DO %	1 20~~:~~40	85.7	
	2		
DO mg/L	1 20~~:~~40	7.17	
	2		
pH su	1 20~~:~~40	7.21	
	2		
Turbidity ntu	1 20~~:~~40	0.93	
	2		
Secchi Disk indicate units	N/A	down	note units
		up	note units

bottom visible

Vertical Profile Measurements

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet): _____

Comments: _____

_____

Depth feet	Temperature °C	DO %	DO mg/L

Upper Merrimack and Pemigewasset River Study
Low-Flow Water Quality Survey #1
Field Measurement Worksheet

Station #: T022

Date: 7/27/10
Time: 8:20 PM
Weather Conditions: sunset, warm, dry

Sampler Names: lauren Klonsky
nate desrosiers

1. record site # (001 through 072)
2. record conditions and site description
3. save waypoint in GPS unit
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings
6. vertical DO/temp profile (if necessary at the site)
7. Collect samples (fill out WS!)

Site Description

Coordinates (decimal degrees): approx: 43.56784, -71.73203 (mark waypoint!)
Total water depth (units): ~0.5'
Alage coverage: none
Tree cover: brush on banks slight overhang
Wildlife: none - except bugs!
Other observations (sights, smells, etc)
measured midway across X-section ~200' upstream of bridge

Data Collection

Parameter		Time	Reading	Comment
Temperature °C	1	8:35	22.78	
	2	8:36	22.78	
Conductivity ms/cm	1	8:35	73	units µs/cm
	2	8:36	73	
Sp. Cond. ms/cm^c	1	8:35	76	units µs/cm^c
	2	8:36	76	
DO %	1	8:35	95.3%	
	2	8:36	96.8%	
DO mg/L	1	8:35	8.22	
	2	8:36	8.34	
pH su	1	8:35	7.23	
	2	8:37	7.3	
Turbidity ntu	1	8:35	0.7	
	2	8:37	0.9	
Secchi Disk indicate units		clear!	down	note units
			up	note units

YSI: 02D0344AD

Vertical Profile Measurements

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet):

Comments:

Depth feet	Temperature °C	DO %	DO mg/L

Upper Merrimack and Pemigewasset River Study
Low Flow Water Quality Survey #1
Field Measurement Worksheet

Station #: M023

Date: 27 July 10

Time: 1720

Weather Conditions: Sunny / Hot / Clear

Sampler Names: DT / BS

1. record site # (001 through 072)
2. record conditions and site description
3. save waypoint in GPS unit
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings
6. vertical DO/temp profile (if necessary at the site)
7. Collect samples (fill out WS!)

Site Description

Coordinates (decimal degrees): in GPS (mark waypoint!)

Total water depth (units):

Alage coverage: —

Tree cover: —

Wildlife: —

Other observations (sights, smells, etc) —

Data Collection

Parameter		Time	Reading	Comment
Temperature °C	1	1721	24.1	
	2	1743	24.1	
Conductivity ms/cm	1	1721	0.057	
	2	1743	0.057	
Sp. Cond. ms/cm[c]	1	1721	0.058	
	2	1743	0.058	
DO %	1	1721	87.4	
	2	1743	93.6	
DO mg/L	1	1721	7.39	
	2	1743	7.89	
pH su	1	1721	7.25	
	2	1743	6.97	
Turbidity ntu	1	1721	1.87	
	2	1743	1.53	
Secchi Disk indicate units		1722	down 8.4 ft	note units
			up 7.3 ft	note units

cal Profile Measurements

rting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet): 18.6 ft

Comments:

Depth feet	Temperature °C	DO %	DO mg/L
17	22.6	87.4	7.55
15	22.7	87.3	7.52
13	23.0	85.2	7.29
11	23.2	84.1	7.19
9	23.3	84.6	7.21
7	23.4	85.3	7.26
5	23.5	86.9	7.37
3	23.9	88.9	7.51
1	24.1	89.9	7.54

Upper Merrimack and Pemigewasset River Study
Low-Flow Water Quality Survey #1
Field Measurement Worksheet

Station #: M024

Date: 27 July 10

Time: 0830

Weather Conditions: Sunny / Clear

Sampler Names: DT / BS

1. record site # (001 through 072)
2. record conditions and site description
3. save waypoint in GPS unit
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings
6. vertical DO/temp profile (if necessary at the site)
7. Collect samples (fill out WS!)

Site Description

Coordinates (decimal degrees): in GPS (mark waypoint!)

Total water depth (units): 18.8 ft (center channel)

Alage coverage: No

Tree cover: No

Wildlife: Mallard (1)

Other observations (sights, smells, etc)

Data Collection

Parameter		Time	Reading	Comment
Temperature °C	1	0847	23.43	
	2	0855	23.41	
Conductivity ms/cm	1	0847	58	
	2	0855	58	
Sp. Cond. ms/cm[c]	1	0847	60	
	2	0855	60	
DO %	1	0847	87.1	
	2	0855	88.9	
DO mg/L	1	0847	7.42	
	2	0855	7.57	
pH su	1	0847	7.43	
	2	0855	7.32	
Turbidity ntu	1	0847	1.0	
	2	0855	1.1	
Secchi Disk indicate units		0856	down 8ft 1in	ft/in note units
			up 8ft 6in	ft/in note units

Vertical Profile Measurements

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet): 18.8

Comments: Only have 6' cord

Depth feet	Temperature °C	DO %	DO mg/L
1	23.42	87.7	7.47
2	23.41	88.1	7.50
3	23.41	88.2	7.52
4	23.39	88.4	7.53
5	23.36	88.5	7.54
6	23.33	88.6	7.56

Upper Merrimack and Pemigewasset River Study
Low-Flow Water Quality Survey #1
Field Measurement Worksheet

Station #: M025

Date: 27 July 10
Time: 1536
Weather Conditions: Sunny Hot Clear
Sampler Names: DT BS

1. record site # (001 through 072)
2. record conditions and site description
3. save waypoint in GPS unit
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings
6. vertical DO/temp profile (if necessary at the site)
7. Collect samples (fill out WS!)

Site Description

Coordinates (decimal degrees): in GPS from AM (mark waypoint!)
Total water depth (units): 25.7
Alage coverage: —
Tree cover: —
Wildlife: —
Other observations (sights, smells, etc) —

Data Collection

Parameter		Time	Reading	Comment
Temperature °C	1	1538	25.3	
	2	1553	25.0	
Conductivity ms/cm	1	1538	0.063	
	2	1553	0.063	
Sp. Cond. ms/cm[c]	1	1538	0.063	
	2	1553	0.063	
DO %	1	1538	72.2	
	2	1553	86.5	
DO mg/L	1	1538	5.90	
	2	1553	7.16	
pH su	1	1538	7.22	
	2	1553	8.88	
Turbidity ntu	1	1538	2.02	
	2	1553	2.0	
Secchi Disk indicate units		1539	down 6.0	note units
			up 7.5	note units

Vertical Profile Measurements

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet): 25.7

Comments:

Depth feet	Temperature °C	DO %	DO mg/L
2	25.2	72.0	5.83
4	25.0	72.5	5.95
6	24.6	72.7	6.04
8	24.4	75	6.27
10	24.1	75.4	6.34
12	23.8	62.8	5.32
14	23.6	65.2	5.52
16	23.5	67.3	5.72
18	23.4	67.3	5.73
20	23.4	68.7	5.85
22	23.3	69.2	5.91
24	23.3	74.0	6.30

Upper Merrimack and Pemigewasset River Study
Low-Flow Water Quality Survey #1
Field Measurement Worksheet

Station #: M026

Date: 27 July 2010
Time: 1315
Weather Conditions: Clear / Sunny

Sampler Names: DT / BS

1. record site # (001 through 072)
2. record conditions and site description
3. save waypoint in GPS unit
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings
6. vertical DO/temp profile (if necessary at the site)
7. Collect samples (fill out WS!)

Site Description

Coordinates (decimal degrees): 344.979.81N 786235.07 E (mark waypoint!)
Total water depth (units): 2.5 ft
Alage coverage: bottom is very slimy + slick
Tree cover: —
Wildlife: —
Other observations (sights, smells, etc) Swift water - extremely slick substrate

Data Collection

Parameter		Time	Reading	Comment
Temperature °C	1	1315	23.9	
	2	1335	23.9	
Conductivity ms/cm	1	1315	0.061	
	2	1335	0.061	
Sp. Cond. ms/cm[c]	1	1315	0.063	
	2	1335	0.062	
DO %	1	1315	76.7	
	2	1335	86.1	
DO mg/L	1	1315	6.46	
	2	1335	7.25	
pH su	1	1315	7.09	
	2	1335	7.03	
Turbidity ntu	1	N/A		
	2	N/A		
Secchi Disk indicate units		Bottom Visible	down	note units
			up	note units

Vertical Profile Measurements

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet):

Comments:

Depth feet	Temperature °C	DO %	DO mg/L

Upper Merrimack and Pemigewasset River Study
Low-Flow Water Quality Survey #1
Field Measurement Worksheet

Station #: T027

Date: 27 July 2010
Time: 1435
Weather Conditions: Clear / Sunny

Sampler Names: DT / BS

1. record site # (001 through 072)
2. record conditions and site description
3. save waypoint in GPS unit
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings
6. vertical DO/temp profile (if necessary at the site)
7. Collect samples (fill out WS!)

Site Description

Coordinates (decimal degrees): 344279.14N 985129.15E (mark waypoint!)
Total water depth (units): 10 inches
Alage coverage: —
Tree cover: Full Canopy
Wildlife: —
Other observations (sights, smells, etc)

Data Collection

Parameter		Time	Reading	Comment
Temperature °C	1	1437	24.1	
	2	1450	24.2	
Conductivity ms/cm	1	1437	0.078	
	2	1450	0.078	
Sp. Cond. ms/cm[c]	1	1437	0.079	
	2	1450	0.079	
DO %	1	1437	74.8	
	2	1450	75.3	
DO mg/L	1	1437	6.23	
	2	1450	6.28	
pH su	1	1437	7.43	
	2	1450	7.21	
Turbidity ntu	1	1437	1.1	
	2	1450	1.1	
Secchi Disk indicate units	Can see bottom	down	—	note units
		up	—	note units

Vertical Profile Measurements

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet): _____

Comments: _____

_____

Depth feet	Temperature °C	DO %	DO mg/L

Upper Merrimack and Pemigewasset River Study
Low-Flow Water Quality Survey #1
Field Measurement Worksheet

Station #: T029

Date: July 27, 2010
Time: 16:40
Weather Conditions: Clear, slight breeze, 80 °F

Sampler Names: J. Detly, W. French

1. record site # (001 through 072)
2. record conditions and site description
3. save waypoint in GPS unit
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings
6. vertical DO/temp profile (if necessary at the site)
7. Collect samples (fill out WS!)

Site Description

Coordinates (decimal degrees): 93 Point - generic (mark waypoint!)
Total water depth (units): 1.5 ft
Alage coverage: none
Tree cover: none
Wildlife: none
Other observations (sights, smells, etc)

Data Collection

Parameter	Time	Reading	Comment
Temperature °C	1 16:41	25.87	
	2 16:43	25.87	
Conductivity ms/cm	1 16:42	0.094	
	2 16:43	0.094	
Sp. Cond. ms/cm[c]	1 16:42	0.092	
	2 16:43	0.092	
DO %	1 16:42	8.46	Changed membrane & recalibrated prior to reading
	2 16:44	8.45	
DO mg/L	1 16:42	104.0	
	2 16:44	103.8	
pH su	1 16:42	7.46	
	2 16:44	7.46	
Turbidity ntu	1 16:42	0.0	
	2 16:44	0.0	
Secchi Disk indicate units		down	Visible to bottom note units
		up	≤ 1.5 ft note units

DO @ 16:48 103.6%, 8.42 mg/L

Vertical Profile Measurements

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet):

Comments:

Depth feet	Temperature °C	DO %	DO mg/L

Upper Merrimack and Pemigewasset River Study
Low-Flow Water Quality Survey #1
Field Measurement Worksheet

Station #: M029

Date: July 27, 2010

Time: 12:12

Weather Conditions: Clear, slight breeze, 75°F

Sampler Names: J. Detty, W. French

1. record site # (001 through 072)
2. record conditions and site description
3. save waypoint in GPS unit
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings
6. vertical DO/temp profile (if necessary at the site)
7. Collect samples (fill out WS!)

Site Description

Coordinates (decimal degrees): 340290.87 N 988979.20 E 90 Point-generic (mark waypoint!)

Total water depth (units): 3 ft near left bank

Alage coverage: none

Tree cover: none

Wildlife: none

Other observations (sights, smells, etc)

Data Collection

Parameter		Time	Reading	Comment
Temperature °C	1	12:21	24.37	
	2	12:25	24.39	
Conductivity ms/cm	1	12:21	0.077	
	2	12:26	0.077	
Sp. Cond. ms/cm[c]	1	12:21	0.078	
	2	12:26	0.078	
DO %	1	12:21	103.4	Recalibrated DO prior to readings at this site
	2	12:26	102.5	
DO mg/L	1	12:21	8.64	
	2	12:26	8.56	
pH su	1	12:22	7.29	
	2	12:26	7.27	
Turbidity ntu	1	12:22	0.3	
	2	12:26	0.3	
Secchi Disk indicate units		down	visible to bottom	note units
		up	≥ 3 ft	note units

Vertical Profile Measurements

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet):

Comments:

Depth feet	Temperature °C	DO %	DO mg/L

Upper Merrimack and Pemigewasset River Study
Low-Flow Water Quality Survey #1
Field Measurement Worksheet

Station #: M030

Date: July 27, 2010
Time: 15:00
Weather Conditions: Clear, breezy, 80°F
Sampler Names: J. Detly, W. French

1. record site # (001 through 072)
2. record conditions and site description
3. save waypoint in GPS unit
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings
6. vertical DO/temp profile (if necessary at the site)
7. Collect samples (fill out WS!)

Site Description
Coordinates (decimal degrees): 330467.69 N 990377.88 E
92 Point-generic (mark waypoint!)
Total water depth (units): 5.5 ft
Alage coverage: none
Tree cover: none
Wildlife: none
Other observations (sights, smells, etc)

Data Collection

Parameter	Time	Reading	Comment
Temperature °C	1 15:04	25.57	
	2 15:08	25.57	
Conductivity ms/cm	1 15:04	0.073	
	2 15:08	0.073	
Sp. Cond. ms/cm[c]	1 15:04	0.073	
	2 15:09	0.072	
DO %	1 15:04	89.5	
	2 15:09	89.1	
DO mg/L	1 15:05	7.32	
	2 15:09	7.29	
pH su	1 15:05	7.26	
	2 15:09	7.26	
Turbidity ntu	1 15:05	0.3	
	2 15:09	0.3	
Secchi Disk indicate units		down	Visible to bottom note units
		up	5.5 ft note units

DO @ 15:17 88.5%, 7.24 mg/L

Vertical Profile Measurements

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet): 5.5 ft

Comments: swift current 15:14

Depth feet	Temperature °C	DO %	DO mg/L
5.5	25.56	88.8	7.27
4	25.56	88.8	7.26
3	25.56	88.8	7.26
2	25.56	88.7	7.25
1	25.56	88.6	7.24

Upper Merrimack and Pemigewasset River Study
Low-Flow Water Quality Survey #1
Field Measurement Worksheet

Station #: M031

Date: July 27, 2010
Time: 13:56
Weather Conditions: Clear, 80°F, slight breeze

Sampler Names: J. Detty, W. French

1. record site # (001 through 072)
2. record conditions and site description
3. save waypoint in GPS unit
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings
6. vertical DO/temp profile (if necessary at the site)
7. Collect samples (fill out WS!)

Site Description
Coordinates (decimal degrees): 323064.45 N 989373.17 E 91 Point_generic (mark waypoint!)
Total water depth (units): 10 ft (estimate, hard to say with strong current)
Alage coverage: none
Tree cover: none
Wildlife: none
Other observations (sights, smells, etc)

Data Collection

Parameter		Time	Reading	Comment
Temperature °C	1	14:00	24.99	
	2	14:27	25.15	
Conductivity ms/cm	1	14:00	0.076	
	2	14:27	0.076	
Sp. Cond. ms/cm[c]	1	14:00	0.076	
	2	14:27	0.076	
DO %	1	14:00	103.0	
	2	14:27	96.2	
DO mg/L	1	14:00	8.50	← DO numbers taking a long time to stabilize, decline very slow but steady. DO change = 42.0 so the membrane should be ok
	2	14:27	7.92	← still dropping slowly
pH su	1	14:00	7.29	
	2	14:27	7.29	
Turbidity ntu	1			
	2			
Secchi Disk indicate units			down	visible to bottom note units
			up	≥10 ft note units

DO @ 14:34 95.2%, 7.83 mg/L

Vertical Profile Measurements

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet): 10 ft

Comments: Strong current, depth limited by short cable

Depth feet	Temperature °C	DO %	DO mg/L
6	25.18	95.6	7.87
5	25.18	95.5	7.87
4	25.19	95.5	7.87
3	25.18	95.4	7.86
2	25.18	95.4	7.85
1	25.22	95.3	7.84

Upper Merrimack and Pemigewasset River Study
Low-Flow Water Quality Survey #1
Field Measurement Worksheet

Station #: M032

Date: July 27, 2010
Time: 9:25
Weather Conditions: Clear, light breeze, 74°F

Sampler Names: J. Detty, W. French

1. record site # (001 through 072)
2. record conditions and site description
3. save waypoint in GPS unit
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings
6. vertical DO/temp profile (if necessary at the site)
7. Collect samples (fill out WS!)

Site Description

Coordinates (decimal degrees): 314699.29 N 989801.43 E 88 Point_generic (mark waypoint!)

Total water depth (units): 3.5 ft

Alage coverage: None

Tree cover: None

Wildlife: None

Other observations (sights, smells, etc)

Data Collection

Parameter	Time	Reading	Comment
Temperature °C	1 9:28	23.19	
	2 9:34	23.23	
Conductivity ms/cm	1 9:28	0.074	
	2 9:34	0.074	
Sp. Cond. ms/cm[c]	1 9:29	0.077	
	2 9:34	0.077	
DO %	1 9:29	95.1	
	2 9:35	95.1	
DO mg/L	1 9:29	8.13	
	2 9:35	8.12	
pH su	1 9:29	7.10	
	2 9:35	7.06	
Turbidity ntu	1 9:29	0.4	
	2 9:35	0.4	
Secchi Disk indicate units		down	Secchi disk visible to bottom note units
		up	≥ 3.5 ft note units

Vertical Profile Measurements

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet): 3.5 ft 9:42

Comments:

Depth feet	Temperature °C	DO %	DO mg/L
3.5	23.25	95.4	8.14
1.0	23.24	95.3	8.14

Upper Merrimack and Pemigewasset River Study
Low-Flow Water Quality Survey #1
Field Measurement Worksheet

Station #: M033

Date: July 27, 2010

Time: 17:35

Weather Conditions: Clear, calm, 80°F

Sampler Names: J. Deff, W. French

1. record site # (001 through 072)
2. record conditions and site description
3. save waypoint in GPS unit
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings
6. vertical DO/temp profile (if necessary at the site)
7. Collect samples (fill out WS!)

Site Description

Coordinates (decimal degrees): 312220.03N 991840.00E 94 Point_generic (mark waypoint!)

Total water depth (units): 8 ft

Alage coverage: none

Tree cover: none

Wildlife: none

Other observations (sights, smells, etc)

Data Collection

Parameter	Time	Reading	Comment
Temperature °C	1 17:38	25.54	
	2 17:39	25.52	
Conductivity ms/cm	1 17:38	0.077	
	2 17:39	0.077	
Sp. Cond. ms/cm[c]	1 17:38	0.076	
	2 17:40	0.076	
DO %	1 17:39	112.8	Calibrated prior to reading
	2 17:40	112.7	
DO mg/L	1 17:39	9.23	
	2 17:40	9.22	
pH su	1 17:39	7.56	
	2 17:40	7.55	
Turbidity ntu	1 17:39	0.2	
	2 17:40	0.2	
Secchi Disk indicate units		down	Visible to bottom note units
		up	≤ 8 ft note units

DO @ 17:44 112.3%, 9.18 mg/L

Vertical Profile Measurements

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet): 8 ft

Comments: 17:41

Depth feet	Temperature °C	DO %	DO mg/L
6	25.52	112.5	9.21
5	25.53	112.4	9.20
4	25.54	112.4	9.20
3	25.55	112.4	9.19
2	25.55	112.3	9.18
1	25.55	112.3	9.19

Upper Merrimack and Pemigewasset River Study
Low-Flow Water Quality Survey #1
Field Measurement Worksheet

Station #: M034

Date: July 27, 2010
Time: 8:20
Weather Conditions: Clear, 72°F

Sampler Names: J. Detty, W. French

1. record site # (001 through 072)
2. record conditions and site description
3. save waypoint in GPS unit
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings
6. vertical DO/temp profile (if necessary at the site)
7. Collect samples (fill out WS!)

Site Description
Coordinates (decimal degrees): 993460.00 E 3094426.92 N 87 Point generic (mark waypoint!)
Total water depth (units): 5 ft
Alage coverage: None
Tree cover: None
Wildlife: None
Other observations (sights, smells, etc)

Data Collection

Parameter	Time	Reading	Comment
Temperature °C	1 8:32	22.94	
	2 8:41	22.93	
Conductivity ms/cm	1 8:32	77	
	2 8:41	77	
Sp. Cond. ms/cm[c]	1 8:32	80	
	2 8:41	80	
DO %	1 8:33	89.3	
	2 8:41	90.2	
DO mg/L	1 8:33	7.66	
	2 8:42	7.69	
pH su	1 8:33	7.06	
	2 8:43	7.06	
Turbidity ntu	1 8:33	0.4	
	2 8:45	0.4	
Secchi Disk indicate units		down	visible to bottom note units
		up	so at least 5 ft note units

Vertical Profile Measurements

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet): 5 08:18

Comments: Swift current & no depth sensor, estimating depth

Depth feet	Temperature °C	DO %	DO mg/L
5	22.91	88.1	7.57
4	22.91	88.0	7.56
3	22.92	88.2	7.57
2	22.92	88.4	7.59
1	22.92	88.4	7.59

Upper Merrimack and Pemigewasset River Study
Low-Flow Water Quality Survey #1
Field Measurement Worksheet

Station #: T035

Date:

Time: 3:42

Weather Conditions: 88° Sunny

Sampler Names: K LEROUX
A POINT

1. record site # (001 through 072)
2. record conditions and site description
3. save waypoint in GPS unit
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings
6. vertical DO/temp profile (if necessary at the site)
7. Collect samples (fill out WS!)

Site Description

Coordinates (decimal degrees): 286734.95' N 1004198.15' E (mark waypoint!)

Total water depth (units): 5' 10"

Alage coverage:

Tree cover:

Wildlife:

Other observations (sights, smells, etc)

Data Collection

Parameter	Time	Reading	Comment
Temperature °C	1 3:42	25.93	
	2 4:07	25.59	
Conductivity ms/cm	1	113 us	
	2	112	
Sp. Cond. ms/cm[c]	1	112 us	
	2	111	
DO %	1	81.6	
	2	78.7	
DO mg/L	1	6.61	
	2	6.40	
pH su	1	5.37	
	2	5.53	
Turbidity ntu	1	0.8	
	2	0.4	
Secchi Disk indicate units		down 5.10	note units
		up 5.10	note units

Vertical Profile Measurements

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet):

Comments:

Depth feet	Temperature °C	DO %	DO mg/L
5	25.56	81.6	6.67
4	25.56	81.7	6.69
3	25.56	82.5	6.71
2	25.59	80.0	6.52
1	25.59	80.9	6.61

Upper Merrimack and Pemigewasset River Study
Low-Flow Water Quality Survey #1
Field Measurement Worksheet

Station #: M036

Date: 7/27/10

Time: 2:10

Weather Conditions: Sunny, 80 s°F

Sampler Names: Andrew Poyant
Kevin Leroux

1. record site # (001 through 072)
2. record conditions and site description
3. save waypoint in GPS unit
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings
6. vertical DO/temp profile (if necessary at the site)
7. Collect samples (fill out WS!)

Site Description

Coordinates (decimal degrees): 285918.52 FtN 1005548.19 FtE (mark waypoint!)

Total water depth (units):

Alage coverage: None

Tree cover: None

Wildlife:

Other observations (sights, smells, etc)

Data Collection

Parameter		Time	Reading	Comment
Temperature °C	1	2:11	25.04	
	2		25.10	
Conductivity ms/cm	1		89 us	
	2		90	
Sp. Cond. ms/cm[c]	1		89 us	
	2		90	
DO %	1		87.8	
	2		79.2	
DO mg/L	1		6.62	
	2		6.54	
pH su	1		5.72	
	2		5.72	
Turbidity ntu	1		1.60	
	2		1.20	
Secchi Disk indicate units			down 7'	note units
			up 7'	note units

Vertical Profile Measurements

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet): 7

Comments:

Depth feet	Temperature °C	DO %	DO mg/L
7	25.05	80.2	6.60
6	25.05	84.5	6.68
5	25.06	84.4	6.91
4	25.06	84.6	6.98
3	25.08	84.8	6.99
2	25.08	80.9	6.69
1	25.08	81.0	6.65

Upper Merrimack and Pemigewasset River Study
Low-Flow Water Quality Survey #1
Field Measurement Worksheet

Station #: M037

Date: 9 27. 10

Time: 3:17

Weather Conditions: Sunny, 80s F

Sampler Names: LEROUX / POLANT

1. record site # (001 through 072)
2. record conditions and site description
3. save waypoint in GPS unit
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings
6. vertical DO/temp profile (if necessary at the site)
7. Collect samples (fill out WS!)

Site Description

Coordinates (decimal degrees): 285338.25' N 1008196.36 W (mark waypoint!)

Total water depth (units): 5

Alage coverage: None

Tree cover: None

Wildlife: ≈17 Cows on west bank

Other observations (sights, smells, etc)

Data Collection

Parameter	Time	Reading	Comment
Temperature °C	1 2:50	25.34	
	2 3:17	25 36	
Conductivity ms/cm	1	90 ~~[illegible]~~ us	
	2	90	
Sp. Cond. ms/cm[c]	1	89	
	2	89	
DO %	1	87.2	
	2	87.1	
DO mg/L	1	7.11	
	2	7.14	
pH su	1	5.26	
	2	5.29	
Turbidity ntu	1	1.6	
	2	1.4	
Secchi Disk indicate units		down 5'	note units
		up 5'	note units

Vertical Profile Measurements

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet): 5

Comments:

Depth feet	Temperature °C	DO %	DO mg/L
5	25.33	87.6	7.22
4	25.33	87.9	7.21
3	25.34	87.8	7.21
2	25.36	87.4	7.16
1	25.36	87.2	7.14

Upper Merrimack and Pemigewasset River Study
Low-Flow Water Quality Survey #1
Field Measurement Worksheet

Station #: M038

Date: July 27, 2010

Time: 10:46

Weather Conditions: Clear, breezy, 75°F

Sampler Names: J. Dethy, W. French

1. record site # (001 through 072)
2. record conditions and site description
3. save waypoint in GPS unit
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings
6. vertical DO/temp profile (if necessary at the site)
7. Collect samples (fill out WS!)

Site Description

Coordinates (decimal degrees): 280978.97 N 1011600.86 E 89 Point, generic (mark waypoint!)

Total water depth (units): 11.5 ft

Alage coverage: none

Tree cover: none

Wildlife: none

Other observations (sights, smells, etc)

Data Collection

Parameter		Time	Reading	Comment
Temperature °C	1	10:56	23.83	
	2	11:01	23.88	
Conductivity ms/cm	1	10:56	0.080	
	2	11:01	0.080	
Sp. Cond. ms/cm[c]	1	10:56	0.082	
	2	11:01	0.082	
DO %	1	10:57	101.5	
	2	11:01	102.4	
DO mg/L	1	10:57	8.54	
	2	11:01	8.63	
pH su	1	10:58	7.17	
	2	11:01	7.17	
Turbidity ntu	1	10:58	0.3	
	2	11:02	0.4	
Secchi Disk indicate units			down 9.5 ft	note units
			up 9.5 ft	note units

Vertical Profile Measurements

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet): 11.5 ft

Comments: Max depth w/cable ~6 ft

Depth feet	Temperature °C	DO %	DO mg/L
6	23.89	101.7	8.58
5	23.90	101.7	8.57
4	23.89	101.5	8.56
3	23.90	101.4	8.56
2	23.88	101.4	8.55
1	23.95	101.7	8.57

Upper Merrimack and Pemigewasset River Study
Low-Flow Water Quality Survey #1
Field Measurement Worksheet

Station #: M04~~0~~ 39

Date: 7/27/10

Time:

Weather Conditions: Sunny, 70's F

Sampler Names: Andrew Pogent
Kevin Leroux

1. record site # (001 through 072)
2. record conditions and site description
3. save waypoint in GPS unit
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings
6. vertical DO/temp profile (if necessary at the site)
7. Collect samples (fill out WS!)

Site Description

Coordinates (decimal degrees): right on X in GPS (mark waypoint!)

Total water depth (units): 8 Ft

Alage coverage: None

Tree cover: None

Wildlife:

Other observations (sights, smells, etc)

Data Collection

Parameter	Time	Reading	Comment
Temperature °C	1 11:00	23.90	
	2 11:15	23.93	
Conductivity ms/cm	1	91	
	2	93	
Sp. Cond. ms/cm[c]	1	89	
	2	84.	
DO %	1	84.4	
	2	89.2	
DO mg/L	1	7.41	
	2	7.46	
pH su	1	5.56	
	2	5.26	
Turbidity ntu	1	2.3	
	2	2.5	
Secchi Disk indicate units		down 5.0	note units
		up 5.0	note units

Vertical Profile Measurements

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet): 8

Comments:

Depth feet	Temperature °C	DO %	DO mg/L
8	23.92	86.2	7.32
4	23.90	88.8	7.45
3	23.92	87.4	7.34
2	23.90	84.4	7.16
1	23.93	88.0	7.34

Upper Merrimack and Pemigewasset River Study
Low-Flow Water Quality Survey #1
Field Measurement Worksheet

Station #: M039 40

Date: 22-Oct-10

Time: 11:59

Weather Conditions: Sunny 80°F

Sampler Names: K LEROUX
A POYANT

1. record site # (001 through 072)
2. record conditions and site description
3. save waypoint in GPS unit
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings
6. vertical DO/temp profile (if necessary at the site)
7. Collect samples (fill out WS!)

Site Description

Coordinates (decimal degrees): 25221.75 F N: 1022635.52 (mark waypoint!)

Total water depth (units): 6 FT.

Alage coverage: None

Tree cover: None

Wildlife:

Other observations (sights, smells, etc)

Data Collection

Parameter	Time	Reading	Comment
Temperature °C	1 12:00	24.67	
	2 12:09	24.57	
Conductivity ms/cm	1	94	
	2	95	
Sp. Cond. ms/cm[c]	1	95	
	2	94	
DO %	1	85.6	
	2	78.7	
DO mg/L	1	7.11	
	2	~~7.7~~ 6.67	
pH su	1	5.53	
	2	5.44	
Turbidity ntu	1	2.29	
	2	2.1	
Secchi Disk indicate units		down 6.0'	note units
		up 6.0'	note units

Vertical Profile Measurements

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet): 6.0

Comments:

Depth feet	Temperature °C	DO %	DO mg/L
6	24.46	87.0	6.88
5	24.45	85.3	7.05
4	24.45	83.4	6.92
3	24.45	81.1	6.86
2	24.46	81.6	6.85
1	24.58	81.1	6.81

Upper Merrimack and Pemigewasset River Study
Low Flow Water Quality Survey #1
Field Measurement Worksheet

Station #: M041

Date: 7/27/10
Time: 6:55 pm
Weather Conditions: Sunny, 80s°F

Sampler Names: Andrew Poyant
Kevin Leroux

1. record site # (001 through 072)
2. record conditions and site description
3. save waypoint in GPS unit
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings
6. vertical DO/temp profile (if necessary at the site)
7. Collect samples (fill out WS!)

Site Description

Coordinates (decimal degrees): (mark waypoint!)
Total water depth (units): 16
Alage coverage: No
Tree cover: No
Wildlife:
Other observations (sights, smells, etc)

Data Collection

Parameter	Time	Reading	Comment
Temperature °C	1 6:54	25.23	
	2 7:03	25.19	
Conductivity ms/cm	1	96	
	2	96	
Sp. Cond. ms/cm^c	1	97	
	2	97	
DO %	1	74.9	
	2	80.7	
DO mg/L	1	6.19	
	2	6.66	
pH su	1	6.45	
	2	6.42	
Turbidity ntu	1	2.9	
	2	1.4	
Secchi Disk indicate units		down 10.'	note units
		up 9.'	note units

Vertical Profile Measurements

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet): 16

Comments:

Depth feet	Temperature °C	DO %	DO mg/L
14	25.21	76.5	6.24
12	25.21	77.3	6.40
10	25.21	77.7	6.44
8	25.20	77.8	6.38
6	25.21	79.0	6.57
4	25.20	78.8	6.58
2	25.21	82.4	6.78

Upper Merrimack and Pemigewasset River Study
Low Flow Water Quality Survey #1
Field Measurement Worksheet

Station #: M042

Date: 7/27/10
Time: 6:25
Weather Conditions: Sunny, 80s F

Sampler Names: Andrew Pogant
Kevin Leroux

1. record site # (001 through 072)
2. record conditions and site description
3. save waypoint in GPS unit
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings
6. vertical DO/temp profile (if necessary at the site)
7. Collect samples (fill out WS!)

Site Description

Coordinates (decimal degrees): (mark waypoint!)
Total water depth (units):
Alage coverage: No
Tree cover: No
Wildlife:
Other observations (sights, smells, etc)

Data Collection

Parameter	Time	Reading	Comment
Temperature °C	1 6:30	25.46	
	2 6:47	25.47	
Conductivity ms/cm	1	180 us	
	2	99	
Sp. Cond. ms/cm[c]	1	99 us	
	2	99	
DO %	1	69.0	
	2	77.8	
DO mg/L	1	5.64	
	2	6.40	
pH su	1	6.44	
	2	6.58	
Turbidity ntu	1	1.4	
	2	1.0	
Secchi Disk indicate units		down 12	note units
		up 12	note units

Vertical Profile Measurements

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet): 16

Comments:

Depth feet	Temperature °C	DO %	DO mg/L
16	25.46	74.7	6.07
12	25.48	72.3	5.87
10	25.46	73.8	6.02
8	25.45	74.0	6.06
6	25.46	74.9	6.13
4	25.46	75.2	6.13
2	25.46	78.4	6.41

Upper Merrimack and Pemigewasset River Study
Low-Flow Water Quality Survey #1
Field Measurement Worksheet

Station #: M043

Date: 7/27/10

Time: 11 55

Weather Conditions: Sunny, 80's

Sampler Names: AF / JW

1. record site # (001 through 072)
2. record conditions and site description
3. save waypoint in GPS unit
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings
6. vertical DO/temp profile (if necessary at the site)
7. Collect samples (fill out WS!)

Site Description

Coordinates (decimal degrees): 241099.61 N 28870.44 E (mark waypoint!)

Total water depth (units): 4.0'

Alage coverage: No

Tree cover: No

Wildlife: No

Other observations (sights, smells, etc)

Data Collection

Parameter	Time	Reading	Comment
Temperature °C	1 1155	24.36	
	2		
Conductivity ms/cm	1 1155	93	
	2		
Sp. Cond. ms/cm°	1 1155	94	
	2		
DO %	1 1155	109.0	
	2		
DO mg/L	1 1155	9.11	
	2		
pH su	1 1155	7.61	
	2		
Turbidity ntu	1 1155	0.3	
	2		
Secchi Disk indicate units	1157	down 4'	note units
		up 4'	note units

Vertical Profile Measurements

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet): 4'

Comments:

Depth feet	Temperature °C	DO %	DO mg/L
4'	24.36	107.4	8.98
2'	24.36	107.3	8.97

Upper Merrimack and Pemigewasset River Study
Low-Flow Water Quality Survey #1
Field Measurement Worksheet

Station #: T044

Date: 7/27/10
Time: 1235
Weather Conditions: Sunny, 80's
Sampler Names: CAF / JW

1. record site # (001 through 072)
2. record conditions and site description
3. save waypoint in GPS unit
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings
6. vertical DO/temp profile (if necessary at the site)
7. Collect samples (fill out WS!)

Site Description

Coordinates (decimal degrees): 240622.47 N 1030531.96 E (mark waypoint!)
Total water depth (units): 1'
Alage coverage: No
Tree cover: 20%
Wildlife: Ducks
Other observations (sights, smells, etc)

Data Collection

Parameter	Time	Reading	Comment
Temperature °C	1 1237	21.28	
	2		
Conductivity ms/cm	1 1237	188	
	2		
Sp. Cond. ms/cm°	1 1237	203	
	2		
DO %	1 1237	101.3	
	2		
DO mg/L	1 1237	8.98	
	2		
pH su	1 1237	7.40	
	2		
Turbidity ntu	1 1237	0.3	
	2		
Secchi Disk indicate units		down	note units
		up	note units

Vertical Profile Measurements

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet):

Comments:

Depth feet	Temperature °C	DO %	DO mg/L

Upper Merrimack and Pemigewasset River Study
Low-Flow Water Quality Survey #1
Field Measurement Worksheet

Station #: M045

Date: 7/22/10

Time: ~~0633~~ 1416

Weather Conditions: clear, 50's

Sampler Names: CAF/JW

1. record site # (001 through 072)
2. record conditions and site description
3. save waypoint in GPS unit
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings
6. vertical DO/temp profile (if necessary at the site)
7. Collect samples ~~(fill out WS!)~~

Site Description

Coordinates (decimal degrees): 236110.98 N 1035713.18 E (mark waypoint!)

Total water depth (units): 6.5

Alage coverage: No

Tree cover: No

Wildlife: No

Other observations (sights, smells, etc)

Data Collection

Parameter		Time	Reading	Comment
Temperature °C	1	~~0633~~	~~24.16~~	
	2	1416	24.71	
Conductivity ms/cm	1	~~0633~~	~~92~~	
	2	1416	93	
Sp. Cond. ms/cm[c]	1	~~0633~~	~~93~~	
	2	1416	94	
DO %	1	~~0633~~	~~91.8~~	
	2	1416	107.1	
DO mg/L	1	~~0633~~	~~7.70~~	
	2	1416	8.91	
pH su	1	~~0633~~	~~7.19~~	
	2	1416	8.03	
Turbidity ntu	1			
	2	1416	0.3	
Secchi Disk indicate units		1425	down 6.1	note units
			up 6.0	note units

~~~~ : data on AM worksheet (JRL)
~~~~

Vertical Profile Measurements

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet): 6.5'

Comments:

Depth feet	Temperature °C	DO %	DO mg/L
6'	24.69	106.0	8.80
4'	24.70	105.7	8.78
2'	24.71	105.4	8.75

Upper Merrimack and Pemigewasset River Study
Low-Flow Water Quality Survey #1
Field Measurement Worksheet

Station #: T046

Date: 7/27/10

Time: 1444

Weather Conditions:

Sampler Names: CAF / JW

1. record site # (001 through 072)
2. record conditions and site description
3. save waypoint in GPS unit
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings
6. vertical DO/temp profile (if necessary at the site)
7. Collect samples (fill out WS!)

Site Description

Coordinates (decimal degrees): 229411.76 N 1039046.95 E (mark waypoint!)

Total water depth (units): 1.5'

Alage coverage: No

Tree cover: 10%

Wildlife: No

Other observations (sights, smells, etc)

Data Collection

Parameter	Time	Reading	Comment
Temperature °C	1 1445	25.53	
	2		
Conductivity ms/cm	1 1445	113	
	2		
Sp. Cond. ms/cm[c]	1 1445	112	
	2		
DO %	1 1445	88.1	
	2		
DO mg/L	1 1445	7.20	
	2		
pH su	1 1445	7.64	
	2		
Turbidity ntu	1 1445	0.6	
	2		
Secchi Disk indicate units		down	Can see bottom note units
		up	note units

Vertical Profile Measurements

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet):

Comments:

Depth feet	Temperature °C	DO %	DO mg/L

Upper Merrimack and Pemigewasset River Study
Low-Flow Water Quality Survey #1
Field Measurement Worksheet

Station #: M047

Date: 9/23/10
Time: 1510
Weather Conditions: Sunny, 40's
Sampler Names: CAP/JW

1. record site # (001 through 072)
2. record conditions and site description
3. save waypoint in GPS unit
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings
6. vertical DO/temp profile (if necessary at the site)
7. Collect samples (fill out WS!)

Site Description

Coordinates (decimal degrees): 230365.22N 1038617.90E (mark waypoint!)
Total water depth (units): 11.3'
Alage coverage: No
Tree cover: No
Wildlife: No
Other observations (sights, smells, etc)

Data Collection

Parameter	Time	Reading	Comment
Temperature °C	1 1510	27.88	
	2		
Conductivity ms/cm	1 1510	101	
	2		
Sp. Cond. ms/cm°	1 1510	95	
	2		
DO %	1 1510	90.4	
	2		
DO mg/L	1 1510	7.02	
	2		
pH su	1 1510	8.39	
	2		
Turbidity ntu	1 1510	0.3	
	2		
Secchi Disk indicate units	1526	down 7.0	note units
		up 6.9	note units

Vertical Profile Measurements

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet): 11.3'

Comments:

Depth feet	Temperature °C	DO %	DO mg/L
10'	25.34	90.2	7.41
8'	27.24	89.4	7.10
6'	27.42	89.9	7.13
4'	27.61	89.8	7.07
2'	28.43	89.4	6.83

Upper Merrimack and Pemigewasset River Study
Low-Flow Water Quality Survey #1
Field Measurement Worksheet

Station #: M048

Date: 7/22/10

Time: 1540

Weather Conditions: Sunny, 90's

Sampler Names: CAF / JW

1. record site # (001 through 072)
2. record conditions and site description
3. save waypoint in GPS unit
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings
6. vertical DO/temp profile (if necessary at the site)
7. Collect samples (fill out WS!)

Site Description

Coordinates (decimal degrees): 225989.08 N 1037769.51 E (mark waypoint!)

Total water depth (units): 6.3'

Alage coverage: No

Tree cover: No

Wildlife: No

Other observations (sights, smells, etc)

Data Collection

Parameter	Time	Reading	Comment
Temperature °C	1 1540	27.63	
	2		
Conductivity ms/cm	1 1540	99	
	2		
Sp. Cond. ms/cm[c]	1 1540	95	
	2		
DO %	1 1540	85.2	
	2		
DO mg/L	1 1540	6.71	
	2		
pH su	1 1540	8.28	
	2		
Turbidity ntu	1 1540	0.2	
	2		
Secchi Disk indicate units	1550	down 6.3	note units
		up 6.3	note units

Vertical Profile Measurements

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet): 6.3'

Comments:

Depth feet	Temperature °C	DO %	DO mg/L
6'	27.25	84.6	6.71
4'	27.34	84.3	6.67
2'	27.61	84.4	6.66

Upper Merrimack and Pemigewasset River Study
Low Flow Water Quality Survey #1
Field Measurement Worksheet

Station #: M049

Date: 5/27/10
Time: 1610
Weather Conditions: Sunny, 90's
Sampler Names: CAF / JW

1. record site # (001 through 072)
2. record conditions and site description
3. save waypoint in GPS unit
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings
6. vertical DO/temp profile (if necessary at the site)
7. Collect samples (fill out WS!)

Site Description

Coordinates (decimal degrees): 220948.15 N 1037932.60 E (mark waypoint!)
Total water depth (units): 11.0'
Alage coverage: No
Tree cover: No
Wildlife: No
Other observations (sights, smells, etc)

Data Collection

Parameter	Time	Reading	Comment
Temperature °C	1 1610	27.64	
	2		
Conductivity ms/cm	1 1610	98	
	2		
Sp. Cond. ms/cm[c]	1 1610	93	
	2		
DO %	1 1610	80.1	
	2		
DO mg/L	1 1610	6.30	
	2		
pH su	1 1610	8.49	
	2		
Turbidity ntu	1 1610	0.3	
	2		
Secchi Disk indicate units	1620	down 6.5	note units
		up 7.0	note units

Vertical Profile Measurements

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet): 11.6'

Comments:

Depth feet	Temperature °C	DO %	DO mg/L
10'	27.36	82.2	6.51
8'	27.38	82.3	6.51
6'	27.42	82.3	6.57
4'	27.56	82.4	6.58
2'	27.78	82.6	6.58

Upper Merrimack and Pemigewasset River Study
Low-Flow Water Quality Survey #1
Early Morning Dissolved Oxygen Worksheet

Station #: M050

Date: 7/27/10

Time: 1030

Weather Conditions: Sunny, 70's

Sampler Names: CAF / JW

1. record site # (001 through 072)
2. record conditions and site description
3. save waypoint in GPS unit
4. collect data with YSI
5. bacteria samples (fill out collection WS!)
6. vertical DO/temp profile (if necessary at the site)

Site Description

Coordinates (decimal degrees): 218417.38 N 1038697.19 E (mark waypoint!)

Total water depth (units): 22.2'

Alage coverage: No

Tree cover: No

Wildlife: Ducks + Gulls

Other observations (sights, smells, etc) people fishing.

Data Collection

Parameter	Time	Reading	Comment
Temperature °C	1 1030	25.69	
	2		
Conductivity ms/cm	1 1030	92	
	2		
Sp. Cond. ms/cm[c]	1 1030	91	
	2		
DO %	1 1030	99.3	
	2		
DO mg/L	1 1030	8.11	
	2		
pH su	1 1030	7.19	
	2		

Vertical Profile Measurements

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet): 22.2'

Comments: Cable only 10'

Depth feet	Temperature °C	DO %	DO mg/L
10'	25.71	99.2	8.10
8'	25.71	100.0	8.16
6'	25.70	100.1	8.16
4'	25.72	100.1	8.17
2'	25.72	100.2	8.18

Upper Merrimack and Pemigewasset River Study
Low-Flow Water Quality Survey #1
Field Measurement Worksheet

Station #: M051

Date: 7/27/10

Time: 0948

Weather Conditions: Sunny, 70's

Sampler Names: CAF/JW

1. record site # (001 through 072)
2. record conditions and site description
3. save waypoint in GPS unit
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings
6. vertical DO/temp profile (if necessary at the site)
7. Collect samples (fill out WS!)

Site Description

Coordinates (decimal degrees): 209737.19 N 1037843.29 E (mark waypoint!)

Total water depth (units): 11.7'

Alage coverage: No

Tree cover: No

Wildlife: No

Other observations (sights, smells, etc)

Data Collection

Parameter	Time	Reading	Comment
Temperature °C	1 0948	26.13°	
	2		
Conductivity ms/cm	1 0948	92	
	2		
Sp. Cond. ms/cm[c]	1 0948	90	
	2		
DO %	1 0948	96.7	
	2		
DO mg/L	1 0948	7.82	
	2		
pH su	1 0948	7.07	
	2		
Turbidity ntu	1 0948	0.7	
	2		
Secchi Disk indicate units	feet 1000	down 8.0	note units
		up 7.8	note units

Vertical Profile Measurements

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet): 11.7'

Comments:

Depth feet	Temperature °C	DO %	DO mg/L
10'	26.04	95.9	7.77
8'	26.09	96.6	7.82
6'	26.13	97.3	7.88
4'	26.13	97.6	7.90
2'	26.13	97.7	7.91

Upper Merrimack and Pemigewasset River Study
Low-Flow Water Quality Survey #1
Field Measurement Worksheet

Station #: M052

Date: 7/27/10

Time: 0813

Weather Conditions: Sunny, 60°

Sampler Names: CAF / JW

1. record site # (001 through 072)
2. record conditions and site description
3. save waypoint in GPS unit
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings
6. vertical DO/temp profile (if necessary at the site)
7. Collect samples (fill out WS!)

Site Description

Coordinates (decimal degrees): (mark waypoint!)

Total water depth (units): 15.8'

Alage coverage: No

Tree cover: No

Wildlife: No

Other observations (sights, smells, etc)

slight smell of WWTP

Data Collection

Parameter	Time	Reading	Comment
Temperature °C	1 0813	26.09°	
	2		
Conductivity ms/cm	1 0813	91	
	2		
Sp. Cond. ms/cm[c]	1 0813	89	
	2		
DO %	1 0813	97.1	
	2		
DO mg/L	1 0813	7.86	
	2		
pH su	1 0813	7.05	
	2		
Turbidity ntu	1 0813	0.4	
	2		
Secchi Disk indicate units	feet	down 9.3'	note units
		up 9.8'	note units

Vertical Profile Measurements

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet):

Comments: Only a 10' cable on meter

Depth feet	Temperature °C	DO %	DO mg/L
10'	25.96	96.4	7.81
8'	25.98	96.0	7.79
6'	26.05	97.0	7.86
4'	26.08	97.4	7.89
2'	26.09	97.5	7.90

Upper Merrimack and Pemigewasset River Study
Low-Flow Water Quality Survey #1
Field Measurement Worksheet

Station #: M053

Date: 7/27/10
Time: 1745
Weather Conditions: Sunny, 80's
Sampler Names: CAP/JW

1. record site # (001 through 072)
2. record conditions and site description
3. save waypoint in GPS unit
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings
6. vertical DO/temp profile (if necessary at the site)
7. Collect samples (fill out WS!)

Site Description

Coordinates (decimal degrees): 196948.68N 1038835.67 E (mark waypoint!)
Total water depth (units): 18.3
Alage coverage: No
Tree cover: No
Wildlife: No
Other observations (sights, smells, etc)

Data Collection

Parameter	Time	Reading	Comment
Temperature °C	1 1745	27.02	
	2		
Conductivity ms/cm	1 1745	92	
	2		
Sp. Cond. ms/cm[c]	1 1745	89	
	2		
DO %	1 1745	92.3	
	2		
DO mg/L	1 1745	7.35	
	2		
pH su	1 1745	7.76	
	2		
Turbidity ntu	1 1745	0.5	
	2		
Secchi Disk indicate units	1750	down 7.8	note units
		up 7.2	note units

Vertical Profile Measurements

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet): 18.3'

Comments:

Depth feet	Temperature °C	DO %	DO mg/L
10'	26.93	92.1	7.34
8'	26.98	92.1	7.34
6'	~~26~~.27.0	92.1	7.34
4'	27.01	92.2	7.35
2'	27.01	92.3	7.35

Upper Merrimack and Pemigewasset River Study
Low-Flow Water Quality Survey #1
Field Measurement Worksheet

Station #: M054

Date: 7/27/10

Time: 1722

Weather Conditions: Sunny, 80's

Sampler Names: CAR / JW

1. record site # (001 through 072)
2. record conditions and site description
3. save waypoint in GPS unit
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings
6. vertical DO/temp profile (if necessary at the site)
7. Collect samples (fill out WS!)

Site Description

Coordinates (decimal degrees): 184189.91N 1036733.29E (mark waypoint!)

Total water depth (units): 13.0'

Alage coverage: No

Tree cover: No

Wildlife: No

Other observations (sights, smells, etc)

Data Collection

Parameter	Time	Reading	Comment
Temperature °C	1 1722	27.16	
	2		
Conductivity ms/cm	1 1722	94	
	2		
Sp. Cond. ms/cm[c]	1 1722	90	
	2		
DO %	1 1722	104.6	
	2		
DO mg/L	1 1722	8.51	
	2		
pH su	1 1722	8.11	
	2		
Turbidity ntu	1 1722	0.2	
	2		
Secchi Disk indicate units	1730	down 8.1	note units
		up 7.5	note units

Vertical Profile Measurements

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet): 13.0'

Comments:

Depth feet	Temperature °C	DO %	DO mg/L
10'	27.15	102.5	8.13
8'	27.15	101.8	8.09
6'	27.16	101.3	8.05
4'	27.16	101.0	8.03
2'	27.16	100.7	8.01

copied from TB-JKC

[redacted]

Station #: M055

Date: 7/27/10

Time: 1730

Weather Conditions:

Sampler Names: Team 7

1. record site # (001 through 072)
2. record conditions and site description
3. save waypoint in GPS unit
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings
6. vertical DO/temp profile (if necessary at the site)
7. Collect samples (fill out WS!)

Site Description

Coordinates (decimal degrees): (mark waypoint!)

Total water depth (units): ?

Alage coverage:

Tree cover:

Wildlife:

Other observations (sights, smells, etc)

Data Collection

Parameter	Time	Reading	Comment
Temperature °C	1	27.13	
	2	27.12	
Conductivity ms/cm	1	90	
	2	90	
Sp. Cond. ms/cm[c]	1	86	
	2	86	
DO %	1	105.5	
	2	104.3	
DO mg/L	1	8.38	
	2	8.79	
pH su	1	7.59	
	2	7.57	
Turbidity ntu	1	0.5	
	2	0.6	
Secchi Disk indicate units		down —	note units
		up —	note units

Vertical Profile Measurements

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet):

Comments:

Depth feet	Temperature °C	DO %	DO mg/L

Upper Merrimack and Pemigewasset River Study
Low-Flow Water Quality Survey #1
~~Early Morning~~ Dissolved Oxygen Worksheet

Station #: ~~M061~~ M056

Date: 7·27·10

Time: 1835

Weather Conditions:

Sampler Names: #7

1. record site # (001 through 072)
2. record conditions and site description
3. save waypoint in GPS unit
4. collect data with YSI
5. bacteria samples (fill out collection WS!)
6. vertical DO/temp profile (if necessary at the site)

Site Description

Coordinates (decimal degrees): (mark waypoint!)

Total water depth (units):

Alage coverage:

Tree cover:

Wildlife:

Other observations (sights, smells, etc)

Data Collection

Parameter		Time	Reading	Comment
Temperature °C	1	27.33		
	2	27.32		
Conductivity ms/cm	1	183		
	2	183		
Sp. Cond. ms/cm[c]	1	175		
	2	175		
DO %	1	105.7		
	2	100.5		
DO mg/L	1	8.18		
	2	7.96		
pH su	1	7.39		
	2	7.36		

TURB 1.2 / 1.1

Vertical Profile Measurements

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet): _____

Comments: _____

_____

Depth feet	Temperature °C	DO %	DO mg/L

[redacted]

Station #: M057

Date: 7/27/10

Time: 2015

Weather Conditions:

Sampler Names: Team 7

1. record site # (001 through 072)
2. record conditions and site description
3. save waypoint in GPS unit
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings
6. vertical DO/temp profile (if necessary at the site)
7. Collect samples (fill out WS!)

Site Description

Coordinates (decimal degrees): (mark waypoint!)

Total water depth (units): 4.9'

Alage coverage:

Tree cover:

Wildlife:

Other observations (sights, smells, etc)

Data Collection

Parameter	Time	Reading	Comment
Temperature °C	1	27.32	
	2	27.31	
Conductivity ms/cm	1	96	
	2	96	
Sp. Cond. ms/cm[c]	1	92	
	2	92	
DO %	1	104.2	
	2	103.4	
DO mg/L	1	8.25	
	2	8.19	
pH su	1	7.72	
	2	7.69	
Turbidity ntu	1	7.5	
	2	0.7	
Secchi Disk indicate units		down —	note units
		up —	note units

Vertical Profile Measurements

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet):

Comments:

Depth feet	Temperature °C	DO %	DO mg/L

copied from FD -JFL

[redacted]

Station #: M058

Date: 7/27/10

Time: 1745

Weather Conditions:

Sampler Names: Team7

1. record site # (001 through 072)
2. record conditions and site description
3. save waypoint in GPS unit
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings
6. vertical DO/temp profile (if necessary at the site)
7. Collect samples (fill out WS!)

Site Description

Coordinates (decimal degrees): (mark waypoint!)

Total water depth (units): ?

Alage coverage:

Tree cover:

Wildlife:

Other observations (sights, smells, etc)

Data Collection

Parameter	Time	Reading	Comment
Temperature °C	1	27.39	
	2	27.36	
Conductivity ms/cm	1	104	
	2	104	
Sp. Cond. ms/cm[c]	1	99	
	2	99	
DO %	1	112.7	
	2	110.6	
DO mg/L	1	8.91	
	2	8.75	
pH su	1	8.18	
	2	8.19	
Turbidity ntu	1	0.4	
	2	0.3	
Secchi Disk indicate units		down —	note units
		up —	note units

Vertical Profile Measurements

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet): _____

Comments: _____

_____

Depth feet	Temperature °C	DO %	DO mg/L

Copied from + B-JKL

[redacted]

Station #: T059 ~~M059~~

Date: 7/27/10

Time: 1710

Weather Conditions:

Sampler Names: Team 7

1. record site # (001 through 072)
2. record conditions and site description
3. save waypoint in GPS unit
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings
6. vertical DO/temp profile (if necessary at the site)
7. Collect samples (fill out WS!)

Site Description

Coordinates (decimal degrees): (mark waypoint!)

Total water depth (units): ?

Alage coverage:

Tree cover:

Wildlife:

Other observations (sights, smells, etc)

Data Collection

Parameter	Time	Reading	Comment
Temperature °C	1	26.55	
	2	26.57	
Conductivity ms/cm	1	424	
	2	424	
Sp. Cond. ms/cm[c]	1	412	
	2	412	
DO %	1	91.8	
	2	89.3	
DO mg/L	1	7.35	
	2	7.16	
pH su	1	7.41	
	2	7.39	
Turbidity ntu	1	0.8	
	2	1.2	
Secchi Disk indicate units		down —	note units
		up —	note units

Vertical Profile Measurements

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet):

Comments:

Depth feet	Temperature °C	DO %	DO mg/L

copied from +B-JKL

[redacted]

Station #: M060

Date: 7/27/10

Time: 1615

Weather Conditions:

Sampler Names:

1. record site # (001 through 072)
2. record conditions and site description
3. save waypoint in GPS unit
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings
6. vertical DO/temp profile (if necessary at the site)
7. Collect samples (fill out WS!)

Site Description

Coordinates (decimal degrees): (mark waypoint!)

Total water depth (units): 2.05'

Alage coverage:

Tree cover:

Wildlife:

Other observations (sights, smells, etc)

Data Collection

Parameter	Time	Reading	Comment
Temperature °C	1	27.38	
	2	27.42	
Conductivity ms/cm	1	125	
	2	124	
Sp. Cond. ms/cm[c]	1	120	
	2	118	
DO %	1	115.1	
	2	113.4	
DO mg/L	1	9.1	
	2	8.96	
pH su	1	7.93	
	2	7.99	
Turbidity ntu	1	0.5	
	2	0.6	
Secchi Disk indicate units		down	note units
		up	note units

Vertical Profile Measurements

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet):

Comments:

Depth feet	Temperature °C	DO %	DO mg/L

Upper Merrimack and Pemigewasset River Study
Low-Flow Water Quality Survey #1
Early Morning Dissolved Oxygen Worksheet

Station #: ~~M003~~ M061

Date: 7.27

Time: 1400

Weather Conditions: Sunny 85°F

Sampler Names: #7

1. record site # (001 through 072)
2. record conditions and site description
3. save waypoint in GPS unit
4. collect data with YSI
5. bacteria samples (fill out collection WS!)
6. vertical DO/temp profile (if necessary at the site)

Site Description

Coordinates (decimal degrees): (mark waypoint!)

Total water depth (units): 2'

Alage coverage: Some

Tree cover: along banks, wide river

Wildlife:

Other observations (sights, smells, etc)

Data Collection

Parameter		Time	Reading	Comment
Temperature °C	1	26.91		
	2	26.96		
Conductivity ms/cm	1	118		
	2	118		
Sp. Cond. ms/cm[c]	1	114		
	2	114		
DO %	1	112.4		
	2	109.9		
DO mg/L	1	8.99		
	2	8.80		
pH su	1	7.70		
	2	7.78		

Turb 1 0.4
2 0.4

Vertical Profile Measurements

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet): _____

Comments: _____

Depth feet	Temperature °C	DO %	DO mg/L

Upper Merrimack and Pemigewasset River Study
Low-Flow Water Quality Survey #1
Field Measurement Worksheet

Station #: M062

Date: July 27, 2010

Time: 19:34

Weather Conditions: Clear, calm, 75°F

Sampler Names: J. Detty, W. French

1. record site # (001 through 072)
2. record conditions and site description
3. save waypoint in GPS unit
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings
6. vertical DO/temp profile (if necessary at the site)
7. Collect samples (fill out WS!)

Site Description

Coordinates (decimal degrees): 138649.31 N 1036332.00 E 95 Point_generic (mark waypoint!)

Total water depth (units): 16 ft

Alage coverage: none

Tree cover: none

Wildlife: none

Other observations (sights, smells, etc)

Data Collection

Parameter	Time	Reading	Comment
Temperature °C	1 19:35	26.92	
	2 19:37	26.92	
Conductivity ms/cm	1 19:35	0.126	
	2 19:37	0.125	
Sp. Cond. ms/cm[c]	1 19:36	0.121	
	2 19:37	0.121	
DO %	1 19:36	114.4	
	2 19:37	114.5	
DO mg/L	1 19:36	9.13	
	2 19:38	9.14	
pH su	1 19:36	7.99	
	2 19:38	8.00	
Turbidity ntu	1 19:37	0.5	
	2 19:38	0.5	
Secchi Disk indicate units	ft	down 7	note units
		up 7	note units

Vertical Profile Measurements

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet): 16 ft

Comments: 19:39

Depth feet	Temperature °C	DO %	DO mg/L
6	26.92	114.5	9.14
5	26.92	114.5	9.14
4	26.92	114.5	9.14
3	26.93	114.5	9.14
2	26.93	114.6	9.14
1	26.93	114.5	9.14

copied from FB - JRL

[redacted]

Station #: M063

Date: 7/27/10

Time: 12:30

Weather Conditions:

Sampler Names: Team 7

1. record site # (001 through 072)
2. record conditions and site description
3. save waypoint in GPS unit
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings
6. vertical DO/temp profile (if necessary at the site)
7. Collect samples (fill out WS!)

Site Description

Coordinates (decimal degrees): (mark waypoint!)

Total water depth (units): 9.1'

Alage coverage:

Tree cover:

Wildlife:

Other observations (sights, smells, etc)

Data Collection

Parameter	Time	Reading	Comment
Temperature °C	1	25.88	
	2	25.90	
Conductivity ms/cm	1	109	
	2	109	
Sp. Cond. ms/cm[c]	1	108	
	2	108	
DO %	1	102.1	
	2	100.2	
DO mg/L	1	8.29	
	2	8.13	
pH su	1	7.21	
	2	7.2	
Turbidity ntu	1	0.4	
	2	0.6	
Secchi Disk indicate units		down 10'	note units
		up 10'	note units

Vertical Profile Measurements

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet): _____

Comments: _____

Depth feet	Temperature °C	DO %	DO mg/L

copied from FD JFC

[redacted]

Station #: M063

Date: 7/27/10

Time: 12:30

Weather Conditions:

Sampler Names: Team 7

1. record site # (001 through 072)
2. record conditions and site description
3. save waypoint in GPS unit
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings.
6. vertical DO/temp profile (if necessary at the site)
7. Collect samples (fill out WS!)

Site Description

Coordinates (decimal degrees): (mark waypoint!)

Total water depth (units): 9.1'

Alage coverage:

Tree cover:

Wildlife:

Other observations (sights, smells, etc)

Data Collection

Parameter	Time	Reading	Comment
Temperature °C	1	25.88	
	2	25.90	
Conductivity ms/cm	1	109	
	2	109	
Sp. Cond. ms/cm^c	1	108	
	2	108	
DO %	1	102.1	
	2	100.2	
DO mg/L	1	8.29	
	2	8.13	
pH su	1	7.21	
	2	7.2	
Turbidity ntu	1	0.4	
	2	0.6	
Secchi Disk indicate units		down 10'	note units
		up 10'	note units

Vertical Profile Measurements

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet):

Comments:

Depth feet	Temperature °C	DO %	DO mg/L

Upper Merrimack and Pemigewasset River Study
Low-Flow Water Quality Survey #1
Field Measurement Worksheet

Station #: T064

Date:

Time:

Weather Conditions:

Sampler Names:

1. record site # (001 through 072)
2. record conditions and site description
3. save waypoint in GPS unit
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings
6. vertical DO/temp profile (if necessary at the site)
7. Collect samples (fill out WS!)

Site Description

Coordinates (decimal degrees): 42.86193 [illegible], 71.488104 (mark waypoint!)

Total water depth (units):

Alage coverage: N/A

Tree cover: open

Wildlife:

Other observations (sights, smells, etc)

Data Collection

Parameter	Time	Reading	Comment
Temperature °C	1 2020	24.15	
	2 2025	24.14	
Conductivity ms/cm	1 2020	0	
	2 2025	0	
Sp. Cond. ms/cm[c]	1 2020	0	
	2 2025	0	
DO %	1 2020	79.7	
	2 2025	79.8	
DO mg/L	1 2020	6.7	
	2 2025	6.7	
pH su	1 ~~[illegible]~~ 2020	7.25	
	2 2025	7.25	
Turbidity ntu	1 2020	0.8	
	2 2025	1.3	
Secchi Disk indicate units		down	note units
		up	note units

Vertical Profile Measurements

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet): _____

Comments: _____

Depth feet	Temperature °C	DO %	DO mg/L

Upper Merrimack and Pemigewasset River Study
Low-Flow Water Quality Survey #1
Field Measurement Worksheet

Station #: M065

Date: 27 July 2010

Time: 0900

Weather Conditions: Sunny, light breeze, 70s

Sampler Names: Mason/Maxwell

1. record site # (001 through 072)
2. record conditions and site description
3. save waypoint in GPS unit
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings
6. vertical DO/temp profile (if necessary at the site)
7. collect samples (fill out WS!)

Site Description

Coordinates (decimal degrees): 42.8283°N 71.4345°W ~~95.[illegible], [illegible]~~ (mark waypoint!)

Total water depth (units): 11.5'

Alage coverage: none

Tree cover: N/A

Wildlife: N/A

Other observations (sights, smells, etc) N/A

Data Collection

Parameter	Time	Reading	Comment
Temperature °C	1 0900	25.2	
	2 0958	25.4	
Conductivity ms/cm	1 0900	0.127	
	2 0958	0.127	
Sp. Cond. ms/cm[c]	1 0900	0.127	
	2 0958	0.126	
DO %	1 0900	88.2	
	2 0958	85.8	
DO mg/L	1 0900	7.23	
	2 0958	7.07	
pH su	1 0900	7.62	
	2 0958	7.52	
Turbidity ntu	1 0900	~~[illegible]~~	~~[illegible]~~ 2.24
	2 0958	~~[illegible]~~	1.54, 1.49 - within 1 min - batt low - 2.81 after new batts
Secchi Disk indicate units		down 6 ft	note units
		up 5.5 ft	note units

Vertical Profile Measurements

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet):

Comments:

Depth feet	Temperature °C	DO %	DO mg/L
11	25.2	85.3	7.00
10	25.2	86.6	7.13
9	25.2	86.8	7.14
8	25.2	87.1	7.15
7	25.2	86.3	7.10
6	25.2	85.6	7.04
5	25.3	87.0	7.17
4	25.3	87.6	7.21
3	25.3	88.2	7.25
2	25.3	87.6	7.20
1	25.3	88.5	7.28

Upper Merrimack and Pemigewasset River Study
Low-Flow Water Quality Survey #1
Field Measurement Worksheet

Station #: M066

Date: 7/27/10
Time: 1635
Weather Conditions: Clear, wind 10 mph S
Sampler Names: SM, DM

1. record site # (001 through 072)
2. record conditions and site description
3. save waypoint in GPS unit
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings
6. vertical DO/temp profile (if necessary at the site)
7. Collect samples (fill out WS!)

Site Description

Coordinates (decimal degrees): 42.80283N, 71.47063W (mark waypoint!)
Total water depth (units): 15ft
Alage coverage: —
Tree cover: —
Wildlife: —
Other observations (sights, smells, etc) —

Data Collection

Parameter		Time	Reading	Comment
Temperature °C	1	1635	26.5	
	2	1650	26.6	
Conductivity ms/cm	1	1635	0.135	
	2	1650	0.134	
Sp. Cond. ms/cm[c]	1	1635	0.131	
	2	1650	0.131	
DO %	1	1635	114.1	
	2	1650	113.3	
DO mg/L	1	1635	9.08	
	2	1650	9.05	
pH su	1	1635	8.87	
	2	1650	8.87	
Turbidity ntu	1	1635	2.18	
	2	1650	2.20	
Secchi Disk indicate units			down 5.0 ft	note units
			up 4.5 ft	note units

Vertical Profile Measurements

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet): 15

Comments: Cord is only 14 ft long
High DO

Depth feet	Temperature °C	DO %	DO mg/L
14	26.5	110.8	8.91
13	26.5	111.4	8.84
12	26.5	106.5	8.75
11	26.5	106.0	8.44
10	26.5	107.4	8.65
9	26.5	111.5	8.95
8	26.5	108.1	8.72
7	26.5	108.2	8.72
6	26.5	110.5	8.72
5	26.5	110.7	8.91
4	26.5	109.4	8.78
3	26.5	111.4	8.84
2	26.5	113.0	8.94
1	26.6	113.5	9.15

Upper Merrimack and Pemigewasset River Study
Low Flow Water Quality Survey #1
Field Measurement Worksheet

Station #: M067

Date: 27 July 10

Time: 1042

Weather Conditions: Sunny, breezy (5-10 mph) low 80s

Sampler Names: Musca/Maxwell

1. record site # (001 through 072)
2. record conditions and site description
3. save waypoint in GPS unit
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings
6. vertical DO/temp profile (if necessary at the site)
7. Collect samples (fill out WS!)

Site Description

Coordinates (decimal degrees): 42.78992 N 71.45672 W (mark waypoint!)

Total water depth (units): 8.5'

Alage coverage: N/A

Tree cover: N/A

Wildlife: N/A

Other observations (sights, smells, etc)

Data Collection

Parameter	Time	Reading	Comment
Temperature °C	1 1049	25.3	
	2 1122	25.4	
Conductivity ms/cm	1 1049	0.126	
	2 1122	0.127	
Sp. Cond. ms/cm[c]	1 1049	0.126	
	2 1122	0.127	
DO %	1 1049	97.0	
	2 1122	93.7	
DO mg/L	1 1049	7.91	
	2 1122	7.70	
pH su	1 1049	8.06	
	2 1122	8.22	
Turbidity ntu	1 1049	2.24	
	2 1122	2.24	
Secchi Disk indicate units		down 5 ft	note units
		up 4.5 ft	note units

Vertical Profile Measurements

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet): 8.5 ft

Comments:

Depth feet	Temperature °C	DO %	DO mg/L
8	25.3	92.5	7.54
7	25.3	94.7	7.74
6	25.3	94.1	7.85
5	25.3	94.5	7.77
4	25.3	95.9	7.87
3	25.3	96.2	7.92
2	25.3	96.3	7.85
1	25.3	95.3	7.87

Upper Merrimack and Pemigewasset River Study
Low-Flow Water Quality Survey #1
Field Measurement Worksheet

Station #: T068

Date: 07/27/6

Time: 12:00

Weather Conditions: 10-15 Winds Sunny

Sampler Names: SM, DM

1. record site # (001 through 072)
2. record conditions and site description
3. save waypoint in GPS unit
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings
6. vertical DO/temp profile (if necessary at the site)
7. Collect samples (fill out WS!)

Site Description

Coordinates (decimal degrees): 42.76598N 71.45123W (mark waypoint!)

Total water depth (units): 4 ft

Alage coverage: –

Tree cover: –

Wildlife: –

Other observations (sights, smells, etc) putrid smell (Sun)

Data Collection

Parameter	Time	Reading	Comment
Temperature °C	1 12:00	24.7	
	2 12:25	24.7	
Conductivity ms/cm	1 12:00	.254	
	2 1225	.200	
Sp. Cond. ms/cm	1 12:00	.260	
	2 12:25	.260	
DO %	1 1200	93.4	
	2 1225	92.7	
DO mg/L	1 12:00	7.75	
	2 1225	7.70	
pH su	1 1200	7.17	
	2 1225	7.20	
Turbidity ntu	1 1200	1.54	
	2 1225	1.54	
Secchi Disk indicate units	1200	down —	note units
		up —	note units

Too Shallow

Vertical Profile Measurements

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet): 4

Comments:

Depth feet	Temperature °C	DO %	DO mg/L
1	24.7	93.4	7.75
2	24.7	92.4	7.71
3	24.7	93.1	7.73
4	24.7	92.8	7.70

Upper Merrimack and Pemigewasset River Study
Low-Flow Water Quality Survey #1
Field Measurement Worksheet

Station #: T069

Date: 07/27/10

Time: 12:35

Weather Conditions: Sun 5mph S
High 80's

Sampler Names: SM DM IE

1. record site # (001 through 072)
2. record conditions and site description
3. save waypoint in GPS unit
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings
6. vertical DO/temp profile (if necessary at the site)
7. Collect samples (fill out WS!)

Site Description

Coordinates (decimal degrees): 42.74875 71.94214 (mark waypoint!)

Total water depth (units): 25

Alage coverage: —

Tree cover: ✓

Wildlife: ✓

Other observations (sights, smells, etc) —

Data Collection

Parameter		Time	Reading	Comment
Temperature °C	1	1235	25.0	
	2	1255	25.0	
Conductivity ms/cm	1	1235	0.420	
	2	1255	0.420	
Sp. Cond. ms/cm[c]	1	1235	0.420	
	2	1255	0.420	
DO %	1	1235	82.9	
	2	1255	83.4	
DO mg/L	1	1235	6.96	
	2	1255	6.78	
pH su	1	1235	7.43	
	2	1255	7.44	
Turbidity ntu	1	1235	3.37	
	2	1255	3.25	
Secchi Disk indicate units			down —	Too Shallow note units
			up —	note units

Vertical Profile Measurements

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet): 2.5

Comments:

Depth feet	Temperature °C	DO %	DO mg/L
1	25.0	82.4	6.96
2	25.0	83.4	6.91

Merrimack and Pemigewasset River Study
Low Flow Water Quality Survey #1
Field Measurement Worksheet

Station #: M070

Date: 7/27/10

Time: 1310

Weather Conditions: Sun High 80s

Sampler Names: SM DM #8 S 10

1. record site # (001 through 072)
2. record conditions and site description
3. save waypoint in GPS unit
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings
6. vertical DO/temp profile (if necessary at the site)
7. Collect samples (fill out WS!)

Site Description

Coordinates (decimal degrees): 42.74817 71.44100 (mark waypoint!)

Total water depth (units):

Alage coverage: —

Tree cover:

Wildlife: —

Other observations (sights, smells, etc) Bubbling at outfall

Data Collection

Parameter		Time	Reading	Comment
Temperature °C	1	25.7	1310	
	2	25.7	1325	
Conductivity ms/cm	1	0.145	1310	
	2	0.143	1325	
Sp. Cond. ms/cm[c]	1	0.147	1310	
	2	0.143	1325	
DO %	1	116.7	1310	High reading
	2	119.1	1325	
DO mg/L	1	9.51	1310	High reading
	2	9.56	1325	
pH su	1	9.14	1310	
	2	9.23	1325	
Turbidity ntu	1	2.84	1310	
	2	2.95	1325	
Secchi Disk indicate units			down 5	ft note units
			up 4	ft note units

Vertical Profile Measurements

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet): 15

Comments: Cable is Only 14 ft deep

Depth feet	Temperature °C	DO %	DO mg/L
14	25.5	104.2	8.66
13	25.5	105.5	8.60
12	25.5	112.2	9.19
11	25.5	109.8	9.00
10	25.5	111.4	9.12
9	25.5	111.8	9.15
8	25.5	111.2	9.11
7	25.5	112.2	9.20
6	25.6	113.8	9.32
5	25.6	114.2	9.35
4	25.6	112.3	9.27
3	25.6	116.4	9.50
2	25.7	114.6	9.38
1	25.8	117.5	9.56

Upper Merrimack and Pemigewasset River Study
Low-Flow Water Quality Survey #1
Field Measurement Worksheet

Station #: M071

Date: 7/27/10
Time: 14:30
Weather Conditions: Sunny, Windy 90
Sampler Names: SM, DM

1. record site # (001 through 072)
2. record conditions and site description
3. save waypoint in GPS unit
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings
6. vertical DO/temp profile (if necessary at the site)
7. Collect samples (fill out WS!)

Site Description

Coordinates (decimal degrees): 42.74384 71.43994 (mark waypoint!)
Total water depth (units): 10.5
Alage coverage: –
Tree cover: –
Wildlife: Ducks (2) Cormorants (1)
Other observations (sights, smells, etc) –

Data Collection

Parameter	Time	Reading	Comment
Temperature °C	1 1430	26.2	
	2 1500	26.2	
Conductivity ms/cm	1 1430	0.153	
	2 1500	0.152	
Sp. Cond. ms/cm	1 1430	0.149	
	2 1500	0.149	
DO %	1 1430	131.3	
	2 1500	125.5	
DO mg/L	1 1430	10.58	
	2 1500	10.10	
pH su	1 1430	9.04	
	2 1500	9.04	
Turbidity ntu	1 1430	2.77	
	2 1500	2.68	
Secchi Disk indicate units		down 5.0 ft	note units
		up 4.5 ft	note units

Vertical Profile Measurements

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet): 10.5

Comments: High DO

Depth feet	Temperature °C	DO %	DO mg/L
10	25.5	113.0	8.97
9	25.6	107.0	8.57
8	25.6	115.3	9.22
7	25.7	115.5	9.15
6	25.7	116.8	9.62
5	25.8	119.1	9.57
4	25.8	122.2	10.12
3	26.1	125.0	10.14
2	26.1	127.6	10.28
1	26.2	125.5	10.16

Upper Merrimack and Pemigewasset River Study
Low-Flow Water Quality Survey #1
Field Measurement Worksheet

Station #: M072

Date: 07/27/10
Time: 1350
Weather Conditions: Sunny 90 10 South
Sampler Names: CM DM #9

1. record site # (001 through 072)
2. record conditions and site description
3. save waypoint in GPS unit
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings
6. vertical DO/temp profile (if necessary at the site)
7. Collect samples (fill out WS!)

Site Description

Coordinates (decimal degrees): 42.72155 71.43786 (mark waypoint!)

Total water depth (units):

Alage coverage: —

Tree cover: —

Wildlife: —

Other observations (sights, smells, etc) —

Data Collection

Parameter	Time	Reading	Comment
Temperature °C	1 1350	26.6	
	2 1410	26.7	
Conductivity ms/cm	1 1350	.162	
	2 1410	.163	
Sp. Cond. ms/cm[c]	1 1350	.158	
	2 1410	.158	
DO %	1 1350	122.0	
	2 1410	121.1	
DO mg/L	1 1350	9.67	
	2 1410	9.70	
pH su	1 1350	9.26	
	2 1410	9.26	
Turbidity ntu	1 1350	3.02	
	2 1410	2.95	
Secchi Disk indicate units		down 5	note units
		up 4 1/2	note units

Vertical Profile Measurements

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet): 17'

Comments: Cordon YSI Is only 14'
High Readings In DO

Depth feet	Temperature °C	DO %	DO mg/L
14	25.4	107.6	8.65
13	25.4	106.7	8.68
12	25.4	107.3	8.83
11	25.5	108.4	8.42
10	25.5	110.4	9.08
9	25.6	111.1	9.01
8	25.6	111.9	9.30
7	25.7	114.4	9.24
6	25.7	115.4	9.41
5	25.7	115.1	9.40
4	25.8	118.4	9.21
3	25.9	116.5	9.55
2	26.0	118.7	9.68
1	26.6	119.4	9.65

Streamflow Measurements

Upper Merrimack Watershed Study
Tributary Flow Measurements Worksheet

Station ID: T010 **Station Name:** MAD RIVER CAMPEN

Sampling Team Initials: D.C + KB

Date: 7/27/2010 **Time:** 0945

Meter Type: FLO MATE 2000 **Serial #:** _____

Total Channel Width: 50'

Reference Point: [x] RIGHT BANK [ ] LEFT BANK **Looking:** [x] DOWNSTREAM [ ] UPSTREAM

Comments: ADD 0.03 FT/SEC TO EACH VELOCITY
UNIFORM CHANNEL WIDTH, NEG. LAMINAR FLOW ~40' U.S. OF A RIFFLE.

Flow Measurements

	Distance from Reference Point (feet)	Depth (feet)	Velocity (feet/second) *if depth > 2ft, record 20% and 80% depth velocities; if depth < 2ft record 60% depth velocity*		
	0.5	0	20%	60%	80%
Start Time: 0945	1 4	0.15		0.07	
	2 6.5	0.10		0.27	
	3 9.0	1.20		0.83	
	4 11.5	1.40		0.74	
	5 14.0	1.30		1.39	
	6 16.5	1.50		1.41	
	7 19.0	1.20		1.60	
	8 21.5	1.45		1.74	
For stream width <10 ft, measure at ½ ft intervals	9 24.0	1.50		1.91	
	10 26.5	1.45		2.17	
	11 29.0	1.45		2.05	
	12 31.5	1.10		2.51	
	13 34.0	1.20		2.38	
	14 36.5	1.35		2.32	
For stream width >10 ft, measure at 20 evenly spaced intervals	15 39.0	1.10		2.24	
	16 41.5	1.05		1.97	
	17 44.0	0.85		1.61	
	18 46.5	0.15		~~2.08~~ 0.98	
	19 49.0	~~0.20~~ 0.35		0.90	
	20 51.5	0		0	
End Time: 1020					

CHECK @ 39.0 1.05 2.22

UMPRS-FLOW

Upper Merrimack Watershed Study
Tributary Flow Measurements Worksheet

Station ID: T015 **Station Name:** Squam River, Ashland

Sampling Team Initials: DC, KJE

Date: 7/27/10 **Time:** 11:45

Meter Type: Flomate 2000 **Serial #:** DLS Biomonitoring

Total Channel Width: 36.5 ft

Reference Point: [X] RIGHT BANK [ ] LEFT BANK **Looking:** [X] DOWNSTREAM [ ] UPSTREAM

Comments: Add 0.03 ft/sec to each velocity. Measurement taken ≈ 150 ft upstream of I-93 Northbound lane crossing.

Flow Measurements

		Distance from Reference Point (feet)	Depth (feet)	Velocity (feet/second) *if depth > 2ft, record 20% and 80% depth velocities; if depth < 2ft record 60% depth velocity*		
		4	0	20%	60%	80%
Start Time: 11:45	1	5.75	.55		1.55	
	2	7.5	.85		1.68	
	3	9.25	1.1		1.73	
	4	11	1.2		1.89	
1.75 ft	5	12.75	1.4		1.86	
	6	14.5	1.8		1.70	
	7	16.25	0.8		1.64	
	8	18	1.87		0.59	
	9	19.75	1.7		1.08	
For stream width <10 ft, measure at ½ ft intervals	10	21.5	2.1	1.63		1.03
	11	23.25	1.95		1.29	
	12	25	1.9		1.63	
	13	26.75	1.93		1.18	
	14	28.5	1.7		0.80	
For stream width >10 ft, measure at 20 evenly spaced intervals	15	30.25	1.9		0.75	
	16	32	1.95		.70	
	17	33.75	1.85		.74	
	18	35.5	2.33	0.71		0.20
	19	37.25	2.2	.60		.15
	20	39	1.5		.46	
		40.5	.9		.33	
		40.6	0			
End Time: 12:15						

Upper Merrimack Watershed Study
Tributary Flow Measurements Worksheet

Station ID: T021 **Station Name:** Newfound River Bristol

Sampling Team Initials: DC, KJE

Date: 7/27/10 **Time:** 1300

Meter Type: FloMate 2000 **Serial #:** DCS BEAMONSTER INC

Total Channel Width: 40.5 Ft

Reference Point: ☒ RIGHT BANK ☐ LEFT BANK **Looking:** ☒ DOWNSTREAM ☐ UPSTREAM

Comments: Add 0.03 ft/sec to each velocity. 75 ft downstream of bridge behind Post Office

Flow Measurements

		Distance from Reference Point (feet)	Depth (feet)	Velocity (feet/second) *if depth > 2ft, record 20% and 80% depth velocities; if depth < 2ft record 60% depth velocity*		
		6.5	0	20%	60%	80%
Start Time: 1300	1	8.5	0.35		1.00	
	2	10.5	0.83		1.38	
	3	12.5	1.90		1.11	
	4	14.5	0.85		1.72	
	5	16.5	0.93		1.78	
	6	18.5	1.65		1.70	
	7	20.5	1.90		1.18	
	8	22.5	1.88		1.35	
For stream width <10 ft, measure at ½ ft intervals	9	24.5	2.25	1.64		1.17
	10	26.5	2.10	1.43		1.40
	11	28.5	2.65	1.40		0.94
	12	30.5	2.75	1.22		0.86
	13	32.5	2.45	1.01		0.42
	14	34.5	1.45		0.81	
For stream width >10 ft, measure at 20 evenly spaced intervals	15	36.5	0.70		1.11	
	16	38.5	1.30		1.11	
	17	40.5	1.00		0.11	
	18	42.5	0.60		0.57	
	19	44.5	0.57		0.59	
	20	46.5	0.60		.04	
		47.0				
End Time: 13:30						

N 43.44471
W 071.66332

Upper Merrimack Watershed Study
Tributary Flow Measurements Worksheet

Station ID: T027 **Station Name:** Chase Pond Brook

Sampling Team Initials: Peg Foss + Bill Meagher

Date: 7/27/10 **Time:** 10:18 am

Meter Type: Flo Mate 2000 **Serial #:** com meter # 3337

Total Channel Width: 18.0'

Reference Point: [X] RIGHT BANK [ ] LEFT BANK **Looking:** [X] DOWNSTREAM [ ] UPSTREAM

Comments:

Flow Measurements

	Distance from Reference Point (feet) Tape	Ft	Depth (feet)	Velocity (feet/second) *if depth > 2ft, record 20% and 80% depth velocities; if depth < 2ft record 60% depth velocity*		
				20%	60%	80%
Start Time: 10:18 am	1 3.5	0	0		0	
	2 4.3	11"	.3		-.07	
	3 5.1	1'8"	.55		-.03	
	4 5.11	2'6"	.8		-.02	
	5 6.9	3'4"	.75		.06	
	6 7.8	4'2"	.8		.16	
	7 8.6	5'0"	.8		.21	
	8 9.4	5'10"	.9		.21	
For stream width <10 ft, measure at ½ ft intervals	9 10.2	6'8"	.75		.31	
	10 11.0	7'4"	.9		.26	
	11 11.10	8'2"	.85		.25	
	12 12.8	9'0"	.8		.31	
	13 13.6	9'10"	.75		.20	
	14 14.4	10'8"	.70		.18	
For stream width >10 ft, measure at 20 evenly spaced intervals	15 15.2	11'6"	.70		.10	
	16 16.0	12'4"	.75		.14	
	17 16.10	13'2"	.9		.13	
	18 17.8	14'	1.0		.06	
	19 18.6	14'10"	1.0		.05	
	20 19.4	15'8"	.5		.00	
	20.2	16'6"	.6		-.04	
	21.0	17'4"	.1		~~0~~	
	21.5	18'0"	0		~~0~~	
OWP	11'10"		.9		.25	
End Time: 10:40 am						

N 43.12973
W071.45728

Upper Merrimack Watershed Study
Tributary Flow Measurements Worksheet

Station ID: T046 **Station Name:** Sunnook River

Sampling Team Initials: Peg Foss + Bill Meagher

Date: 7/27/10 **Time:** 12:20

Meter Type: Flow Mate **Serial #:** COM meter # 3337

Total Channel Width: 41.0'

Reference Point: ☒ RIGHT BANK ☐ LEFT BANK **Looking:** ☒ DOWNSTREAM ☐ UPSTREAM

Comments: Flow site is upstream of the pipe over the river. Very rocky + lots of debris both up + downstream of pipe.

Flow Measurements

	Distance from Reference Point (feet) Tape	Ft	Depth (feet)	Velocity (feet/second) *if depth > 2ft, record 20% and 80% depth velocities; if depth < 2ft record 60% depth velocity* 20%	60%	80%
Start Time: 12:20	1 0	0	.35		.00	
	2 2	2	.6		-.04	
	3 4	4	.9		.72	
	4 6	6	1.2		1.23	
	5 8	8	1.0		.15	
	6 10	10	.9		.16	
	7 12	12	1.2		.28	
	8 14	14	1.0		1.2	
For stream width <10 ft, measure at ½ ft intervals	9 16	16	1.2		-.13	
	10 18	18	1.5		.03	
	11 20	20	1.5		1.3	
	12 22	22	1.1		.81	
	13 24	24	1.6		.02	
	14 26	26	.7		-.17	
For stream width >10 ft, measure at 20 evenly spaced intervals	15 28	28	.8		.00	
	16 30	30	.4		.59	
	17 32	32	1.2		1.62	
	18 34	34	1.2		2.94	
	19 36	36	.85		1.04	
	20 38	38	.9		.51	
	21 40	40	.4		-.14	
DUP	22	22	1.1		.64	
End Time: 12:55						

Upper Merrimack Watershed Study
Tributary Flow Measurements Worksheet

Station ID: T059 **Station Name:** Cohas Brook Manchester

Sampling Team Initials: KV MT

Date: 7/27/10 **Time:** 3:05

Meter Type: Flo-Mate **Serial #:** 21619

Total Channel Width: 16 ft

Reference Point: ☐ RIGHT BANK ☒ LEFT BANK **Looking:** ☐ DOWNSTREAM ☒ UPSTREAM

Comments: Measurements taken at N42.93160 W-71.45175
-> very rocky streambed

Flow Measurements

	Distance from Reference Point (feet)	Depth (feet)	Velocity (feet/second) *if depth > 2ft, record 20% and 80% depth velocities; if depth < 2ft record 60% depth velocity*			
			20%	60%	80%	
Start Time:	1 0.0	0.52		-0.08		behind rock ↓
	2 0.8	0.74		-0.19		
	3 1.6	1.19		-0.12		
	4 2.4	0.94		0.05		
	5 3.2	1.13		0.16		
	6 4.0	1.02		0.43		
	7 4.8	1.14		-0.01		behind rock
	8 5.6	0.93		0.40		
For stream width <10 ft, measure at ½ ft intervals	9 6.4	0.91		0.27		
	10 7.2	0.83		0.03		behind rock
	11 8.0	1.13		0.23		
	12 8.8	0.92		0.09		behind rock
	13 9.6	0.70		-0.01		↓
	14 10.4	0.30		-0.10		
For stream width >10 ft, measure at 20 evenly spaced intervals	15 11.2	0.50		0.13		
	16 12.0	—		—	on a	rock/above surface
	17 12.8	—		—		
	18 13.6	0.49		0.01		
	19 14.4	0.22		-0.06		shallow
	20 15.2	—		—		
DUP	5.6	0.92		0.39		
	6.4	0.83		0.27		
	7.2	0.78		0.14		
End Time:	3:35					

Upper Merrimack Watershed Study
Tributary Flow Measurements Worksheet

Station ID: T068 **Station Name:** Nashua R. Nashua

Sampling Team Initials: MT KV

Date: 7/27/2010 **Time:** 11:45

Meter Type: Flo-Mate **Serial #:** 21619

Total Channel Width: 123.5 ft

Reference Point: ☐ RIGHT BANK ☒ LEFT BANK **Looking:** ☐ DOWNSTREAM ☒ UPSTREAM

Comments: Measurements taken from N 42.76445, W-71.45558

Flow Measurements

		Distance from Reference Point (feet)	Depth (feet)	Velocity (feet/second) *if depth > 2ft, record 20% and 80% depth velocities; if depth < 2ft record 60% depth velocity*		
				20%	*60%*	*80%*
Start Time:	1	5.5	1.91	X	0.64	X
	2	11.0	2.65	1.02	X	0.76
	3	16.5	3.45	1.22	X	0.88
	4	22.0	3.38	1.36	X	0.89
	5	27.5	3.13	1.38	X	0.87
	6	33.0	2.70	1.09	X	0.79
	7	38.5	2.38	1.33	X	0.77
	8	44.0	2.63	1.27	X	0.62
For stream width <10 ft, measure at ½ ft intervals	9	49.5	2.87	1.30	X	0.75
	10	55.0	2.62	1.14	X	0.83
	11	60.5	2.16	0.91	X	0.72
	12	66.0	1.68	X	0.89	X
	13	71.5	1.55	X	0.62	X
	14	77.0	1.32	X	0.63	X
For stream width >10 ft, measure at 20 evenly spaced intervals	15	82.5	1.24	X	0.65	X
	16	88.0	1.00	X	0.67	X
	17	93.5	0.98	X	0.54	X
	18	99.0	1.19	X	0.52	X
	19	104.5	1.26	X	0.74	X
	20	110.0	1.02	X	0.73	X
DUP		82.5	1.25	X	0.60	X
		88.0	1.01	X	0.56	X
		93.5	0.99	X	0.50	X
End Time:		12:50				

Upper Merrimack Watershed Study
Tributary Flow Measurements Worksheet

Station ID: T069 **Station Name:** Salmon Brook, Nashua

Sampling Team Initials: MT KV

Date: 07/27/2010 **Time:** 1:50

Meter Type: Flo-Mate **Serial #:** 21619

Total Channel Width: 21.5

Reference Point: ☐ RIGHT BANK ☒ LEFT BANK **Looking:** ☐ DOWNSTREAM ☒ UPSTREAM

Comments: Measurements taken at N 42.74928, W -71.45685

Flow Measurements

	Distance from Reference Point (feet)	Depth (feet)	Velocity (feet/second) *if depth > 2ft, record 20% and 80% depth velocities; if depth < 2ft record 60% depth velocity*			
			20%	*60%*	*80%*	
Start Time:	1 1	0.24		-0.08		behind rocks
	2 2	0.32		-0.10		behind rocks
	3 3	0.52		0.25		
	4 4	0.10		0.15		on rock
	5 5	0.70		0.34		
	6 6	1.01		0.43		
	7 7	0.83		0.57		
	8 8	0.59		0.68		
For stream width <10 ft, measure at ½ ft intervals	9 9	0.58		0.70		on rock
	10 10	0.81		0.69		
	11 11	0.88		0.95		
	12 12	0.89		0.84		
	13 13	1.01		1.58		
	14 14	1.00		1.54		
For stream width >10 ft, measure at 20 evenly spaced intervals	15 15	0.96		1.50		
	16 16	0.82		1.53		
	17 17	0.75		1.21		
	18 18	0.52		0.96		
	19 19	0.40		0.74		
	20 20	0.30		0.43		
	Duplicates					
	14	1.00		1.42		
	15	0.95		1.38		
	16	0.75		1.40		
End Time:						

[redacted]

Station #: M001

Date: 9/21

Weather Conditions: clear, cool

Sampler Names: J. O'Donnell
S. Lavoie

1. record site # (001 through 072)
2. record conditions and site description
3. record coordinates
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings, record times!
6. vertical DO/temp profile (if necessary at the site)
7. Collect all samples (fill out WS!)

Site Description

Coordinates (decimal degrees): (mark waypoint!)

Total water depth (units): 6"

Algae coverage: Some green/brown mossy rocks.

Tree cover: yes

Wildlife: -

Other observations (sights, smells, etc) -

FOR QA PURPOSES, REPEAT YSI READINGS. RECORD TIME OF EACH READING

Data Collection

Parameter	Time 1: 10:40	Time 2: 11:40	Comment
Temperature °C	9.65	10.45	
Conductivity ms/cm	44	45	
Sp. Cond. ms/cm[c]	62	63	
DO %	97.5	98.5	
DO mg/L	11.08	10.99	
pH su	6.83	6.90	
Turbidity ntu	-1.0	-1.1	
Secchi Disk indicate units	Up:		note units
	Down:		note units

[redacted]

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet):

Comments:

Depth feet	Temperature °C	DO %	DO mg/L

[redacted]

Station #: T002

Date: 9-21-10

Weather Conditions: SUN AND CLOUDS 55°F

Sampler Names: J. O'DONNELL
S. LANDEE

1. record site # (001 through 072)
2. record conditions and site description
3. record coordinates
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings, record times!
6. vertical DO/temp profile (if necessary at the site)
7. Collect all samples (fill out WS!)

Site Description

Coordinates (decimal degrees): (mark waypoint!)

Total water depth (units): 3 FEET

Algae coverage:

Tree cover:

Wildlife:

Other observations (sights, smells, etc)

FOR QA PURPOSES, REPEAT YSI READINGS. RECORD TIME OF EACH READING

Data Collection

Parameter	Time 1: 9:40 AM	Time 2: 10:03 AM	Comment
Temperature °C	9.08	9.28	
Conductivity ms/cm	18	18	
Sp. Cond. ms/cm^c	25	25	
DO %	96.4	96.8	
DO mg/L	11.13	11.11	
pH su	6.74	6.72	
Turbidity ntu	-1.1	-1.0	
Secchi Disk indicate units	Up:		note units
	Down:		note units

Vertical Profile Measurements

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet): 3

Comments:

Depth feet	Temperature °C	DO %	DO mg/L
2	9.10	96.3	11.11
1	~~9.10~~ 9.10	96.3	11.11

[redacted]

Station #: T003

Date: 9/21

Weather Conditions:

Sampler Names: J. O'Donnell
S. Lavoie

1. record site # (001 through 072)
2. record conditions and site description
3. record coordinates
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings, record times!
6. vertical DO/temp profile (if necessary at the site)
7. Collect all samples (fill out WS!)

Site Description

Coordinates (decimal degrees): (mark waypoint!)

Total water depth (units): 3'

Algae coverage: No

Tree cover: No

Wildlife:

Other observations (sights, smells, etc)

Data Collection Bottom

FOR QA PURPOSES, REPEAT YSI READINGS. RECORD TIME OF EACH READING

Parameter	Time 1: 4:58	Time 2: 5:02	Comment
Temperature °C	13.0	12.93	
Conductivity ms/cm	20	20	
Sp. Cond. ms/cm°	25	25	
DO %	105.3	104.3	
DO mg/L	11.10	11.00	
pH su	6.85	6.83	
Turbidity ntu	-1.9	-1.2	
Secchi Disk Indicate units	Up:		note units
	Down:		note units

Vertical Profile Measurements

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet): 3'

Comments:

Depth feet	Temperature °C	DO %	DO mg/L
3'	13.0	105.3	11.10
2'	12.94	105.1	11.09
1'	12.93	104.9	11.07

43.68564
-71.64517

[redacted]

Station #: T004

Date: 9/21

Weather Conditions: clear

Sampler Names: J. O'Donnell
S. Lavoie

1. record site # (001 through 072)
2. record conditions and site description
3. record coordinates
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings, record times!
6. vertical DO/temp profile (if necessary at the site)
7. Collect all samples (fill out WS!)

Site Description

Coordinates (decimal degrees): (mark waypoint!)

Total water depth (units): 2 Ft.

Algae coverage: None

Tree cover: No

Wildlife: –

Other observations (sights, smells, etc) Slight sewer smell from plant.

FOR QA PURPOSES, REPEAT YSI READINGS. RECORD TIME OF EACH READING

Data Collection

Parameter	Time 1: 12:55	Time 2: 1:30 (Recal)	Comment
Temperature °C	11.63	11.94	Recalibrated before second time. checked for air bubbles, none
Conductivity ms/cm	26	26	
Sp. Cond. ms/cm[c]	34	34	
DO %	100.4	97.0	
DO mg/L	10.94	10.47	
pH su	6.86	6.93	
Turbidity ntu	-1.1	-1.2	
Secchi Disk (indicate units)	Up:		note units
	Down:		note units

Vertical Profile Measurements

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet): _____

Comments: _____

Depth feet	Temperature °C	DO %	DO mg/L

[redacted]

Station #: M005

Date: 9-21

Weather Conditions: PARTLY CLOUDY 65°F

Sampler Names: J. O'DONNELL, S. LANDER

1. record site # (001 through 072)
2. record conditions and site description
3. record coordinates
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings, record times!
6. vertical DO/temp profile (if necessary at the site)
7. Collect all samples (fill out WS!)

Site Description

Coordinates (decimal degrees): (mark waypoint!)

Total water depth (units): 3.5'

Algae coverage: WHOLE REVERSED, VERY SLIM

Tree cover: —

Wildlife: —

Other observations (sights, smells, etc) —

FOR QA PURPOSES, REPEAT YSI READINGS. RECORD TIME OF EACH READING

Data Collection

Parameter	Time 1: 2:05	Time 2: 2:30	Comment
Temperature °C	12.25	12.45	
Conductivity ms/cm	33	33	
Sp. Cond. ms/cm[c]	44	44	
DO %	97.4	96.0	
DO mg/L	10.43	10.23	
pH su	6.95	6.82	
Turbidity ntu	-1.2	-.7	
Secchi Disk Indicate units	Up:		note units
	Down:		note units

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet): 3.5'

Comments:

Depth feet	Temperature °C	DO %	DO mg/L
2	12.28	97.1	~~10.9~~ 10.4
1	12.29	96.7	10.35

[redacted]

Station #: M006

Date: 9-21

Weather Conditions: SUNNY [illegible]

Sampler Names: J. O'DONNELL, S. LAVOIE

1. record site # (001 through 072)
2. record conditions and site description
3. record coordinates
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings, record times!
6. vertical DO/temp profile (if necessary at the site)
7. Collect all samples (fill out WS!)

Site Description

Coordinates (decimal degrees):			(mark waypoint!)
Total water depth (units): 8 FEET			
Algae coverage:			
Tree cover:			
Wildlife:			
Other observations (sights, smells, etc)			

FOR QA PURPOSES, REPEAT YSI READINGS. RECORD TIME OF EACH READING

Data Collection

Parameter	Time 1: 4:31	Time 2: 4:36	Comment
Temperature °C	13.21	13.22	
Conductivity ms/cm	36	36	
Sp. Cond. ms/cm[c]	46	46	
DO %	105.9	105.2	DO% > 100
DO mg/L	11.11	11.02	
pH su	6.86	6.86	
Turbidity ntu	-1.2	-1.1	
Secchi Disk Indicate units	Up:		note units
	Down:		note units

Vertical Profile Monitoring Form

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet): 8

Comments:

DO% > 100, CONTINUED ISSUES W/ YSI DO% READING

Depth feet	Temperature °C	DO %	DO mg/L
7	13.22	105.7	11.09
6	13.22	105.7	11.08
5	13.22	105.5	11.06
4	13.22	105.5	11.05
3	13.22	105.5	11.06
2	13.23	105.5	11.06
1	13.23	105.4	11.05

[redacted]

Station #: M007

Date: 9-21

Weather Conditions: SUNNY 68°F

Sampler Names: J. O'DONNELL, S. LAVOIE

1. record site # (001 through 072)
2. record conditions and site description
3. record coordinates
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings, record times!
6. vertical DO/temp profile (if necessary at the site)
7. Collect all samples (fill out WS!)

Site Description

Coordinates (decimal degrees): (mark waypoint!)

Total water depth (units): 2.5'

Algae coverage: MOST OF RIVERBED

Tree cover: —

Wildlife: —

Other observations (sights, smells, etc) —

FOR QA PURPOSES, REPEAT YSI READINGS. RECORD TIME OF EACH READING

Data Collection

Parameter	Time 1: 2:54	Time 2:	Comment
Temperature °C	12.51	12.65	
Conductivity ms/cm	34	34	
Sp. Cond. ms/cm[c]	~~34~~ 44	44	
DO %	101.5	100.5	CONTINUED DO READING ISSUES
DO mg/L	10.81	10.67	
pH su	6.90	6.92	
Turbidity ntu	-1.1	-1.1	
Secchi Disk Indicate units	Up:		note units
	Down:		note units

[redacted]

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet):

Comments:

Depth feet	Temperature °C	DO %	DO mg/L

[redacted]

Station #: M008

Date: 9.21

Weather Conditions: SUNNY 70°

Sampler Names: J. O'DONNELL, S. LAVOIE

1. record site # (001 through 072)
2. record conditions and site description
3. record coordinates
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings, record times!
6. vertical DO/temp profile (if necessary at the site)
7. Collect all samples (fill out WS!)

Site Description

Coordinates (decimal degrees): (mark waypoint!)

Total water depth (units): 3'

Algae coverage: SOME

Tree cover: —

Wildlife: —

Other observations (sights, smells, etc) DS OF BRIDGE ABUTMENTS

FOR QA PURPOSES, REPEAT YSI READINGS. RECORD TIME OF EACH READING

Data Collection

Parameter	Time 1: 4:00	Time 2: 4:04	Comment
Temperature °C	12.89	12.87	
Conductivity ms/cm	36	36	
Sp. Cond. ms/cm[c]	47	47	
DO %	102.5	102.8	CONTINUED DRIFT W/ % DO READING >100%
DO mg/L	10.82	10.87	
pH su	6.98	6.98	
Turbidity ntu	-1.1	-1.1	
Secchi Disk indicate units	Up:		note units
	Down:		note units

Vertical Profile Measurements

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet): 3

Comments: CONTINUED % DO READING ISSUES > 100%

Depth feet	Temperature °C	DO %	DO mg/L
2	12.89	102.5	10.82
1	12.89	102.9	10.45

[redacted]

Station #: M009

Date: 9/21/10

Weather Conditions: Clear & cool

Sampler Names: Logan Lisieski
Lauren Klonsky

1. record site # (001 through 072)
2. record conditions and site description
3. record coordinates
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings, record times!
6. vertical DO/temp profile (if necessary at the site)
7. Collect all samples (fill out WS!)

Site Description

Coordinates (decimal degrees): (mark waypoint!)

Total water depth (units): 3.8' sampled towards rt. bank looking downstream water too deep to go to center

Algae coverage:

Tree cover:

Wildlife: small fish

Other observations (sights, smells, etc) bubbles/foam on the surface

FOR QA PURPOSES, REPEAT YSI READINGS. RECORD TIME OF EACH READING

Data Collection

Parameter	Time 1: 9:20	Time 2: 9:55	Comment
Temperature °C	12.05°C	12.04°C	Readings taken towards right bank looking downstream
Conductivity ~~ms/cm~~	~~81~~ LK 40	40	units µs/cm
Sp. Cond. ~~ms/cm~~	54	54	units µs/cm c
DO %	85.3%	89.6%	
DO mg/L	9.2	9.56	
pH su	7.08	7.04	
Turbidity ntu	0.0	~0.1	
Secchi Disk indicate units	Up: clear to bottom		clear note units
	Down:		note units

Vertical Profile Measurements

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet): _____

Comments: _____

Depth feet	Temperature °C	DO %	DO mg/L

[redacted]

Station #: T010

Date: Sept. 21 2010

Weather Conditions: cool & clear

Sampler Names: Lauren Klonsky
Logan Lisieski

1. record site # (001 through 072)
2. record conditions and site description
3. record coordinates
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings, record times!
6. vertical DO/temp profile (if necessary at the site)
7. Collect all samples (fill out WSI)

Site Description

Coordinates (decimal degrees): (mark waypoint!)

Total water depth (units): 1 foot

Algae coverage: none

Tree cover: banks

Wildlife: none

Other observations (sights, smells, etc)

FOR QA PURPOSES, REPEAT YSI READINGS. RECORD TIME OF EACH READING

Data Collection

Parameter	Time 1: 10:56	Time 2: 11:10	Comment
Temperature °C	12.72°C	12.97	
Conductivity ~~ms/cm~~	39	40	units µS/cm
Sp. Cond. ~~ms/cm°~~	51	51	units µS/cm°C
DO %	94.6%	~~101.8%~~ 98.8% LK	
DO mg/L	10.06	10.5	
pH su	7.34	7.2	
Turbidity ntu	0.2	0.8	
Secchi Disk Indicate units	Up: Clear		note units
	Down:		note units

Vertical Profile Measurements

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet): _____

Comments: _____

Depth feet	Temperature °C	DO %	DO mg/L

[redacted]

Station #: M012

Date: 9·21·10

Weather Conditions: partly cloudy cool

Sampler Names: Logan Lisieski
Lauren Klatsky

1. record site # (001 through 072)
2. record conditions and site description
3. record coordinates
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings, record times!
6. vertical DO/temp profile (if necessary at the site)
7. Collect all samples (fill out WS!)

Site Description

Coordinates (decimal degrees): (mark waypoint!)

Total water depth (units): ~2.5'

Algae coverage: some on rocks

Tree cover: banks

Wildlife:

Other observations (sights, smells, etc)

FOR QA PURPOSES, REPEAT YSI READINGS. RECORD TIME OF EACH READING

Data Collection

Parameter	Time 1: 1:28	Time 2:	Comment
Temperature °C	14.04°C	14.17°C	
Conductivity ~~mg/cm~~ µS/cm	48	49	units µS/cm
Sp. Cond. ~~mS/cm~~ µS/cm	61	61	µS/cm c
DO %	99.7%	104% ?	
DO mg/L	10.30	10.68	
pH su	7.19	7.04	
Turbidity ntu	0	-0.2?	
Secchi Disk Indicate units	Up: clear		note units
	Down:		note units

Vertical Profile Measurements

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet): _____

Comments: _____

Depth feet	Temperature °C	DO %	DO mg/L

[redacted]

Station #: M013

Date: Sept. 21, 2010

Weather Conditions: ~~clear~~ partly cloudy & warm

Sampler Names: Logan Lisieski & Lauren Klonsky

1. record site # (001 through 072)
2. record conditions and site description
3. record coordinates
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings, record times!
6. vertical DO/temp profile (if necessary at the site)
7. Collect all samples (fill out WS!)

Site Description

Coordinates (decimal degrees): 43.75046729 N 71.68072036 W (mark waypoint!)

Total water depth (units): ~2.20'

Algae coverage:

Tree cover: banks

Wildlife:

Other observations (sights, smells, etc)

FOR QA PURPOSES, REPEAT YSI READINGS. RECORD TIME OF EACH READING

Data Collection

Parameter	Time 1: 2:10	Time 2: 2:15	Comment
Temperature °C	14.37°C	14.39°C	recalibrated
Conductivity ~~ms/cm~~	51	51	prior to first reading units: µS/cm
Sp. Cond. ~~ms/cm~~	64	64	units: µS/cm
DO %	103.6%	103.7%	
DO mg/L	10.59	10.59	
pH su	7.11	7.02	
Turbidity ntu	-1.4	~~0~~ 0.4	
Secchi Disk indicate units	Up: Yes, clear to bottom		note units
	Down:		note units

Vertical Profile Measurements

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet): _____

Comments: _____

Depth feet	Temperature °C	DO %	DO mg/L

[redacted]

Station #: T015

Date: Sept. 21 2010

Weather Conditions: Sunny & warm

Sampler Names: Logan Lisieski
Lauren Klinsky

1. record site # (001 through 072)
2. record conditions and site description
3. record coordinates
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings, record times!
6. vertical DO/temp profile (if necessary at the site)
7. Collect all samples (fill out WS!)

Site Description

Coordinates (decimal degrees): 43.1686644530°N (mark waypoint!)
71.6431072 9°W (5 satelite)

Total water depth (units): ~3.8'

Algae coverage:

Tree cover:

Wildlife: frog

Other observations (sights, smells, etc) Sight Smell
silty mucky @ bottom readings taken a bit to the ft bank (looking d/s) by a foot or 2 from center

FOR QA PURPOSES, REPEAT YSI READINGS. RECORD TIME OF EACH READING

Data Collection

Parameter	Time 1: 3:35	Time 2: 3:50	Comment
Temperature °C	17.14°C	17.16	
Conductivity ms/cm	44	~~5~~ 44	units µS/cm
Sp. Cond. ms/cm°	52	52	units µS/cm°
DO %	95.6%	96.1%	
DO mg/L	9.23	9.25	
pH su	7.24	7.28	
Turbidity ntu	0	0	
Secchi Disk Indicate units	Up: Clear to bottom		note units
	Down:		note units

Vertical Profile Measurements

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet):

Comments:

Depth feet	Temperature °C	DO %	DO mg/L

[redacted]

Station #: M016

Date: 9-21-10 10:12

Weather Conditions: Sunny 49°

Sampler Names: SKC, AWT #3

1. record site # (001 through 072)
2. record conditions and site description
3. record coordinates
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings, record times!
6. vertical DO/temp profile (if necessary at the site)
7. Collect all samples (fill out WS!)

Site Description

Coordinates (decimal degrees): 43.617985°N 71.656244°W (mark waypoint!)

Total water depth (units): 13 ft.

Algae coverage: 0

Tree cover: 0

Wildlife: 0

Other observations (sights, smells, etc)

FOR QA PURPOSES, REPEAT YSI READINGS. RECORD TIME OF EACH READING

Data Collection

Parameter	Time 1:	Time 2:	Comment
Temperature °C	14.56	14.49	
Conductivity ms/cm	43	43	
Sp. Cond. ms/cm°	54	54	
DO %	91.8	90.7	
DO mg/L	9.34	9.25	
pH su	7.25	6.88	
Turbidity ntu	-0.1	-0.1	
Secchi Disk indicate units	Up: 13 ft		note units
	Down: 13ft		note units

Vertical Profile Measurements

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet):

Comments:

Depth feet	Temperature °C	DO %	DO mg/L
1	14.41	91.0	9.28
2	14.42	90.5	9.25
3	14.42	90.5	9.24
4	14.43	90.5	9.24
5	14.44	90.5	9.24
6	14.44	90.5	9.25
7	14.45	90.6	9.25
8	14.46	90.5	9.23
9	14.47	90.6	9.24
10	14.49	90.6	9.24
11	14.53	90.9	9.26
12	14.62	~~90~~ 91.1	9.26
13	14.88	92.2	9.30

Depth is actually distance from bottom

[redacted]

Station #: M017

Date: 9/21/10

Weather Conditions: Clear/sunny ~50°F

Sampler Names: AWT, SKC

1. record site # (001 through 072)
2. record conditions and site description
3. record coordinates
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings, record times!
6. vertical DO/temp profile (if necessary at the site)
7. Collect all samples (fill out WS!)

Site Description

Coordinates (decimal degrees): 43.59469328°N 71.69010537°W (mark waypoint!)

Total water depth (units): 33

Algae coverage: 0

Tree cover: 0

Wildlife: 0

Other observations (sights, smells, etc) 1 Crow

FOR QA PURPOSES, REPEAT YSI READINGS. RECORD TIME OF EACH READING

Data Collection

Parameter	Time 1:	Time 2:	Comment
Temperature °C	17.06	17.08	
Conductivity ms/cm	65	65	
Sp. Cond. ms/cm°	77	77	
DO %	88.4	88.1	
DO mg/L	8.53	8.50	
pH su	7.03	6.92	
Turbidity ntu	0.3	0.1	
Secchi Disk indicate units	Up: 8.5 ft		note units
	Down: 8.5 ft		note units

Vertical Profile Measurements

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet): 33

Comments: Could not reach bottom due to data cord length.

Depth feet	Temperature °C	DO %	DO mg/L
9	15.77	89.3	8.86
11	15.82	89.3	8.85
13	15.85	89.3	8.83
15	15.87	89.2	8.83
17	16.17	89.1	8.76
19	16.49	88.6	8.65
21	16.77	88.1	8.55
23	16.93	87.8	8.49
25	16.96	87.6	8.46
27	16.98	87.1	8.41
29	16.99	86.9	8.40
31	17.09	87.1	8.41
33	17.19	87.9	8.46

Depth is actually distance from bottom

[redacted]

Station #: M018

Date: 9/21/10

Weather Conditions: Clear

Sampler Names: Aut SKC

1. record site # (001 through 072)
2. record conditions and site description
3. record coordinates
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings, record times!
6. vertical DO/temp profile (if necessary at the site)
7. Collect all samples (fill out WS!)

Site Description

Coordinates (decimal degrees): WP M018 43.59628191 °N 71.71881894 °W (mark waypoint!)

Total water depth (units): 3

Algae coverage: 0

Tree cover: 0

Wildlife: 0

Other observations (sights, smells, etc)

FOR QA PURPOSES, REPEAT YSI READINGS. RECORD TIME OF EACH READING

Data Collection

Parameter	Time 1:	Time 2:	Comment
Temperature °C	16.37	16.38	
Conductivity ms/cm	67	67	
Sp. Cond. ms/cm°	80	80	
DO %	91.8	93.3	
DO mg/L	8.99	9.13	
pH su	7.08	7.16	
Turbidity ntu	0.1	0.2	
Secchi Disk indicate units	Up: See bottom of river		note units
	Down: See bottom of river		note units

Vertical Profile Measurements

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet):

Comments: Cobble / boulder bottom

Depth feet	Temperature °C	DO %	DO mg/L
1	16.37	91.8	8.99
2	16.35	91.3	8.93

[redacted]

Station #: M019

Date: 9/21/10

Weather Conditions: Mostly sunny ~67°F

Sampler Names: AWT, SKC

1. record site # (001 through 072)
2. record conditions and site description
3. record coordinates
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings, record times!
6. vertical DO/temp profile (if necessary at the site)
7. Collect all samples (fill out WS!)

Site Description

Coordinates (decimal degrees): Same as morning (mark waypoint!)

Total water depth (units): 3

Algae coverage: 0

Tree cover: 0

Wildlife: 0

Other observations (sights, smells, etc)

outfall smell

FOR QA PURPOSES, REPEAT YSI READINGS. RECORD TIME OF EACH READING

Data Collection

Parameter	Time 1:	Time 2:	Comment
Temperature °C	16.71	16.73	
Conductivity ms/cm	66	66	
Sp. Cond. ms/cm°	77	79	
DO %	95.5	93.8	
DO mg/L	9.28	9.09	
pH su	7.20	7.11	
Turbidity ntu	0.1	0.1	
Secchi Disk indicate units	Up: See bottom		note units
	Down: See bottom		note units

Vertical Profile Measurements

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet): 2

Comments:

Depth feet	Temperature °C	DO %	DO mg/L
1	16.72	94.4	9.17
2	16.69	93.9	9.13

[redacted]

Station #: M020

Date: 9/21/10

Weather Conditions: clear / mostly sunny ~48°F

Sampler Names: AWT, SKC

1. record site # (001 through 072)
2. record conditions and site description
3. record coordinates
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings, record times!
6. vertical DO/temp profile (if necessary at the site)
7. Collect all samples (fill out WS!)

Site Description

Coordinates (decimal degrees): WP M020 43.590867440°N 76.73136995°W (mark waypoint!)

Total water depth (units): 3.5 (ft)

Algae coverage: None - some algae on rocks in bottom of river

Tree cover: 0

Wildlife: 0

Other observations (sights, smells, etc)

FOR QA PURPOSES, REPEAT YSI READINGS. RECORD TIME OF EACH READING

Data Collection

Parameter	Time 1:	Time 2:	Comment
Temperature °C	16.13	16.12	
Conductivity ms/cm	67	66.	
Sp. Cond. ms/cm°	80	80	
DO %	94.3	94.9	
DO mg/L	9.28	9.33	
pH su	7.21	7.16	
Turbidity ntu	0.2	0.2	
Secchi Disk Indicate units	Up: Can see bottom		note units
	Down: can see bottom		note units

Vertical Profile Measurements

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet): 3.5'

Comments: Cobble/ boulder bottom

Depth feet	Temperature °C	DO %	DO mg/L
1	16.13	94.00	9.25
2	16.13	93.90	9.24
3	16.13	93.90	9.23

[redacted]

Station #: T021

Date: 9-21

Weather Conditions: CLEAR, SUNSET 58°F

Sampler Names: J. O'DONNELL, S. LAVOIE

1. record site # (001 through 072)
2. record conditions and site description
3. record coordinates
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings, record times!
6. vertical DO/temp profile (if necessary at the site)
7. Collect all samples (fill out WS!)

Site Description

Coordinates (decimal degrees): (mark waypoint!)

Total water depth (units): 2.5 FEET

Algae coverage: SOME

Tree cover: SOME DS OF SAMPLING LOC.

Wildlife: —

Other observations (sights, smells, etc)

FOR QA PURPOSES, REPEAT YSI READINGS. RECORD TIME OF EACH READING

Data Collection

Parameter	Time 1: 6:26	Time 2: 6:30	Comment
Temperature °C	14.38	14.39	
Conductivity ms/cm	35	31	
Sp. Cond. ms/cm[c]	40	37	
DO %	102.8	101.4	% DO > 100
DO mg/L	9.65	9.52	
pH su	6.92	6.94	
Turbidity ntu	-.9	-.9	
Secchi Disk indicate units	Up:		note units
	Down:		note units

Vertical Profile [illegible]

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet): 2.5

Comments:

Depth feet	Temperature °C	DO %	DO mg/L
1.25	18.39	102.5	9.61

[redacted]

Station #: T022

Date: Sept. 21 2010

Weather Conditions: Sunset clear cool

Sampler Names: Logan ~~Tesis~~ Lisieski
Lauren Klinsky

1. record site # (001 through 072)
2. record conditions and site description
3. record coordinates
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings, record times!
6. vertical DO/temp profile (if necessary at the site)
7. Collect all samples (fill out WS!)

Site Description

Coordinates (decimal degrees): (mark waypoint!)

Total water depth (units): ~1'

Algae coverage:

Tree cover: banks

Wildlife:

Other observations (sights, smells, etc)

FOR QA PURPOSES, REPEAT YSI READINGS. RECORD TIME OF EACH READING

Data Collection

Parameter	Time 1: 6:35	Time 2: 6:50 PM	Comment
Temperature °C	14.03°C	14.03°C	
Conductivity ms/cm	75	~~ℓ~~ 75	µs/cm units
Sp. Cond. ms/cm°	95	95	µs/cm°C units
DO %	98.6%	92.6%	
DO mg/L	10.16	9.56	
pH su	7.43	7.47	
Turbidity ntu	0	0	
Secchi Disk indicate units	Up: clear to bottom		note units
	Down:		note units

Vertical Profile [illegible]

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet): _____

Comments: _____

Depth feet	Temperature °C	DO %	DO mg/L

[redacted]

Station #: M023

Date: 9/21/10

Weather Conditions: Sunny/clear/breezy

Sampler Names: Ant, SKC

1. record site # (001 through 072)
2. record conditions and site description
3. record coordinates
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings, record times!
6. vertical DO/temp profile (if necessary at the site)
7. Collect all samples (fill out WS!)

Site Description

Coordinates (decimal degrees): 43.49650432°N 71.66662857°W (mark waypoint!)

Total water depth (units): 17

Algae coverage: 0

Tree cover: 0

Wildlife: 0

Other observations (sights, smells, etc)

FOR QA PURPOSES, REPEAT YSI READINGS. RECORD TIME OF EACH READING

Data Collection

Parameter	Time 1:	Time 2:	Comment
Temperature °C	16.94	17.01	
Conductivity ms/cm	66	67	
Sp. Cond. ms/cm°	79	79	
DO %	93.3	91.4	
DO mg/L	9.02	8.83	
pH su	7.18	7.09	
Turbidity ntu	-0.4	-0.3	
Secchi Disk indicate units	Up: 12.5		note units
	Down: 13		note units

Vertical Profile Measurements

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet): 17ft Secchi disk measure

Comments:

Depth feet	Temperature °C	DO %	DO mg/L
1	16.51	91.1	8.69
3	16.51	90.7	8.85
5	16.53	90.6	8.84
7	16.58	90.7	8.84
9	16.58	90.8	8.85
11	16.62	90.8	8.85
13	16.66	91.1	8.86
15	16.69	91.2	8.87
17	16.87	91.5	8.87
19	16.99	91.7	8.87
21	17.00	92.0	8.88
Surface			

Depth is actually distance from bottom

[redacted]

Station #: M024

Date: 9/21/16

Weather Conditions: Mostly sunny / breezy ~65°F

Sampler Names: Ant, SKC

1. record site # (001 through 072)
2. record conditions and site description
3. record coordinates
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings, record times!
6. vertical DO/temp profile (if necessary at the site)
7. Collect all samples (fill out WS!)

Site Description

Coordinates (decimal degrees): 43.45673276 °N 71.65483218 °W (mark waypoint!)

Total water depth (units): 21

Algae coverage: 0

Tree cover: 0

Wildlife: 0

Other observations (sights, smells, etc)

FOR QA PURPOSES, REPEAT YSI READINGS. RECORD TIME OF EACH READING

Data Collection

Parameter	Time 1:	Time 2:	Comment
Temperature °C	17.63	17.40	
Conductivity ms/cm	67	67	
Sp. Cond. ms/cm°	79	78	
DO %	97.4	93.9	
DO mg/L	9.29	8.99	
pH su	7.17	7.04	
Turbidity ntu	-0.2	-0.3	
Secchi Disk indicate units	Up: 10		note units
	Down: 10		note units

Vertical Profile Measurements

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet): 21

Comments:

Depth feet	Temperature °C	DO %	DO mg/L
1	16.95	94.0	9.08
3	16.95	93.3	9.02
5	16.96	93.1	9.00
7	16.98	93.1	9.02
9	17.00	93.7	9.05
11	17.03	93.9	9.07
13	17.04	94.1	9.09
15	17.11	94.2	9.08
17	17.68	94.6	9.00
19	17.85	95.2	9.03
21	17.87	95.5	9.06

Depth is actually distance from bottom

[redacted]

Station #: M025

Date: 9/21/10

Weather Conditions: Mostly cloudy ~67°F

Sampler Names: AWT, SLC

1. record site # (001 through 072)
2. record conditions and site description
3. record coordinates
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings, record times!
6. vertical DO/temp profile (if necessary at the site)
7. Collect all samples (fill out WS!)

Site Description

Coordinates (decimal degrees): 43.44939800 N 71.65533125 W (mark waypoint!)

Total water depth (units): 30 (ft)

Algae coverage: 0

Tree cover: 0

Wildlife: 0

Other observations (sights, smells, etc) erosion on left bank

FOR QA PURPOSES, REPEAT YSI READINGS. RECORD TIME OF EACH READING

Data Collection

Parameter	Time 1:	Time 2:	Comment
Temperature °C	17.94	18.18	
Conductivity ms/cm	68	68	
Sp. Cond. ms/cm°	78	78	
DO %	94.1	92.8	
DO mg/L	8.96	8.25	
pH su	7.02	7.03	
Turbidity ntu	-0.4	-0.4	
Secchi Disk indicate units	Up: 10.5		note units
	Down: 10		note units

Vertical Profile Measurements

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet): 30

Comments:

Depth feet	Temperature °C	DO %	DO mg/L
1	16.96	90.4	8.74
3	16.96	90.1	8.71
5	16.96	90.1	8.72
7	16.96	90.2	8.73
9	16.96	90.3	8.74
11	16.98	90.5	8.75
13	17.01	90.5	8.75
15	17.04	90.6	8.74
17	17.11	91.4	8.82
19	17.17	91.5	8.81
21	17.30	92.1	8.84
23	17.53	91.9	8.77
25	17.77	92.0	8.74
27	17.88	92.3	8.77
29	18.14	92.6	8.73

Depth is actually distance from bottom

[redacted]

Station #: M026

Date: 9/21/10

Weather Conditions: Sunny / partly cloudy ~67°F

Sampler Names: AWT, SKC

1. record site # (001 through 072)
2. record conditions and site description
3. record coordinates
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings, record times!
6. vertical DO/temp profile (if necessary at the site)
7. Collect all samples (fill out WS!)

Site Description

Coordinates (decimal degrees): ~45.44585098°N ~71.6594620°W (mark waypoint!)

Total water depth (units): 3

Algae coverage: Film on top of water Algae on rocks / Trib comes from road

Tree cover: 0

Wildlife: 0

Other observations (sights, smells, etc)

FOR QA PURPOSES, REPEAT YSI READINGS. RECORD TIME OF EACH READING

Data Collection

Parameter	Time 1:	Time 2:	Comment
Temperature °C	17.29	17.28	
Conductivity ms/cm	67	67	
Sp. Cond. ms/cm°	78	78	
DO %	109.4	104.7	
DO mg/L	10.52	10.05	
pH su	7.19	7.14	
Turbidity ntu	-0.3	0.2	
Secchi Disk indicate units	Up: See bottom		note units
	Down: See bottom		note units

Vertical Profile Measurements

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet): 3.0 ft

Comments: to deep to get to center of river

Depth feet	Temperature °C	DO %	DO mg/L
3.0	17.26	106	10.22
1.0	17.27	105.3	10.11

[redacted]

Station #: T027

Date: 9-21-10

Weather Conditions: Sunny 71

Sampler Names: SKC, AWT

1. record site # (001 through 072)
2. record conditions and site description
3. record coordinates
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings, record times!
6. vertical DO/temp profile (if necessary at the site)
7. Collect all samples (fill out WS!)

Site Description

Coordinates (decimal degrees): 43.44471957°N 71.6632973 8°W (mark waypoint!)

Total water depth (units): 1.5 feet - shallow.

Algae coverage: No

Tree cover: yes - birch, green ash, red maple

Wildlife: Squirrel

Other observations (sights, smells, etc)

FOR QA PURPOSES, REPEAT YSI READINGS. RECORD TIME OF EACH READING

Data Collection

Parameter	Time 1:	Time 2:	Comment
Temperature °C	12.53	12.5	
Conductivity ms/cm	136	137	
Sp. Cond. ms/cm[c]	179	179	
DO %	90.1	92.3	
DO mg/L	9.52	9.78	
pH su	7.1	7.07	
Turbidity ntu	0.5	4.7	Kicked up sediment during second reading
Secchi Disk indicate units	Up: —		note units
	Down: —		note units

[redacted]

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet):

Comments:

Depth feet	Temperature °C	DO %	DO mg/L

[redacted]

Station #: T028

Date: 9/21/2010

Weather Conditions: CLEAR 65°

Sampler Names: ROBERT GARVEY
WILL FRENCH

1. record site # (001 through 072)
2. record conditions and site description
3. record coordinates
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings, record times!
6. vertical DO/temp profile (if necessary at the site)
7. Collect all samples (fill out WS!)

Site Description

Coordinates (decimal degrees): 43.43973 / -71.65114 (mark waypoint!)

Total water depth (units): 2'

Algae coverage: —

Tree cover: —

Wildlife: —

Other observations (sights, smells, etc) —

FOR QA PURPOSES, REPEAT YSI READINGS. RECORD TIME OF EACH READING

Data Collection

Parameter	Time 1: 10:20	Time 2: 10:25	Comment
Temperature °C	16.97	16.98	
Conductivity ms/cm	89	89	
Sp. Cond. ms/cm[c]	76	76	
DO %	113.2	112.7	
DO mg/L	10.95	10.90	
pH su	7.41	7.46	
Turbidity ntu	98.4	99.4	
Secchi Disk indicate units	Up: 2'		note units
	Down: 2'		note units

[redacted]

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet): 2'

Comments:

Depth feet	Temperature °C	DO %	DO mg/L
2	16.96	112.3	10.86
1	16.95	111.8	10.81

[redacted]

Station #: M029

Date: 9/21/10

Weather Conditions: CLEAR 65°

Sampler Names: ROBERT GRENIER

1. record site # (001 through 072)
2. record conditions and site description
3. record coordinates
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings, record times!
6. vertical DO/temp profile (if necessary at the site)
7. Collect all samples (fill out WS!)

Site Description

Coordinates (decimal degrees): 43.4334/-71.64962 (mark waypoint!)

Total water depth (units): 1'

Algae coverage: —

Tree cover: —

Wildlife: —

Other observations (sights, smells, etc) —

FOR QA PURPOSES, REPEAT YSI READINGS. RECORD TIME OF EACH READING

Data Collection

Parameter	Time 1: 11:05	Time 2: 11:10	Comment
Temperature °C	17.68	17.84	
Conductivity ms/cm	78	78	
Sp. Cond. ms/cm°	68	68	
DO %	105.8	114.9	
DO mg/L	10.97	10.91	
pH su	7.51	7.47	
Turbidity ntu	<.8	<.9	
Secchi Disk indicate units	Up: 1'		note units
	Down: 1'		note units

Vertical Profile Measurements

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet): 1'

Comments:

Depth feet	Temperature °C	DO %	DO mg/L
1'	17.68	115.8	10.97

Upper Merrimack and Pemigewasset River Study
Low-Flow Water Quality Survey #2
Field Measurement Worksheet

Station #: M036

Date: 9/21/2010

Weather Conditions: CLEAR - 70°

Sampler Names: ROBERT GARVER
WILL FRANKLIN

1. record site # (001 through 072)
2. record conditions and site description
3. record coordinates
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings, record times!
6. vertical DO/temp profile (if necessary at the site)
7. Collect all samples (fill out WS!)

Site Description

Coordinates (decimal degrees): 43.40814/-71.64329 (mark waypoint!)

Total water depth (units): 1'

Algae coverage: —

Tree cover: —

Wildlife: —

Other observations (sights, smells, etc) —

FOR QA PURPOSES, REPEAT YSI READINGS. RECORD TIME OF EACH READING

ata Collection

Parameter	**Time 1:** 2:30	**Time 2:** 2:35	Comment
Temperature °C	18.47	18.46	
Conductivity ms/cm	81	81	
Sp. Cond. ms/cm[c]	71	71	
DO %	119	117	
DO mg/L	11.14	10.97	
pH su	7.76	7.69	
Turbidity ntu	-.9	-.9	
Secchi Disk licate units	Up: 1		note units
	Down: 1		note units

Vertical Profile Measurements

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet): 1'

Comments:

Depth feet	Temperature °C	DO %	DO mg/L
1	18.48	117.6	11.01

[redacted]

Station #: M031

Date: 9/21/2010

Weather Conditions: CLEAR - 55°

Sampler Names: Will Feeney
Robert Garvey

1. record site # (001 through 072)
2. record conditions and site description
3. record coordinates
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings, record times!
6. vertical DO/temp profile (if necessary at the site)
7. Collect all samples (fill out WS!)

Site Description

Coordinates (decimal degrees): 43.38636 / -71.64729 (mark waypoint!)

Total water depth (units):

Algae coverage: —

Tree cover: —

Wildlife: —

Other observations (sights, smells, etc) —

FOR QA PURPOSES, REPEAT YSI READINGS. RECORD TIME OF EACH READING

Data Collection

Parameter	Time 1: 9:15	Time 2:	Comment
Temperature °C	16.34	16.36	
Conductivity ms/cm	89	89	
Sp. Cond. ms/cm°	74	74	
DO %	95.3	95.5	
DO mg/L	9.34	9.34	
pH su	7.26	7.21	
Turbidity ntu	0.6	0.7	
Secchi Disk Indicate units	Up: 6		note units
	Down: 6		note units

Vertical Profile Measurement

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet): 6'

Comments:

Depth feet	Temperature °C	DO %	DO mg/L
6	16.36	95.3	9.34
5	16.36	95.3	9.34
4	16.35	95.3	9.34
3	16.36	95.2	9.34
2	16.36	95.2	9.34
1	16.36	95.2	9.34

[redacted]

Station #: M032

Date: 9/21/2010

Weather Conditions: CLEAR · 78°

Sampler Names: ROBERT GARVEY
WILL FRENCH

1. record site # (001 through 072)
2. record conditions and site description
3. record coordinates
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings, record times!
6. vertical DO/temp profile (if necessary at the site)
7. Collect all samples (fill out WS!)

Site Description

Coordinates (decimal degrees): 43.36842/-71.64585 (mark waypoint!)

Total water depth (units): 4'

Algae coverage: —

Tree cover: —

Wildlife: —

Other observations (sights, smells, etc) —

FOR QA PURPOSES, REPEAT YSI READINGS. RECORD TIME OF EACH READING

Data Collection

Parameter	Time 1:	Time 2:	Comment
Temperature °C	18.08	18.00	
Conductivity ms/cm	89	89	
Sp. Cond. ms/cm°	77	77	
DO %	119.0	118.7	
DO mg/L	11.26	11.23	
pH su	7.67	7.64	
Turbidity ntu	0.4	1.0	
Secchi Disk indicate units	Up: 4'		note units
	Down: 4'		note units

Vertical Profile Measurements

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet): 4'

Comments:

Depth feet	Temperature °C	DO %	DO mg/L
4	18.07	119.0	11.26
3	17.94	118.8	11.26
2	17.99	118.7	11.24
1	17.97	118.6	11.22

Upper Merrimack and Pemigewasset River Study
Low-Flow Water Quality Survey #2
Field Measurement Worksheet

Station #: M033

Date: 9/21/2000

Weather Conditions: CLEAR 70°

Sampler Names: ROBERT GARVEY
WILL FRENCH

1. record site # (001 through 072)
2. record conditions and site description
3. record coordinates
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings, record times!
6. vertical DO/temp profile (if necessary at the site)
7. Collect all samples (fill out WS!)

Site Description

Coordinates (decimal degrees): 43.35673/-71.63805 (mark waypoint!)

Total water depth (units): 9'

Algae coverage: —

Tree cover: —

Wildlife: ✓

Other observations (sights, smells, etc) —

FOR QA PURPOSES, REPEAT YSI READINGS. RECORD TIME OF EACH READING

ata Collection

Parameter	Time 1: 2:00	Time 2:	Comment
Temperature °C	17.47	17.50	
Conductivity ms/cm	90	89	
Sp. Cond. ms/cm[c]	77	77	
DO %	115.8	114.6	
DO mg/L	11.08	10.96	
pH su	7.57	7.51	
Turbidity ntu	-1.0	-1.0	
Secchi Disk licate units	Up: 9'		note units
	Down: 9'		note units

Vertical Profile Measurements

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet): 9'

Comments:

Depth feet	Temperature °C	DO %	DO mg/L
9	17.47	114.8	10.98
8	17.47	114.7	10.97
7	17.48	114.7	10.98
6	17.48	114.8	10.98
5	17.49	114.7	10.97
4	17.50	114.8	10.98
3	17.51	114.8	10.98
2	17.50	114.7	10.97
1	17.50	114.6	10.96

[redacted]

Station #: ~~M033~~ ~~M030~~ M034

Date: 9/21/2010

Weather Conditions: clear/45°

Sampler Names: Robert Greney / Will French

1. record site # (001 through 072)
2. record conditions and site description
3. record coordinates
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings, record times!
6. vertical DO/temp profile (if necessary at the site)
7. Collect all samples (fill out WS!)

Site Description

Coordinates (decimal degrees): 43.40814 - 71.64329 (mark waypoint!)

Total water depth (units): 2.5'

Algae coverage: —

Tree cover: —

Wildlife: —

Other observations (sights, smells, etc) —

FOR QA PURPOSES, REPEAT YSI READINGS. RECORD TIME OF EACH READING

Data Collection

Parameter	Time 1:	Time 2:	Comment
Temperature °C	16.56	16.53	
Conductivity ms/cm	92	~~91~~ 91	
Sp. Cond. ms/cm°	77	77	
DO %	89.1	88.4	
DO mg/L	8.68	8.63	
pH su	8.45	7.47	
Turbidity ntu	0.2	0.2	
Secchi Disk (indicate units)	Up: 2.5		note units
	Down: 2.5		note units

Vertical Profile Measurements

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet): 2.5'

Comments:

Depth feet	Temperature °C	DO %	DO mg/L
2.5	16.56	88.6	8.64
1.5	16.55	88.6	8.65
0.5	16.54	88.7	8.65

[redacted]

Station #: T035

Date: 21-SEP. 10

Weather Conditions: CLEAR

Sampler Names: K.L. A.P.

1. record site # (001 through 072)
2. record conditions and site description
3. record coordinates
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings, record times!
6. vertical DO/temp profile (if necessary at the site)
7. Collect all samples (fill out WS!)

Site Description

Coordinates (decimal degrees): (mark waypoint!)

Total water depth (units): 4.81

Algae coverage: NO

Tree cover: NO

Wildlife: BLUE HERON

Other observations (sights, smells, etc) LIGHT BREEZE

FOR QA PURPOSES, REPEAT YSI READINGS. RECORD TIME OF EACH READING

Data Collection

Parameter	Time 1: 1:09	Time 2:	Comment
Temperature °C	18.18	18.10	
Conductivity ms/cm	0.097	0.097	
Sp. Cond. ms/cm[c]	0.112	0.112	
DO %	104.1	101.4	
DO mg/L	9.78	9.57	
pH su	7.77	7.67	
Turbidity ntu	599.0	0.3	
Secchi Disk Indicate units	Up: 5.4		note units
	Down: 5.4		note units

Vertical Profile Measurements

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet): _____

Comments: _____

Depth feet	Temperature °C	DO %	DO mg/L

[redacted]

Station #: M036

Date: 21-SEP.10

Weather Conditions: CLEAR

Sampler Names: KL. A.P

1. record site # (001 through 072)
2. record conditions and site description
3. record coordinates
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings, record times!
6. vertical DO/temp profile (if necessary at the site)
7. Collect all samples (fill out WS!)

Site Description

Coordinates (decimal degrees): SAME AS (mark waypoint!)

Total water depth (units): 7.6

Algae coverage: NO

Tree cover: NO

Wildlife: NONE

Other observations (sights, smells, etc) —

FOR QA PURPOSES, REPEAT YSI READINGS. RECORD TIME OF EACH READING

Data Collection

Parameter	Time 1: 1124	Time 2:	Comment
Temperature °C	17.36	17.36	
Conductivity ms/cm	0.078	0.075	
Sp. Cond. ms/cm[c]	0.087	0.088	
DO %	99.4	100%	
DO mg/L	9.55	9.59	
pH su	7.82	7.59	
Turbidity ntu	0.0	99.7	
Secchi Disk indicate units	Up: 7.6 —		note units
	Down: 7.6 —		note units

Vertical Profile Measurements

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet): _____

Comments: _____

Depth feet	Temperature °C	DO %	DO mg/L

[redacted]

Station #: M037

Date: 9/21/10

Weather Conditions: Partly cloudy, 70°sF

Sampler Names: AP & KL

1. record site # (001 through 072)
2. record conditions and site description
3. record coordinates
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings, record times!
6. vertical DO/temp profile (if necessary at the site)
7. Collect all samples (fill out WSI)

Site Description

Coordinates (decimal degrees): (mark waypoint!)

Total water depth (units): 2.3 ft

Algae coverage: None

Tree cover: None

Wildlife:

Other observations (sights, smells, etc) cow farm, low manure

FOR QA PURPOSES, REPEAT YSI READINGS. RECORD TIME OF EACH READING

Data Collection

Parameter	Time 1: 1:55pm	Time 2: 1:57	Comment
Temperature °C	17.52	17.53	
Conductivity ms/cm	0.0875	0.075	
Sp. Cond. ms/cm°	0.088	0.088	
DO %	100.6%	100.8	
DO mg/L	9.62	9.63	
pH su	7.80	7.61	
Turbidity ntu	0.1	3.8	
Secchi Disk indicate units	Up: 2.3 ft		note units
	Down: 2.3 Ft		note units

Vertical Profile Measurements

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet): _____

Comments: _____

_____

Depth feet	Temperature °C	DO %	DO mg/L

[redacted]

Station #: M038

Date: 9/21/2010

Weather Conditions: CLEAR - 70°

Sampler Names: ROBERT GARNER / WILL FRANCY

1. record site # (001 through 072)
2. record conditions and site description
3. record coordinates
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings, record times!
6. vertical DO/temp profile (if necessary at the site)
7. Collect all samples (fill out WS!)

Site Description

Coordinates (decimal degrees): (mark waypoint!)

Total water depth (units): 13'

Algae coverage: —

Tree cover: —

Wildlife: —

Other observations (sights, smells, etc) -

FOR QA PURPOSES, REPEAT YSI READINGS. RECORD TIME OF EACH READING

Data Collection

Parameter	Time 1: 12:10	Time 2: 12:20	Comment
Temperature °C	17.29	17.32	
Conductivity ms/cm	93	93	
Sp. Cond. ms/cm°	79	79	
DO %	123.8	110.4	
DO mg/L	11.65	10.59	
pH su	7.59	7.40	
Turbidity ntu	0.7	0.7	
Secchi Disk indicate units	Up: 13'		note units
	Down: 13'		note units

Vertical Profile Measurements

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet): 13'

Comments:

Depth feet	Temperature °C	DO %	DO mg/L
13	17.25	112.0	10.75
12	17.29	111.5	10.71
11	17.28	111.2	10.63
10	17.33	111.2	10.68
9	17.35	111.3	10.68
8	17.34	111.3	10.68
7	17.35	111.3	10.67
6	17.34	111.2	10.67
5	17.34	111.1	10.68
4	17.30	110.9	10.65
3	17.29	110.7	10.63
2	17.31	110.5	10.61
1	17.31	110.6	10.62

[redacted]

Station #: M039

Date: 9/21/10

Weather Conditions: Sunny, 70s°F

Sampler Names: AP & KL

1. record site # (001 through 072)
2. record conditions and site description
3. record coordinates
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings, record times!
6. vertical DO/temp profile (if necessary at the site)
7. Collect all samples (fill out WS!)

Site Description

Coordinates (decimal degrees): Same as (mark waypoint!)

Total water depth (units): 3.3'

Algae coverage: no

Tree cover: no

Wildlife: no

Other observations (sights, smells, etc) wind

FOR QA PURPOSES, REPEAT YSI READINGS. RECORD TIME OF EACH READING

Data Collection

Parameter	Time 1: 12:00	Time 2: 12:19	Comment
Temperature °C	17.59	17.56	
Conductivity ms/cm	0.076	0.0876	
Sp. Cond. ms/cm[c]	0.089	0.089	
DO %	98%	95.5	
DO mg/L	9.33	9.13	
pH su	7.61	7.23	
Turbidity ntu	0.0	0.0	
Secchi Disk indicate units	Up: 3.3'		note units
	Down: 3.3'		note units

[redacted]

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet): _____

Comments: _____

Depth feet	Temperature °C	DO %	DO mg/L

[redacted]

Station #: M040

Date: 9/21/10

Weather Conditions: Sunny 60°F

Sampler Names: APB KL

1. record site # (001 through 072)
2. record conditions and site description
3. record coordinates
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings, record times!
6. vertical DO/temp profile (if necessary at the site)
7. Collect all samples (fill out WS!)

Site Description

Coordinates (decimal degrees): Same as (mark waypoint!)

Total water depth (units): 5.8'

Algae coverage: No

Tree cover: NO

Wildlife: NO

Other observations (sights, smells, etc) Late windy –

FOR QA PURPOSES, REPEAT YSI READINGS. RECORD TIME OF EACH READING

Data Collection

Parameter	Time 1:	Time 2:	Comment
Temperature °C	17.78	17.78	
Conductivity ms/cm	0.078	0.078	
Sp. Cond. ms/cm[c]	0.090	0.090	
DO %	104.1	102.4	
DO mg/L	9.89	9.73	
pH su	7.52	7.44	
Turbidity ntu	0.1	0.1	
Secchi Disk indicate units	Up: 6.0		note units
	Down: 6.0		note units

Vertical Profile Measurements

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet): _____

Comments: _____

Depth feet	Temperature °C	DO %	DO mg/L

[redacted]

Station #: M041

Date: 9/21/10

Weather Conditions: Partly cloudy, 70°sF

Sampler Names: AP & KL

1. record site # (001 through 072)
2. record conditions and site description
3. record coordinates
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings, record times!
6. vertical DO/temp profile (if necessary at the site)
7. Collect all samples (fill out WS!)

Site Description

Coordinates (decimal degrees): (mark waypoint!)

Total water depth (units): 6.4 ft

Algae coverage: None

Tree cover: None

Wildlife: None

Other observations (sights, smells, etc)

FOR QA PURPOSES, REPEAT YSI READINGS. RECORD TIME OF EACH READING

Data Collection

Parameter	Time 1: 3:10	Time 2: 3:13	Comment
Temperature °C	18.12	18.02	
Conductivity ms/cm	0.079	0.079	
Sp. Cond. ms/cm°	0.091	0.091	
DO %	104.6	103.7	
DO mg/L	9.87	9.81	
pH su	7.78	7.68	
Turbidity ntu	4.4	4.3	
Secchi Disk indicate units	Up: 6.4 ft		note units
	Down: 6.4 ft		note units

Vertical Profile [illegible]

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet): _____

Comments: _____

_____

Depth feet	Temperature °C	DO %	DO mg/L

[redacted]

Station #: M042

Date: 9/21/10

Weather Conditions: Sunny, 60s°F

Sampler Names: AP & LR

1. record site # (001 through 072)
2. record conditions and site description
3. record coordinates
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings, record times!
6. vertical DO/temp profile (if necessary at the site)
7. Collect all samples (fill out WS!)

Site Description

Coordinates (decimal degrees): (mark waypoint!)

Total water depth (units): 13.9

Algae coverage: no

Tree cover: no

Wildlife: no

Other observations (sights, smells, etc) none

FOR QA PURPOSES, REPEAT YSI READINGS. RECORD TIME OF EACH READING

Data Collection

Parameter	Time 1: 10:20AM	Time 2:	Comment
Temperature °C	~~12.04~~ 12.74	12.77	
Conductivity ms/cm	0.084	0.084	
Sp. Cond. ms/cm°	0.091	0.091	
DO %	~~8.3~~ 96.3 %	96.7	
DO mg/L	9.16	9.20	
pH su	7.60	7.40	
Turbidity ntu	0.0	506.9	wind and current picked up, calm when we anchored
Secchi Disk indicate units	Up: 4'		note units
	Down: 6'		note units

Vertical Profile Measurements

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet):

Comments:

Depth feet	Temperature °C	DO %	DO mg/L

[redacted]

Station #: M043

Date: 9/21/10

Weather Conditions: Sunny, 70's

Sampler Names: CAF/KP

1. record site # (001 through 072)
2. record conditions and site description
3. record coordinates
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings, record times!
6. vertical DO/temp profile (if necessary at the site)
7. Collect all samples (fill out WS!)

Site Description

Coordinates (decimal degrees): 43.16099362 N 71.49823388 W (mark waypoint!)

Total water depth (units): 3.2'

Algae coverage: No

Tree cover: No

Wildlife: eagle, Ducks

Other observations (sights, smells, etc)

FOR QA PURPOSES, REPEAT YSI READINGS. RECORD TIME OF EACH READING

Data Collection

Parameter	Time 1: 1320	Time 2: 1335	Comment
Temperature °C	18.90	18.94	
Conductivity ms/cm	95	95	
Sp. Cond. ms/cm[c]	84	84	
DO %	77.4	77.3	
DO mg/L	7.21	7.16	
pH su	7.49	7.50	
Turbidity ntu	-0.6	-0.8	
Secchi Disk indicate units	Up: 3.2'		note units
	Down: 3.2'		note units

Vertical Profile Measurements

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet):

Comments:

Depth feet	Temperature °C	DO %	DO mg/L

[redacted]

Station #: T044

Date: 9/21/10

Weather Conditions: Sunny, 50's

Sampler Names: AF/KP

1. record site # (001 through 072)
2. record conditions and site description
3. record coordinates
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings, record times!
6. vertical DO/temp profile (if necessary at the site)
7. Collect all samples (fill out WS!)

Site Description

Coordinates (decimal degrees): 43.16015484 N 71.49324491 W (mark waypoint!)

Total water depth (units): 1.0'

Algae coverage: No

Tree cover: 10%

Wildlife: No

Other observations (sights, smells, etc)

FOR QA PURPOSES, REPEAT YSI READINGS. RECORD TIME OF EACH READING

Data Collection

Parameter	Time 1: 1250	Time 2: 1305	Comment
Temperature °C	14.03	14.05	
Conductivity ms/cm	216	217	
Sp. Cond. ms/cm[c]	171	172	
DO %	76.7	76.0	
DO mg/L	7.89	7.78	
pH su	7.21	7.23	
Turbidity ntu	-1.0	-0.9	
Secchi Disk indicate units	Up: 1.0'		ft. note units
	Down: 1.0'		ft. note units

Vertical Profile Temperature

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet): _____

Comments: _____

Depth feet	Temperature °C	DO %	DO mg/L

[redacted]

Station #: M045

Date: 9/21/10

Weather Conditions: Sunny, 70's

Sampler Names: CAF/KP

1. record site # (001 through 072)
2. record conditions and site description
3. record coordinates
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings, record times!
6. vertical DO/temp profile (if necessary at the site)
7. Collect all samples (fill out WS!)

Site Description

Coordinates (decimal degrees): 43.14724753 N 71.47349303 W (mark waypoint!)

Total water depth (units): 6.1'

Algae coverage: No

Tree cover: No

Wildlife: No

Other observations (sights, smells, etc)

FOR QA PURPOSES, REPEAT YSI READINGS. RECORD TIME OF EACH READING

Data Collection

Parameter	Time 1: 1350	Time 2: 1405	Comment
Temperature °C	18.26	18.29	
Conductivity ms/cm	96	96	
Sp. Cond. ms/cm[c]	84	84	
DO %	83.4	83.8	
DO mg/L	8.80	7.89	
pH su	7.31	7.31	
Turbidity ntu	-1.2	-1.2	
Secchi Disk (indicate units)	Up: 6.1'		ft. note units
	Down: 6.1'		ft. note units

Vertical Profile Measurements

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet): 6.1'

Comments:

Depth feet	Temperature °C	DO %	DO mg/L
2'	18.26	92.9	8.74
4'	18.23	92.5	8.71
6'	18.22	92.1	8.67

[redacted]

Station #: T046

Date: 9/21/10

Weather Conditions: partly cloudy, 70's

Sampler Names: CAR/KP

1. record site # (001 through 072)
2. record conditions and site description
3. record coordinates
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings, record times!
6. vertical DO/temp profile (if necessary at the site)
7. Collect all samples (fill out WS!)

Site Description

Coordinates (decimal degrees): 43.12932635N 71.46137929 W (mark waypoint!)

Total water depth (units): 1.8

Algae coverage: No

Tree cover: 20%

Wildlife: Duck, geese

Other observations (sights, smells, etc)

FOR QA PURPOSES, REPEAT YSI READINGS. RECORD TIME OF EACH READING

Data Collection

Parameter	Time 1: 1500	Time 2: 1515	Comment
Temperature °C	19.36	19.35	
Conductivity ms/cm	114	115	
Sp. Cond. ms/cm[c]	102	102	
DO %	72.4	71.5	
DO mg/L	6.68	6.65	
pH su	7.41	7.40	
Turbidity ntu	-0.1	-0.1	
Secchi Disk indicate units	Up:		note units
	Down:		note units

Vertical Profile Measurements

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet):

Comments:

Depth feet	Temperature °C	DO %	DO mg/L

[redacted]

Station #: M047

Date: 9/21/10

Weather Conditions: partly cloudy, 70's

Sampler Names: CAF / KP

1. record site # (001 through 072)
2. record conditions and site description
3. record coordinates
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings, record times!
6. vertical DO/temp profile (if necessary at the site)
7. Collect all samples (fill out WS!)

Site Description

Coordinates (decimal degrees): 43.13142596 N 71.46360540 W (mark waypoint!)

Total water depth (units): 12.5'

Algae coverage: No

Tree cover: No

Wildlife: Ducks

Other observations (sights, smells, etc)

FOR QA PURPOSES, REPEAT YSI READINGS. RECORD TIME OF EACH READING

Data Collection

Parameter	Time 1: 1435	Time 2: 1450	Comment
Temperature °C	24.39	24.22	
Conductivity ms/cm	98	98	
Sp. Cond. ms/cm[c]	96	96	
DO %	72.4	71.5	
DO mg/L	6.05	6.80	
pH su	7.46	7.44	
Turbidity ntu	-0.9	-0.9	
Secchi Disk indicate units	Up: 9.0		note units
	Down: 9.0		note units

Vertical Profile Measurements

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet): 12.5'

Comments:

Depth feet	Temperature °C	DO %	DO mg/L
2'	24.41	72.5	6.06
4'	24.37	72.5	6.06
6'	19.46	72.0	6.45
8'	18.75	70.6	6.56
10'	18.41	70.4	6.59
12'	18.12	69.5	6.56

[redacted]

Station #: M048

Date: 9/21/10

Weather Conditions: 50's sun coming up

Sampler Names: CAF / KP

1. record site # (001 through 072)
2. record conditions and site description
3. record coordinates
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings, record times!
6. vertical DO/temp profile (if necessary at the site)
7. Collect all samples (fill out WSI)

Site Description

Coordinates (decimal degrees): 43.11990195 N 71.46611106 W (mark waypoint!)

Total water depth (units): 5.9'

Algae coverage: No

Tree cover: No

Wildlife: Ducks / Gulls

Other observations (sights, smells, etc)

FOR QA PURPOSES, REPEAT YSI READINGS. RECORD TIME OF EACH READING

Data Collection

Parameter	Time 1: 0652	Time 2: 0659	Comment
Temperature °C	21.38	21.31	
Conductivity ms/cm	97	97	
Sp. Cond. ms/cm°	91	91	
DO %	113.7	113.8	
DO mg/L	10.07	10.07	
pH su	7.19	7.23	
Turbidity ntu	0.0	0.0	
Secchi Disk indicate units	Up: 5.9'		ft. note units
	Down: 5.9'		ft. note units

Profile Measurements

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet): 6.9'

Comments: Time - 1600

Depth feet	Temperature °C	DO %	DO mg/L
2'	22.63	75.0	6.48
4'	22.12	74.6	6.49
6'	19.28	74.3	6.82

[redacted]

Station #: M049

Date: 9/21/10

Weather Conditions: Partly Cloudy

Sampler Names: CAR/KP

1. record site # (001 through 072)
2. record conditions and site description
3. record coordinates
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings, record times!
6. vertical DO/temp profile (if necessary at the site)
7. Collect all samples (fill out WS!)

Site Description

Coordinates (decimal degrees): 43.10605768 N 71.46605632 W (mark waypoint!)

Total water depth (units): 10.3'

Algae coverage: No

Tree cover: No

Wildlife: No

Other observations (sights, smells, etc)

FOR QA PURPOSES, REPEAT YSI READINGS. RECORD TIME OF EACH READING

Data Collection

Parameter	Time 1: 1530	Time 2: 1545	Comment
Temperature °C	21.97	21.91	
Conductivity ms/cm	98	98	
Sp. Cond. ms/cm°	92	92	
DO %	65.5	65.3	
DO mg/L	5.73	5.72	
pH su	7.46	7.43	
Turbidity ntu	-1.3	-1.3	
Secchi Disk indicate units	Up:		note units
	Down:		note units

Vertical Profile Measurements

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet): 10.3'

Comments:

Depth feet	Temperature °C	DO %	DO mg/L
2'	21.96	65.6	5.74
4'	21.90	65.6	5.74
6'	21.83	65.5	5.75
8'	21.16	65.2	5.78
10'	20.98	64.5	5.75

[redacted]

Station #: M050

Date: 9/21/10

Weather Conditions: Sunny, 60's

Sampler Names: CAF / KP

1. record site # (001 through 072)
2. record conditions and site description
3. record coordinates
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings, record times!
6. vertical DO/temp profile (if necessary at the site)
7. Collect all samples (fill out WS!)

Site Description

Coordinates (decimal degrees): 43.0996961 N 71.46327211 W (mark waypoint!)

Total water depth (units): 12.5'

Algae coverage: No

Tree cover: No

Wildlife: Gull, Duck, Cormorants

Other observations (sights, smells, etc)

FOR QA PURPOSES, REPEAT YSI READINGS. RECORD TIME OF EACH READING

Data Collection

Parameter	Time 1: 1120	Time 2: 1135	Comment
Temperature °C	20.38	20.43	
Conductivity ms/cm	98	98	
Sp. Cond. ms/cm[c]	90	90	
DO %	85.7	83.7	
DO mg/L	7.73	7.54	
pH su	7.33	7.34	
Turbidity ntu	-1.5	-1.5	
Secchi Disk indicate units	Up: 12.3'		ft. note units
	Down: 12.3		ft. note units

Vertical Profile Worksheet

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet): 12.3'

Comments:

Depth feet	Temperature °C	DO %	DO mg/L
2	20.39	85.4	7.71
4	20.39	85.4	7.71
6	20.37	85.4	7.71
8	20.36	85.4	7.71
10	20.38	85.4	7.70
12	20.38	85.4	7.71

[redacted]

Station #: M051

Date: 9/21/10

Weather Conditions: Sunny, 60's

Sampler Names: CAE / KP

1. record site # (001 through 072)
2. record conditions and site description
3. record coordinates
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings, record times!
6. vertical DO/temp profile (if necessary at the site)
7. Collect all samples (fill out WS!)

Site Description

Coordinates (decimal degrees): 43.0753282°N 71.4639665°W (mark waypoint!)

Total water depth (units): 12.3'

Algae coverage: No

Tree cover: No

Wildlife: No

Other observations (sights, smells, etc)

FOR QA PURPOSES, REPEAT YSI READINGS. RECORD TIME OF EACH READING

Data Collection

Parameter	Time 1: 1050	Time 2: 1150	Comment
Temperature °C	19.98	20.5	
Conductivity ms/cm	99	100	
Sp. Cond. ms/cm°	90	90	
DO %	84.9	84.4	
DO mg/L	7.72	7.67	
pH su	7.26	7.29	
Turbidity ntu	-1.3	-1.4	
Secchi Disk indicate units	Up: 12.3'		note units
	Down: 12.3'		note units

Vertical Profile Measurements

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet): 12.3

Comments:

Depth feet	Temperature °C	DO %	DO mg/L
2	19.98	85.4	7.76
4	19.83	85.3	7.78
6	19.78	85.2	7.79
8	19.76	85.1	7.78
10	19.68	85.0	7.78
12	19.64	85.0	7.78

[redacted]

Station #: M052

Date: 9/21/10

Time:

Weather Conditions: Partly cloudy, 60's

Sampler Names: CAF/KP

1. record site # (001 through 072)
2. record conditions and site description
3. write down coordinates
4. collect data with YSI (twice, record times!)
5. bacteria samples (fill out collection WS!)
6. vertical DO/temp profile (if necessary at the site)

Site Description

Coordinates (decimal degrees):

Total water depth (units):

Algae coverage:

Tree cover:

Wildlife:

Other observations (sights, smells, etc)

FOR QA PURPOSES, REPEAT YSI READINGS. RECORD TIME OF EACH READING

Data Collection

Parameter	**Time 1:**	**Time 2:**	Comment
Temperature °C			
Conductivity ms/cm			
Sp. Cond. ms/cm°			
DO %			
DO mg/L			
pH su			

[redacted]

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet): 17.5'

Comments: Time 1500

Depth feet	Temperature °C	DO %	DO mg/L
2'	20.60	102.5	9.18
4'	20.50	98.1	8.80
6'	20.37	95.7	8.64
8'	20.09	93.0	8.45
10'	19.98	91.5	8.31
12'	19.91	90.1	8.19
14'	19.90	88.7	8.05
16'	19.89	87.5	7.97

[redacted]

Station #: M053

Date: 9/21/10

Weather Conditions: Sunny, 60's

Sampler Names: CAF / KP

1. record site # (001 through 072)
2. record conditions and site description
3. record coordinates
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings, record times!
6. vertical DO/temp profile (if necessary at the site)
7. Collect all samples (fill out WS!)

Site Description

Coordinates (decimal degrees): 43.04030398 N 71.46209211 W (mark waypoint!)

Total water depth (units): 18.6'

Algae coverage: No

Tree cover: No

Wildlife: Gulls

Other observations (sights, smells, etc)

FOR QA PURPOSES, REPEAT YSI READINGS. RECORD TIME OF EACH READING

Data Collection

Parameter	Time 1: 1011	Time 2: 1025	Comment
Temperature °C	19.98	20.07	
Conductivity ms/cm	103	103	
Sp. Cond. ms/cm[c]	93	94	
DO %	85.9	86.8	
DO mg/L	7.81	7.88	
pH su	7.19	7.11	
Turbidity ntu	-0.2	-1.4	
Secchi Disk indicate units	Up: 18.6'		ft note units
	Down: 18.6'		ft. note units

Vertical Profile Measurements

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet): 18.6'

Comments:

Depth feet	Temperature °C	DO %	DO mg/L
2	~~19.98~~ 19.98	86.3	7.84
4	19.96	86.4	7.86
6	19.95	86.4	7.86
8	19.93	86.4	7.87
10	19.89	86.4	7.87
12	19.87	86.3	7.87
14	19.86	86.3	7.87
16	19.83	86.3	7.88
18	19.83	86.3	7.88

[redacted]

Station #: M054

Date: 9/21/10

Weather Conditions: Sunny 60's

Sampler Names: CAF/KP

1. record site # (001 through 072)
2. record conditions and site description
3. record coordinates
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings, record times!
6. vertical DO/temp profile (if necessary at the site)
7. Collect all samples (fill out WSI)

Site Description

Coordinates (decimal degrees): 43.00539149 N 71.47068409 W (mark waypoint!)

Total water depth (units): 13.2'

Algae coverage: No

Tree cover: No

Wildlife: Ducks

Other observations (sights, smells, etc)

FOR QA PURPOSES, REPEAT YSI READINGS. RECORD TIME OF EACH READING

Data Collection

Parameter	Time 1: 0935	Time 2: 0950	Comment
Temperature °C	19.79	19.81	
Conductivity ms/cm	102	102	
Sp. Cond. ms/cm°	92	92	
DO %	91.0	89.1	
DO mg/L	8.29	8.13	
pH su	7.15	7.15	
Turbidity ntu	-1.4	-1.0	
Secchi Disk indicate units	Up: 13.2'		ft. note units
	Down: 13.2'		ft. note units

Vertical Profile Measurements

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet):

Comments:

Depth feet	Temperature °C	DO %	DO mg/L
2	19.80	90.2	8.23
4	19.80	90.1	8.23
6	19.79	90.2	8.23
8	19.75	90.0	8.22
10	19.71	89.8	8.20
12	19.70	89.4	8.18

[redacted]

Station #: M055

Date: 9-21-10
1710

Weather Conditions: Sunny, 65°

Sampler Names: S. Carey, J. Gross

1. record site # (001 through 072)
2. record conditions and site description
3. record coordinates
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings, record times!
6. vertical DO/temp profile (if necessary at the site)
7. Collect all samples (fill out WS!)

Site Description

Coordinates (decimal degrees): 42.9819°N 71.4684° W (mark waypoint!)

Total water depth (units): 5.67'

Algae coverage: Long green algae

Tree cover: Along banks only

Wildlife: birds

Other observations (sights, smells, etc)

FOR QA PURPOSES, REPEAT YSI READINGS. RECORD TIME OF EACH READING

Data Collection

Parameter	Time 1: 1710	Time 2: 1711	Comment
Temperature °C	20.37	20.37	
Conductivity ms/cm	101	101	
Sp. Cond. ms/cm	111	110	
DO %	105.6	106.1	
DO mg/L	9.54	9.57	
pH su	8.01	7.91	
Turbidity ntu	-0.9	-0.9	
Secchi Disk Indicate units	Up:		note units
	Down:		note units

Vertical Profile Measurements

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet): _____

Comments: _____

Depth feet	Temperature °C	DO %	DO mg/L

[redacted]

Station #: T056

Date: 9-21-10

Weather Conditions: Sunny 70F

Sampler Names: J. Bagen / SC / Jared

1. record site # (001 through 072)
2. record conditions and site description
3. record coordinates
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings, record times!
6. vertical DO/temp profile (if necessary at the site)
7. Collect all samples (fill out WSI)

Site Description

Coordinates (decimal degrees): 42.9802 N / 71.4751 W (mark waypoint!)

Total water depth (units): 0.5'

Algae coverage: 80%

Tree cover: 35%

Wildlife: birds

Other observations (sights, smells, etc) rust sediment; rocky bottom w/ some silt. generally water levels around <1', wide, slow stream; some debris/trash in river

FOR QA PURPOSES, REPEAT YSI READINGS. RECORD TIME OF EACH READING

Data Collection

Parameter	Time 1:	Time 2:	Comment
Temperature °C	15.78	15.78	
Conductivity ms/cm	210	~~255~~ 210	
Sp. Cond. ms/cm[c]	255	255	
DO %	93.5	93.6	
DO mg/L	9.26	9.28	
pH su	7.49	7.45	
Turbidity ntu	-0.1	-0.2	
Secchi Disk indicate units	Up: n/a	too shallow	note units
	Down:		note units

Vertical Profile Measurements

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet):

Comments:

Depth feet	Temperature °C	DO %	DO mg/L

[redacted]

Station #: M057

Date: 9/21/10

Weather Conditions: CLEAR

Sampler Names: SEAN STINNELL
JOANNE THERIAULT

1. record site # (001 through 072)
2. record conditions and site description
3. record coordinates
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings, record times!
6. vertical DO/temp profile (if necessary at the site)
7. Collect all samples (fill out WS!)

Site Description

Coordinates (decimal degrees): 42.9477 71.4614 (mark waypoint!)

Total water depth (units): 7.5'

Algae coverage: Ø

Tree cover: Ø

Wildlife: none

Other observations (sights, smells, etc) lots of SAV

FOR QA PURPOSES, REPEAT YSI READINGS. RECORD TIME OF EACH READING

Data Collection

Parameter	Time 1: 1715	Time 2: 1739	Comment
Temperature °C	20.33	20.31	
Conductivity ms/cm	116	115	
Sp. Cond. ms/cm[c]	105	105	
DO %	110.1	107.6	
DO mg/L	9.94	9.68	
pH su	7.65	7.57	
Turbidity ntu	-0.2	-0.6	
Secchi Disk indicate units	Up: 7.5		FT note units
	Down: 7.5		FT note units

Vertical Profile Measurements

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet): 7.5

Comments:

Depth feet	Temperature °C	DO %	DO mg/L
6	20.31	106.6	9.63
5	20.31	106.7	9.63
4	20.31	106.8	9.64
3	20.31	106.9	9.66
2	20.32	107.0	9.67
1	20.31	106.8	9.64

[redacted]

Station #: M058

Date: 9-21-10
1630

Weather Conditions: Sunny, 65°

Sampler Names: S. Carey, J. Gross

1. record site # (001 through 072)
2. record conditions and site description
3. record coordinates
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings, record times!
6. vertical DO/temp profile (if necessary at the site)
7. Collect all samples (fill out WS!)

Site Description

Coordinates (decimal degrees): 42.9368° N 71.4564° W (mark waypoint!)

Total water depth (units): 2-1'

Algae coverage: long green algae

Tree cover: minimal <~5%

Wildlife: birds fish

Other observations (sights, smells, etc) —

FOR QA PURPOSES, REPEAT YSI READINGS. RECORD TIME OF EACH READING

Data Collection

Parameter	Time 1: 1630	Time 2: 1631	Comment
Temperature °C	20.41	20.41	
Conductivity ms/cm	111	111	
Sp. Cond. ms/cm°	121	121	
DO %	120.2	120.8	
DO mg/L	10.86	10.90	
pH su	8.78	8.81	
Turbidity ntu	-0.6	-0.7	
Secchi Disk indicate units	Up:		note units
	Down:		note units

Vertical Profile Measurements

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet):

Comments:

Depth feet	Temperature °C	DO %	DO mg/L

[redacted]

Station #: T059

Date: 9.21.10

Weather Conditions: Sunny 60°F

Sampler Names: JG/SC/JG

1. record site # (001 through 072)
2. record conditions and site description
3. record coordinates
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings, record times!
6. vertical DO/temp profile (if necessary at the site)
7. Collect all samples (fill out WS!)

Site Description

Coordinates (decimal degrees): (no signal) (mark waypoint!)

Total water depth (units): 1.1'

Algae coverage: 70% Short, brown

Tree cover: ~~60%~~ 75%

Wildlife: birds, squirrel observed

Other observations (sights, smells, etc) none

FOR QA PURPOSES, REPEAT YSI READINGS. RECORD TIME OF EACH READING

Data Collection

Parameter	Time 1:	Time 2:	Comment
Temperature °C	17.18°C	17.18	
Conductivity ms/cm	393	393	
Sp. Cond. ms/cm°	462	462	
DO %	90.5	90.6	
DO mg/L	8.70	8.71	
pH su	7.53	7.52	
Turbidity ntu	~~667.5~~ 0.1	0.1	
Secchi Disk indicate units	Up: n/a		note units
	Down:		note units

Vertical Profile Measurements

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet): _____

Comments: _____

Depth feet	Temperature °C	DO %	DO mg/L

[redacted]

Station #: M060

Date: 9-21-10

Weather Conditions: Sunny

Sampler Names: Steve Carey, Julie Gagen, Jared Gross

1. record site # (001 through 072)
2. record conditions and site description
3. record coordinates
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings, record times!
6. vertical DO/temp profile (if necessary at the site)
7. Collect all samples (fill out WS!)

Site Description

Coordinates (decimal degrees): 42.8237°N 71.4537 W (mark waypoint!)

Total water depth (units): 5.8'

Algae coverage: On banks

Tree cover: Along banks

Wildlife: Birds

Other observations (sights, smells, etc)

FOR QA PURPOSES, REPEAT YSI READINGS. RECORD TIME OF EACH READING

Data Collection

Parameter	Time 1: 10:00	Time 2: 10:01	Comment
Temperature °C	18.86	18.85	
Conductivity ms/cm	118	118	
Sp. Cond. ms/cm[c]	134	134	
DO %	90.9	91.0	
DO mg/L	8.46	8.47	
pH su	7.64	7.58	
Turbidity ntu	-0.5	-0.5	
Secchi Disk indicate units	Up:		note units
	Down:		note units

Vertical Profile Measurements

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet):

Comments:

Depth feet	Temperature °C	DO %	DO mg/L

[redacted]

Station #: M061

Date: 9-21-10

Weather Conditions: Sunny, 70°

Sampler Names: S. Carey, J. Gagen, J. Gross

1. record site # (001 through 072)
2. record conditions and site description
3. record coordinates
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings, record times!
6. vertical DO/temp profile (if necessary at the site)
7. Collect all samples (fill out WS!)

Site Description

Coordinates (decimal degrees): 42.9186° N 71.4545° W (mark waypoint!)

Total water depth (units): 8.5'

Algae coverage: None Present

Tree cover: Along Banks

Wildlife: Birds, Fish

Other observations (sights, smells, etc)

FOR QA PURPOSES, REPEAT YSI READINGS. RECORD TIME OF EACH READING

Data Collection

Parameter	Time 1: 12:40	Time 2: 12:41	Comment
Temperature °C	19.49	19.49	
Conductivity ms/cm	125	124	
Sp. Cond. ms/cm°	139	139	
DO %	99.4	99.6	
DO mg/L	9.16	9.15	
pH su	7.64	7.60	
Turbidity ntu	-.7	-.7	
Secchi Disk indicate units	Up:		note units
	Down:		note units

Vertical Profile Measurements

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet): _____

Comments: _____

Depth feet	Temperature °C	DO %	DO mg/L

[redacted]

Station #: M062

Date: 9 - 21 - 10
1545

Weather Conditions: Sunny, 65°

Sampler Names: S. Carey, J. Gross

1. record site # (001 through 072)
2. record conditions and site description
3. record coordinates
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings, record times!
6. vertical DO/temp profile (if necessary at the site)
7. Collect all samples (fill out WS!)

Site Description

Coordinates (decimal degrees): 42.8806°N 71.4722°W (mark waypoint!)

Total water depth (units): > 20'

Algae coverage: None / Minimal

Tree cover: Only Along Banks

Wildlife: Frogs, Birds.

Other observations (sights, smells, etc)

FOR QA PURPOSES, REPEAT YSI READINGS. RECORD TIME OF EACH READING

Data Collection

Parameter	Time 1: 1545	Time 2: 1546	Comment
Temperature °C	19.56	19.56	
Conductivity ms/cm	127	126	
Sp. Cond. ms/cm°	141	141	
DO %	102.8	102.1	
DO mg/L	9.43	9.38	
pH su	7.79	7.72	
Turbidity ntu	-0.7	-0.7	
Secchi Disk indicate units	Up:		note units
	Down:		note units

Vertical Profile Measurements

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet): _____

Comments: _____

Depth feet	Temperature °C	DO %	DO mg/L

[redacted]

Station #: T064

Date: 9-21-10

Weather Conditions: 70° SUNNY (LOC. IN SHADE)

Sampler Names: SC, J GROSS

1. record site # (001 through 072)
2. record conditions and site description
3. record coordinates
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings, record times!
6. vertical DO/temp profile (if necessary at the site)
7. Collect all samples (fill out WS!)

Site Description

Coordinates (decimal degrees): (mark waypoint!)

Total water depth (units): 1' 2"

Algae coverage: SOME - SHORT, BROWN ALGAE

Tree cover: 50%

Wildlife: YES - BIRDS, CHIPMUNKS FISH

Other observations (sights, smells, etc)

FOR QA PURPOSES, REPEAT YSI READINGS. RECORD TIME OF EACH READING

Data Collection

Parameter	Time 1: 14:15	Time 2:	Comment
Temperature °C	17.43	17.44	
Conductivity ms/cm	233	233	
Sp. Cond. ms/cm[c]	273	273	
DO %	111.1	111.3	
DO mg/L	10.63	10.65	
pH su	7.89	7.90	
Turbidity ntu	1.4	1.6	
Secchi Disk Indicate units	Up:		note units
	Down:		note units

Vertical Profile Measurements

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet):

Comments:

Depth feet	Temperature °C	DO %	DO mg/L

[redacted]

Station #: M065

Date: 9/21/2010

Weather Conditions: CLEAR

Sampler Names: SEAN STIMMELL
JOANNE THERIAULT

1. record site # (001 through 072)
2. record conditions and site description
3. record coordinates
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings, record times!
6. vertical DO/temp profile (if necessary at the site)
7. Collect all samples (fill out WS!)

Site Description

Coordinates (decimal degrees): 42.812899 & 71.473594 (mark waypoint!)

Total water depth (units): 10

Algae coverage: Ø

Tree cover: Ø

Wildlife: CORMORANT

Other observations (sights, smells, etc) SEWAGE SMELL FROM WEST BANK

FOR QA PURPOSES, REPEAT YSI READINGS. RECORD TIME OF EACH READING

Data Collection

Parameter	Time 1: 1034	Time 2: 1135	Comment
Temperature °C	18.94	19.17	
Conductivity ms/cm	141	141	
Sp. Cond. ms/cm°	124	125	
DO %	98.9	98.9	
DO mg/L	9.10	9.13	
pH su	7.39	7.13	
Turbidity ntu	-0.6	-0.3	
Secchi Disk indicate units	Up: 10		FT note units
	Down: 10		FT note units

Vertical Profile Measurements

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet): 10

Comments:

Depth feet	Temperature °C	DO %	DO mg/L
9	18.78	92.9	8.65
8	18.77	92.2	8.59
7	18.81	92.1	8.58
6	18.79	92.2	8.59
5	18.87	92.9	8.63
4	18.85	93.4	8.71
3	18.91	93.6	8.70
2	18.92	93.7	8.71
1	18.98	94.1	8.73

[redacted]

Station #: M066

Date: 9/21/10

Weather Conditions: CLEAR

Sampler Names: SEAN STINNELL
JOANNE THERIAULT

1. record site # (001 through 072)
2. record conditions and site description
3. record coordinates
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings, record times!
6. vertical DO/temp profile (if necessary at the site)
7. Collect all samples (fill out WS!)

Site Description

Coordinates (decimal degrees): 42.804 71.471 (mark waypoint!)

Total water depth (units): 10.5

Algae coverage: Ø

Tree cover: Ø

Wildlife: none

Other observations (sights, smells, etc) —

FOR QA PURPOSES, REPEAT YSI READINGS. RECORD TIME OF EACH READING

Data Collection

Parameter	Time 1: 1542	Time 2: 1656	Comment
Temperature °C	19.81	19.62	
Conductivity ms/cm	154.	142	
Sp. Cond. ms/cm°	139	127	
DO %	99.8	98.9	
DO mg/L	9.11	9.04	
pH su	7.17	7.02	
Turbidity ntu	-0.2	-0.2	
Secchi Disk indicate units	Up: 10.5		FT note units
	Down: 10.5		FT note units

Vertical Profile Measurements

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet): 10.5

Comments:

Depth feet	Temperature °C	DO %	DO mg/L
9	19.59	98.9	9.06
8	19.58	98.9	9.06
7	19.59	99.0	9.07
6	19.59	99.0	9.07
5	19.60	99.2	9.09
4	19.61	99.3	9.09
3	~~19.76~~ 19.67	99.5	9.10
2	19.77	99.9	9.13
1	19.79	99.8	9.10

[redacted]

Station #: M067

Date: 09/12/10

Weather Conditions: CLEAR

Sampler Names: SEAN SIMNEL
JUANNE THERIAULT

1. record site # (001 through 072)
2. record conditions and site description
3. record coordinates
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings, record times!
6. vertical DO/temp profile (if necessary at the site)
7. Collect all samples (fill out WS!)

Site Description

Coordinates (decimal degrees): 42.791 71.458 (mark waypoint!)

Total water depth (units): 12

Algae coverage: Ø

Tree cover: Ø

Wildlife: NONE

Other observations (sights, smells, etc) —

FOR QA PURPOSES, REPEAT YSI READINGS. RECORD TIME OF EACH READING

Data Collection

Parameter	Time 1: 1516	Time 2: 1523	Comment
Temperature °C	19.73	19.76	
Conductivity ms/cm	141	141	
Sp. Cond. ms/cm	127	127	
DO %	98.2	96.1	
DO mg/L	8.97	8.78	
pH su	7.21	6.98	
Turbidity ntu	-0.1	0.0	
Secchi Disk indicate units	Up: 12		FT note units
	Down: 12		FT note units

Vertical Profile Measurements

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet): 2

Comments: TOOK 1 READING @ 1 FT
– IN NASHUA RIVER BELOW RR TRESTLE

Depth feet	Temperature °C	DO %	DO mg/L
1	18.06	107.6	10.17

[redacted]

Station #: TO 69

Date: 9/21/10

Weather Conditions: CLEAR

Sampler Names: SEAN STIMMELL
JEANNE THERIAULT

1. record site # (001 through 072)
2. record conditions and site description
3. record coordinates
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings, record times!
6. vertical DO/temp profile (if necessary at the site)
7. Collect all samples (fill out WS!)

Site Description

Coordinates (decimal degrees): 42.74882 71.44256 (mark waypoint!)

Total water depth (units): 1

Algae coverage: Ø

Tree cover: Ø

Wildlife: KINGFISHER, MINNOWS, LARGEMOUTH BASS

Other observations (sights, smells, etc) TOOK WATER SAMPLES AND PARAMETERS AT CONCRETE 'DAM' ABOVE UPSTREAM OF BRIDGE

FOR QA PURPOSES, REPEAT YSI READINGS. RECORD TIME OF EACH READING

Data Collection

Parameter	Time 1: 13:38	Time 2: 13:50	Comment
Temperature °C	18.18	18.21	
Conductivity ms/cm	514	514	
Sp. Cond. ms/cm°	448	448	
DO %	96.1	95.8	
DO mg/L	9.08	9.05	
pH su	7.30	7.31	
Turbidity ntu	1.3	1.3	
Secchi Disk Indicate units	Up: 1		FT note units
	Down: 1		FT note units

Vertical Profile Measurements

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet): 1

Comments:

Depth feet	Temperature °C	DO %	DO mg/L
1	18.23	94.5	8.92

[redacted]

Station #: M070

Date: 9/21/10

Weather Conditions: CLEAR

Sampler Names: SEAN STIMMEL
JOANNE THERIAULT

1. record site # (001 through 072)
2. record conditions and site description
3. record coordinates
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings, record times!
6. vertical DO/temp profile (if necessary at the site)
7. Collect all samples (fill out WS!)

Site Description

Coordinates (decimal degrees): 42.7482 71.4408 (mark waypoint!)

Total water depth (units): 17

Algae coverage: Ø

Tree cover: Ø

Wildlife: DUCKS, KINGFISHER

Other observations (sights, smells, etc) ABOVE WW PLANT OUTFALL

FOR QA PURPOSES, REPEAT YSI READINGS. RECORD TIME OF EACH READING

Data Collection

Parameter	Time 1: 1406	Time 2: 1415	Comment
Temperature °C	19.64	19.63	
Conductivity ms/cm	151	151	
Sp. Cond. ms/cm[c]	136	136	
DO %	101.2	98.9	
DO mg/L	9.26	9.06	
pH su	7.18	7.05	
Turbidity ntu	0.0	-0.1	
Secchi Disk indicate units	Up: 12		FT note units
	Down: 12		FT note units

Vertical Profile Measurements

C-P-5-4

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet): 17

Comments:

Depth feet	Temperature °C	DO %	DO mg/L
16	19.14	97.8	9.04
14	19.12	97.9	9.05
12	19.10	97.3	9.00
10	19.15	97.2	8.98
8	19.16	97.2	8.99
6	19.17	97.1	8.97
4	19.19	97.2	8.98
2	~~19.24~~ 19.21	97.3	8.98
1	19.61	98.1	9.02

[redacted]

Station #: M071

Date: 9/21/10

Weather Conditions: CLEAR

Sampler Names: SEAN STIMPELL
JOANNE THERIAULT

1. record site # (001 through 072)
2. record conditions and site description
3. record coordinates
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings, record times!
6. vertical DO/temp profile (if necessary at the site)
7. Collect all samples (fill out WS!)

Site Description

Coordinates (decimal degrees): 42.744 71.439 (mark waypoint!)

Total water depth (units): 10

Algae coverage: Ø

Tree cover: Ø

Wildlife: NONE

Other observations (sights, smells, etc) —

FOR QA PURPOSES, REPEAT YSI READINGS. RECORD TIME OF EACH READING

Data Collection

Parameter	Time 1: 1431	Time 2: 1442	Comment
Temperature °C	19.88	19.89	
Conductivity ms/cm	172	172	
Sp. Cond. ms/cm[c]	155	155	
DO %	101.5	101.6	
DO mg/L	9.25	9.28	
pH su	7.1	7.1	
Turbidity ntu	-0.2	-0.2	
Secchi Disk indicate units	Up: 9		FT note units
	Down: 9		FT note units

Vertical Profile Measurements

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet): 10

Comments: REDID 1 FT MEASUREMENT TO CHECK #'S

Depth feet	Temperature °C	DO %	DO mg/L
~~9~~			
~~8~~			
~~7~~			
~~6~~			
~~1~~	~~19.90~~	~~101.3~~	~~9.21~~
9	18.88	94.7	8.81
8	18.87	94.9	8.82
7	18.88	95.3	8.85
6	18.94	95.8	8.96
5	19.00	96.2	8.91
4	19.04	96.6	8.95
3	19.13	97.3	8.98
2	19.20	98.0	9.02
1	~~19.90~~ 19.80	~~101.3~~ 97.6	~~9.21~~ 8.94

[redacted]

Station #: M072

Date: 09/21/10

Weather Conditions: CLEAR

Sampler Names: SEAN STIMMELL
JOANNE THIERAULT

1. record site # (001 through 072)
2. record conditions and site description
3. record coordinates
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings, record times!
6. vertical DO/temp profile (if necessary at the site)
7. Collect all samples (fill out WS!)

Site Description

Coordinates (decimal degrees): 42.721 71.438 (mark waypoint!)

Total water depth (units): 16 FT

Algae coverage: Ø

Tree cover: Ø

Wildlife: ~~NONE~~ RED TAIL HAWK, BLUE JAY

Other observations (sights, smells, etc) NONE

FOR QA PURPOSES, REPEAT YSI READINGS. RECORD TIME OF EACH READING

Data Collection

Parameter	Time 1: 0848	Time 2: 0909	Comment
Temperature °C	19.5	19.5	
Conductivity ms/cm	166	168	
Sp. Cond. ms/cm[c]	148	151	
DO %	94.3	93.9	
DO mg/L	8.65	8.62	
pH su	7.09	7.03	
Turbidity ntu	-0.5	-0.4	
Secchi Disk Indicate units	Up: 12		FT note units
	Down: 12		FT note units

Vertical Profile Measurements

starting 1 foot from the bottom of the channel, record DO and temperature at 1 foot increments
if the channel is > 15 feet deep, record at 2 foot increments

Total channel depth (feet): 16

Comments:

Depth feet	Temperature °C	DO %	DO mg/L
15	19.47	93.8	8.62
~~11~~ 13	19.47	93.9	8.63
11	19.47	93.7	8.59
9	19.48	93.5	8.58
7	19.48	93.6	8.59
5	19.49	93.7	8.60
3	19.48	93.7	8.61
1	19.50	93.9	8.62

Upper Merrimack Watershed Study
Tributary Flow Measurements Worksheet

Station ID: T069 **Station Name:** Salmon Brook Nashua

Sampling Team Initials: TW MT

Date: 9/21/10 **Time:** 10:40

Meter Type: _____ **Serial #:** _____

Total Channel Width: 24'

Reference Point: [X] RIGHT BANK [ ] LEFT BANK **Looking:** [X] DOWNSTREAM [ ] UPSTREAM

Comments: Sunny + clear, sand/silt bed
GPS Coordinates: 42.74942 71.45696

Flow Measurements

		Distance from Reference Point (feet)	Depth (feet)	Velocity (feet/second) *if depth > 2ft, record 20% and 80% depth velocities; if depth < 2ft record 60% depth velocity*			
	tape			20%	60%	80%	
Start Time:	2ft	1 1.2	0.65		0.07		fallen logs submerged
	3.2	2 2.4	0.68		-0.02		
	4.4	3 3.6	0.98		0.01		
	5.6	4 4.8	1.03		0.02		
	6.8	5 6.0	1.32		-0.03		
	8.0	6 7.2	1.52		0.04		
	9.2	7 8.4	1.58		0.10		
	10.4	8 9.6	1.48		0.04		
For stream width <10 ft, measure at ½ ft intervals	11.6	9 10.8	1.72		0.12		
	12.8	10 12.0	1.65		0.10		
	14	11 13.2	1.65		0.12		
	15.2	12 14.4	1.68		0.16		
	16.4	13 15.6	1.45		0.13		
	17.6	14 16.8	1.22		0.04		
For stream width >10 ft, measure at 20 evenly spaced intervals	18.8	15 18.0	1.05		0.06		
	20	16 19.2	0.85		0.01		
	21.2	17 20.4	0.72		0.01		
	22.4	18 21.6	0.55		-0.05		submerged aquatic growth
	23.6	19 22.8	0.35		-0.05		
	24.8	20 24.0	0		0		
		12.0	1.57		0.16		
End Time:							

Upper Merrimack Watershed Study
Tributary Flow Measurements Worksheet

Station ID: T068 **Station Name:** Nashua River Nashua

Sampling Team Initials: TW MT

Date: 9/21/10 **Time:** 9.45

Meter Type: _____ **Serial #:** _____

Total Channel Width: 100'

Reference Point: [X] RIGHT BANK [X] LEFT BANK **Looking:** [X] DOWNSTREAM [ ] UPSTREAM

Comments: Breezy, sunny, + clear
GPS Coordinates: 42.76451 71.45538

Flow Measurements

		Distance from Reference Point (feet)	Depth (feet)	Velocity (feet/second) *if depth > 2ft, record 20% and 80% depth velocities; if depth < 2ft record 60% depth velocity*		
				20%	*60%*	*80%*
Start Time: 9:50	1	5	1.15	—	0.21	—
	2	10	1.32	—	0.57	—
	3	15	1.40	—	0.35	—
	4	20	1.72	—	0.45	—
	5	25	2.10	0.60	—	0.42
	6	30	2.22	0.44	—	0.44
	7	35	2.02	0.52	—	0.38
	8	40	1.75	—	0.61	—
For stream width <10 ft, measure at ½ ft intervals	9	45	1.85	—	0.41	—
	10	50	1.44	—	0.52	—
	11	55	1.42	—	0.54	—
	12	60	1.33	—	0.51	—
	13	65	1.22	—	0.30	—
	14	70	1.07	—	0.25	—
For stream width >10 ft, measure at 20 evenly spaced intervals	15	75	0.80	—	0.21	—
	16	80	0.52	—	0.25	—
	17	85	0.55	—	0.03	—
	18	90	0.40	—	0.17	—
	19	95	0.38	—	0.23	—
	20	100	0		0	
		70	1.07	—	0.28	—
End Time: 10:15						

Upper Merrimack Watershed Study
Tributary Flow Measurements Worksheet

Station ID: T059 **Station Name:** Cohas Brook Manchester

Sampling Team Initials: TW MT

Date: 9/21/10 **Time:** 12.00

Meter Type: _____ **Serial #:** _____

Total Channel Width: 20'

Reference Point: ☐ RIGHT BANK ☒ LEFT BANK **Looking:** ☒ DOWNSTREAM ☐ UPSTREAM

Comments: Sunny + clear, bedrock (flat) streambed
GPS Coordinates 42.43166 71.45162

Flow Measurements

	Distance from Reference Point (feet)	Depth (feet)	Velocity (feet/second) *if depth > 2ft, record 20% and 80% depth velocities; if depth < 2ft record 60% depth velocity*			
			20%	60%	80%	
Start Time: 12:00	1 1	0.05		0		behind rocks
	2 2	1.25		0.01		
	3 3	1.08		-0.14		
	4 4	1.32		-0.15		
	5 5	1.40		-0.14		
	6 6	1.50		-0.08		
	7 7	1.52		-0.14		
	8 8	1.47		-0.11		
For stream width <10 ft, measure at ½ ft intervals	9 9	1.65		0.19		
	10 10	1.22		0.78		
	11 11	1.70		0.78		
	12 12	1.58		0.58		
	13 13	1.45		0.29		
	14 14	1.32		0.08		
For stream width >10 ft, measure at 20 evenly spaced intervals	15 15	1.35		-0.13		
	16 16	1.33		-0.18		
	17 17	1.32		-0.17		
	18 18	1.36		-0.24		
	19 19	1.32		-0.30		
	20 20	0.66		-0.10		- under rip rap
	11	1.68		0.75		
End Time: 12:30						

Upper Merrimack Watershed Study
Tributary Flow Measurements Worksheet

Station ID: T046 **Station Name:** Suncook River in Allenstown/Pembroke

Sampling Team Initials: P. Foss, P. Trowbridge

Date: 9/21/10 **Time:** 11:21

Meter Type: Flo Mate **Serial #:** COM Meter

Total Channel Width: 41 ft

Reference Point: ☑ RIGHT BANK ☐ LEFT BANK **Looking:** ☑ DOWNSTREAM ☐ UPSTREAM

Comments: Measurement transect under sewer pipe bridge, from sandy bank on river right to cobbles just below stone bultress on river left. Transect on downstream side of bultress span.

Flow Measurements

	Distance from Reference Point (feet)	Depth (feet)	Velocity (feet/second) *if depth > 2ft, record 20% and 80% depth velocities; if depth < 2ft record 60% depth velocity*		
			20%	60%	80%
Start Time: 11:25	1 0	0		0	
	2 2	0.42		-0.05	
	3 4	0.60		0.01	
	4 6	0.70		0.02	
	5 8	0.80		0.07	
	6 10	0.72		0.08	
	7 12	0.93		0.15	
	8 14	1.20		0.07	
For stream width <10 ft, measure at ½ ft intervals	9 16	1.55		0.12	
	10 18	1.70		0.10	
	11 20	1.15		0.05	
	12 22	0.90		0.10	
	13 24	0.85		0.04	
	14 26	0.85		0.05	
For stream width >10 ft, measure at 20 evenly spaced intervals	15 28	1.29		0.05	
	16 30	1.80		0.05	
	17 32	1.45		0.03	
	18 34	1.82		0.01	
	19 36	1.65		0.03	
	20 38	0.98		0.02	
	40	0.30		0.01	
	41	0		0	
End Time: 1148					

Replicate @ 1149 time 22 0.85 0.05

UMPRS-FLOW

Upper Merrimack Watershed Study
Tributary Flow Measurements Worksheet

Station ID: T027 **Station Name:** Chance Pond Brook

Sampling Team Initials: Peg Foss + Phil Trowbridge

Date: 9/21/10 **Time:** 9:56 am

Meter Type: Flo Mate **Serial #:** CDM Meter

Total Channel Width: 17' 3"

Reference Point: [X] RIGHT BANK [ ] LEFT BANK **Looking:** [X] DOWNSTREAM [ ] UPSTREAM

Comments: Sunny, calm, cool 60's, very low flow = trickle

Flow Measurements

	Distance from Reference Point (feet)	Depth (feet)	Velocity (feet/second) *if depth > 2ft, record 20% and 80% depth velocities; if depth < 2ft record 60% depth velocity*		
			20%	60%	80%
Start Time:	1 0	0		0	
	2 0.8	.2		-0.03	
	3 1.6	.45		0.05	
	4 2.4	.55		0.15	
	5 3.2	.57		0.07	
	6 4.0	.61		0.10	
	7 4.8	.50		0.09	
	8 5.6	.63		0.08	
For stream width <10 ft, measure at ½ ft intervals	9 6.4	.60		0.09	
	10 7.2	.60		0.03	
	11 8.0	.60		0.08	
	12 8.8	.50		0.05	
	13 9.6	.60		0.04	
	14 10.4	.60		0.03	
For stream width >10 ft, measure at 20 evenly spaced intervals	15 11.2	.63		0.04	
	16 12.0	.67		0.05	
	17 12.8	.75		0.03	
	18 13.6	.73		0.02	
	19 14.4	.63		0.03	
	20 15.2	.45		0.02	
	16.0	.00		0.00	
	16.8	.00		.00	
	17.3	.00		.00	
End Time: 10:38 am					

UMPRS-FLOW

Replicate @ 8.0 .60 0.03

Upper Merrimack Watershed Study
Tributary Flow Measurements Worksheet

Station ID: T021 **Station Name:** Newfound River - Bristol

Sampling Team Initials: SR, KE

Date: 9/21/10 **Time:** 11:22

Meter Type: Flow Mate 2000 **Serial #:**

Total Channel Width: 47.4 - 5.6 = 41.8'

Reference Point: ☐ RIGHT BANK ☑ LEFT BANK **Looking:** ☑ DOWNSTREAM ☐ UPSTREAM

Comments:

Flow Measurements

	Distance from Reference Point (feet)	Depth (feet)	Velocity (feet/second) *if depth > 2ft, record 20% and 80% depth velocities; if depth < 2ft record 60% depth velocity*		
	6.0	0	20%	60%	80%
Start Time: 11:22	1 8.0	.45		.05	
	2 10.0	.76		-.17	
	3 12.0	.74		.35	
	4 14.0	1.40		.16	
	5 16.0	.85		.06	
	6 18.0	.94		.20	
	7 20.0	1.80		.38	
	8 22.0	1.72		.96	
For stream width <10 ft, measure at ½ ft intervals	9 24.0	2.30	1.06		.57
	10 26.0	2.22	1.15		.88
	11 28.0	2.28	1.41		.81
	12 30.0	1.90		1.25	
	13 32.0	.95		.72	
	14 34.0	1.64		1.17	
For stream width >10 ft, measure at 20 evenly spaced intervals	15 36.0	1.72		.54	
	16 38.0	1.84		.39	
	17 40.0	1.36		1.29	
	18 42.0	1.26		.59	
	19 44.0	.82		.04	
	20 46.0	1.02		.42	
End Time: 11:43					

Upper Merrimack Watershed Study
Tributary Flow Measurements Worksheet

Station ID: T010 **Station Name:** Mad River Campton

Sampling Team Initials: SR KE

Date: 9/21/10 **Time:** 9:29

Meter Type: Flow Mate 2000 **Serial #:**

Total Channel Width: 44.5 - 3.3 = 41.2'

Reference Point: ☐ RIGHT BANK ☑ LEFT BANK **Looking:** ☑ DOWNSTREAM ☐ UPSTREAM

Comments:

Flow Measurements

	Distance from Reference Point (feet)	Depth (feet)	Velocity (feet/second) *if depth > 2ft, record 20% and 80% depth velocities; if depth < 2ft record 60% depth velocity*		
			20%	*60%*	*80%*
Start Time: 9:29	1 3.3	0		0	
	2 5.0	.15		.02	
	3 7.0	.1		.14	
	4 9.0	.37		.22	
	5 11.0	.44		.65	
	6 13.0	.79		.53	
	7 15.0	.84		.75	
	8 17.0	.85		1.04	
For stream width <10 ft, measure at ½ ft intervals	9 19.0	1.11		.98	
	10 21.0	1.43		1.14	
	11 23.0	.90		1.08	
	12 25.0	.50		1.23	
	13 27.0	.70		.55	
	14 29.0	.80		1.20	
For stream width >10 ft, measure at 20 evenly spaced intervals	15 31.0	.87		1.31	
	16 33.0	1.10		1.09	
	17 35.0	1.08		1.07	
	18 37.0	.90		1.04	
	19 39.0	.73		.92	
	20 41.0	.84		.34	
	43.0	.10		.07	
End Time: 9:49					

Upper Merrimack Watershed Study
Tributary Flow Measurements Worksheet

Station ID: T01S **Station Name:** Squam River - Ashland

Sampling Team Initials: AB, KE

Date: 9/21/10 **Time:** 10:22

Meter Type: Flow Mate 2000 **Serial #:**

Total Channel Width: 37'

Reference Point: ☐ RIGHT BANK ☑ LEFT BANK **Looking:** ☑ DOWNSTREAM ☐ UPSTREAM

Comments:

Flow Measurements

	Distance from Reference Point (feet)	Depth (feet)	Velocity (feet/second) *if depth > 2ft, record 20% and 80% depth velocities; if depth < 2ft record 60% depth velocity*		
			20%	*60%*	*80%*
Start Time: 10:22	1 2.0	1.15		.27	
	2 5.8	1.73		.37	
	3 5.8	2.15	.48		.14
	4 7.4	2.15	.47		-.01
	5 9.2	2.20	.50		.30
	6 11.0	2.13	.48		.39
	7 12.8	1.66		.62	
	8 14.6	1.70		.82	
For stream width <10 ft, measure at ½ ft intervals	9 16.4	1.82		1.09	
	10 18.2	1.89		1.06	
	11 20.0	1.95		1.12	
	12 21.8	2.20	1.86		1.18
	13 23.6	1.98		.97	
	14 25.4	1.65		.92	
For stream width >10 ft, measure at 20 evenly spaced intervals	15 27.2	1.58		1.62	
	16 29.0	1.44		1.78	
	17 30.8	1.20		1.71	
	18 32.6	1.30		1.64	
	19 34.4	1.05		1.38	
	20 36.2	.70		1.42	
	38.0	.25		.89	
	39.2	0		0	
End Time: 11:48					

Upper Merrimack and Pemigewasset River Study
High-Flow Water Quality
Field Measurement Worksheet

Station #: M001

Date: 5/17/2012

Weather Conditions: 70° SUNNY

Sampler Names: S.L.C J.T.O.

Team No.: 1 (CDM Smith)

1. record site # (001 through 072)
2. record conditions and site description
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings, record times!
6. vertical DO/temp profile (if necessary at the site)
7. Collect all samples (fill out worksheet!)

Site Description

Total water depth (units): 1' 8"

Algae coverage: NONE / SOME (VERY LITTLE) GREEN ON ROCKS @ BANK WITH TREE

Tree cover: MINIMAL - 25% TO MODERATE

Wildlife: BIRDS CHIRPING / POPULAR DOG WALKING AREA

Other observations (sights, smells, etc) WATER VERY CLEAR

FOR QA PURPOSES, REPEAT YSI READINGS. RECORD TIME OF EACH READING

Data Collection

Parameter	Time 1: 9:18 AM	Time 2: 9:50	Comment
Temperature °C	9.74	9.87	
Conductivity ms/cm	.037	.037	
Sp. Cond. ms/cm[c]			
DO %	~~1.08~~ ~~11.95~~ 108%	108.7%	
DO mg/L	11.95	12.10	
pH su	6.04	6.00	
Turbidity ntu	1.8	2.6	
Secchi Disk* indicate units	Up:		note units
	Down:		note units

ecchi disk not necessary in flowing river reaches or in shallow water.

Upper Merrimack and Pemigewasset River Study
High-Flow Water Quality
Sample Collection Worksheet

Station #: M001

Date: 5/17/2012

Time:

Weather Conditions: 70° SUNNY

Sampler Names: SLC JTO

Team #: 1 (CDM Smith)

☐ QA SAMPLE? Dup. Blank Rinse

Sample ID: M001-G-HF1

Instructions:

1. record date, time, and initial sample bottles
2. fill bottles to shoulder
3. remember to filter the "nut" sample
4. remember to add reagents to DO sample

Total water depth (feet): 1' 8"

Sample depth (feet): 1'

Sample Collection

	Bottle	Time Filled	Preservative?	Filter?	Analyte	Comment
1	~~Sterile cylinder~~		~~Tablet~~	~~NO~~	~~ecoli~~	~~8 Hour hold time~~
2	Large Plastic		NO	NO	TSS	
~~3~~	~~Brown Plastic~~		~~NO~~	~~NO~~	~~chlorophyll a~~	
4	Large Plastic		NO	NO	CBOD5	
~~5~~	~~Large Plastic~~		~~NO~~	~~NO~~	~~CBOD20~~	
6	Small plastic		NO	NO	total phos	
7	Small plastic (filtered)		NO	YES	nutrients	remember to filter!
~~8~~	~~Glass DO~~		~~NO~~	~~NO~~	~~winkler DO~~	~~finished sample should be amber in~~ color

Upper Merrimack and Pemigewasset River Study
High-Flow Water Quality
Field Measurement Worksheet

Station #: M006

Date: 5/17/12

Weather Conditions: 70° SUNNY

Sampler Names: SLC JTO

Team No.: 1 (CDM Smith)

1. record site # (001 through 072)
2. record conditions and site description
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings, record times!
6. vertical DO/temp profile (if necessary at the site)
7. Collect all samples (fill out worksheet!)

Site Description

Total water depth (units): N/A

Algae coverage: NONE

Tree cover: NONE

Wildlife: BIRDS CHIRPING

Other observations (sights, smells, etc)

FOR QA PURPOSES, REPEAT YSI READINGS. RECORD TIME OF EACH READING

Data Collection

Parameter	Time 1:	Time 2:	Comment
Temperature °C	14.35	13.02	READINGS TAKEN OUT OF BUCKET
Conductivity ms/cm	.026	.030	
Sp. Cond. ms/cm[c]			
DO %	111.0	90.4	
DO mg/L	11.01	9.22	
pH su	6.64	6.10	
Turbidity ntu	6.3	1.8	
Secchi Disk* indicate units	Up:		note units
	Down:		note units

Secchi disk not necessary in flowing river reaches or in shallow water.

Upper Merrimack and Pemigewasset River Study
High-Flow Water Quality
Sample Collection Worksheet

Station #: M006

Date: 5/17/12

Time: 3:05

Weather Conditions: 70° SUNNY

Sampler Names: S.L.C. J.T.O.

Team #: 1 (CDM Smith)

☐ QA SAMPLE? Dup. Blank Rinse

Sample ID: M006-G-HF1

Instructions:

1. record date, time, and initial sample bottles
2. fill bottles to shoulder
3. remember to filter the "nut" sample
4. remember to add reagents to DO sample

Total water depth (feet): N/A

Sample depth (feet): 1'

Sample Collection

	Bottle	Time Filled	Preservative?	Filter?	Analyte	Comment
1	~~Sterile cylinder~~		~~Tablet~~	~~NO~~	~~e.coli~~	~~Tablet rehydrate~~
2	Large Plastic		NO	NO	TSS	
~~3~~	~~Brown Plastic~~		~~NO~~	~~NO~~	~~chlorophyll a~~	
4	Large Plastic		NO	NO	CBOD5	
~~5~~	~~Large Plastic~~		~~NO~~	~~NO~~	~~CBOD20~~	
6	Small plastic		NO	NO	total phos	
7	Small plastic (filtered)		NO	YES	nutrients	remember to filter!
~~8~~	~~Clear DO~~			~~NO~~	~~winkler DO~~	finished sample ~~should be amber in~~ color

Upper Merrimack and Pemigewasset River Study
High-Flow Water Quality
Field Measurement Worksheet

Station #: M008

Date: 5/17/12

Weather Conditions: SUNNY 70°F

Sampler Names: JTO SLC

Team No.: 1 (CDM Smith)

1. record site # (001 through 072)
2. record conditions and site description
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings, record times!
6. vertical DO/temp profile (if necessary at the site)
7. Collect all samples (fill out worksheet!)

Site Description

Total water depth (units): 2'-9"

Algae coverage: SOME NEAR BRIDGE PIERS

Tree cover: NONE

Wildlife: NONE

Other observations (sights, smells, etc) NONE

FOR QA PURPOSES, REPEAT YSI READINGS. RECORD TIME OF EACH READING

Data Collection

Parameter	Time 1: 3:50 PM	Time 2: 4:20 PM	Comment
Temperature °C	13.08	13.09	
Conductivity ms/cm			
Sp. Cond. ms/cm[c]	0.03	0.03	
DO %	107.5	103.8	
DO mg/L	10.95	10.51	
pH su	6.15	6.17	
Turbidity ntu	2.6	3.1	
Secchi Disk* indicate units	Up:		note units
	Down:		note units

Secchi disk not necessary in flowing river reaches or in shallow water.

Upper Merrimack and Pemigewasset River Study
High-Flow Water Quality
Sample Collection Worksheet

Station #: M008

Date: 5/17/12

Time: 4:00 PM

Weather Conditions: 70° SUNNY

Sampler Names: S.L.C. J.T.O

Team #: 1 (CDM Smith)

☐ QA SAMPLE? Dup. Blank Rinse

Sample ID: M008-G-HF1

Instructions:

1. record date, time, and initial sample bottles
2. fill bottles to shoulder
3. remember to filter the "nut" sample
4. remember to add reagents to DO sample

Total water depth (feet): 2' 9"

Sample depth (feet): 1'

Sample Collection

	Bottle	Time Filled	Preservative?	Filter?	Analyte	Comment
1	Sterile cylinder		Tablet	NO	e.coli	6 Hour hold time
2	Large Plastic		NO	NO	TSS	
~~3~~	~~Brown Plastic~~		~~NO~~	~~NO~~	~~chlorophyll-a~~	
4	Large Plastic		NO	NO	CBOD5	
~~5~~	~~Large Plastic~~		~~NO~~	~~NO~~	~~CBOD20~~	
6	Small plastic		NO	NO	total phos	
7	Small plastic (filtered)		NO	YES	nutrients	remember to filter!
~~8~~	~~Glass DO~~		~~NO~~	~~NO~~	~~winker DO~~	finished sample should be amber in color

Upper Merrimack and Pemigewasset River Study
High-Flow Water Quality
Sample Collection Worksheet

Station #: M008

☑ QA SAMPLE? (Dup.) Blank Rinse

Sample ID: M208-D-HF1

Date: 5/17/12

Time: 4:15

Weather Conditions: 70° SUNNY

Sampler Names: SLC. J.T.O.

Team #: 1

Instructions:

1. record date, time, and initial sample bottles
2. fill bottles to shoulder
3. remember to filter the "nut" sample
4. remember to add reagents to DO sample

Total water depth (feet): 2'9"

Sample depth (feet): 1'

Sample Collection

Bottle	Time Filled	Preservative?	Filter?	Analyte	Comment
Sterile cylinder		Tablet	NO	e.coli	6 Hour hold time
~~2 Large Plastic~~		~~NO~~	~~NO~~	~~TSS~~	
~~3 Brown Plastic~~		~~NO~~	~~NO~~	~~chlorophyll-a~~	
~~4 Large Plastic~~		~~NO~~	~~NO~~	~~CBOD5~~	
~~5 Large Plastic~~		~~NO~~	~~NO~~	~~CBOD20~~	
~~6 Small plastic~~		~~NO~~	~~NO~~	~~total phos~~	
~~7 Small plastic (filtered)~~		~~NO~~	~~YES~~	~~nutrients~~	~~remember to filter!~~
~~8 Glass DO~~		~~NO~~	~~NO~~	~~winker DO~~	~~finished sample should be amber in color~~

Upper Merrimack and Pemigewasset River Study
High-Flow Water Quality
Sample Collection Worksheet

Station #: M008

☑ QA SAMPLE? Dup. (Blank) Rinse

Sample ID: M108-B-HF1

Date: 5/17/12

Time: 4:15

Weather Conditions: 70° SUNNY

Sampler Names: SLC J.T.O.

Team #: 1

Instructions:

1. record date, time, and initial sample bottles
2. fill bottles to shoulder
3. remember to filter the "nut" sample
4. remember to add reagents to DO sample

Total water depth (feet): -

Sample depth (feet): -

Sample Collection

Bottle	Time Filled	Preservative?	Filter?	Analyte	Comment
Sterile cylinder		Tablet	NO	e.coli	6 Hour hold time
~~2 Large Plastic~~		~~NO~~	~~NO~~	~~TSS~~	
~~3 Brown Plastic~~		~~NO~~	~~NO~~	~~chlorophyll a~~	
~~4 Large Plastic~~		~~NO~~	~~NO~~	~~CBOD5~~	
~~5 Large Plastic~~		~~NO~~	~~NO~~	~~CBOD28~~	
~~6 Small plastic~~		~~NO~~	~~NO~~	~~total phos~~	
~~7 Small plastic (filtered)~~		~~NO~~	~~YES~~	~~nutrients~~	~~remember to filter!~~
~~8 Glass DO~~		NO	NO	~~winkler DO~~	finished sample ~~should be amber in~~ color

Upper Merrimack and Pemigewasset River Study
High-Flow Water Quality
Sample Collection Worksheet

Station #: M008

☑ QA SAMPLE? Dup. Blank (Rinse)

Sample ID: M308-R-HF1

Date: 5/17/12

Time: 4:15

Weather Conditions: 70° SUNNY

Sampler Names: S.L.C. J.To.

Team #:

Instructions:

1. record date, time, and initial sample bottles
2. fill bottles to shoulder
3. remember to filter the "nut" sample
4. remember to add reagents to DO sample

Total water depth (feet):

Sample depth (feet):

Sample Collection

Bottle	Time Filled	Preservative?	Filter?	Analyte	Comment
Sterile cylinder		Tablet	NO	e.coli	6 Hour hold time
~~2 Large Plastic~~		~~NO~~	~~NO~~	~~TSS~~	
~~3 Brown Plastic~~		~~NO~~	~~NO~~	~~chlorophyll-a~~	
~~4 Large Plastic~~		~~NO~~	~~NO~~	~~CBOD5~~	
~~5 Large Plastic~~		~~NO~~	~~NO~~	~~CBOD20~~	
~~6 Small plastic~~		~~NO~~	~~NO~~	~~total phos~~	
~~7~~ Small plastic (filtered)		~~NO~~	~~YES~~	~~nutrients~~	~~remember to filter!~~
~~8 Glass DO~~		~~NO~~	~~NO~~	~~winker DO~~	~~finished sample should be amber in color~~

Upper Merrimack and Pemigewasset River Study
High-Flow Water Quality
Field Measurement Worksheet

Station #: M009

Date: 5/17/12

Weather Conditions: clear, sunny, 55°

Sampler Names: Zach Eichenwald / Al. Klegman

Team No.: 2 (CDM Smith)

1. record site # (001 through 072)
2. record conditions and site description
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings, record times!
6. vertical DO/temp profile (if necessary at the site)
7. Collect all samples (fill out worksheet!)

Site Description

Total water depth (units): 2' 2"

Algae coverage: none

Tree cover: None

Wildlife: none

Other observations (sights, smells, etc) fast velocity

FOR QA PURPOSES, REPEAT YSI READINGS. RECORD TIME OF EACH READING

Data Collection

Parameter	Time 1: 9:20	Time 2: 9:30	Comment
Temperature °C	10.91	10.87	
Conductivity ms/cm	0.026	~~0.026~~ 0.026	
Sp. Cond. ms/cm[c]			
DO %	92.0	88.6	
DO mg/L	9.84	9.48	
pH su	4.89	4.81	
Turbidity ntu	10.1	5.1	
Secchi Disk* indicate units	Up:		note units
	Down:		note units

Secchi disk not necessary in flowing river reaches or in shallow water.

Upper Merrimack and Pemigewasset River Study
High-Flow Water Quality
Sample Collection Worksheet

Station #: M009

Date: 5/17/12

Time: 8:45

Weather Conditions: Clear, sunny, 55°

Sampler Names: Zach Eichenwald, Alex Reyman

Team #: 2 (CDM Smith)

☐ QA SAMPLE? Dup. Blank Rinse

Sample ID: M009-G-HF1

Instructions:

1. record date, time, and initial sample bottles
2. fill bottles to shoulder
3. remember to filter the "nut" sample
4. remember to add reagents to DO sample

Total water depth (feet): 2', 2"

Sample depth (feet): 1'

Sample Collection

	Bottle	Time Filled	Preservative?	Filter?	Analyte	Comment
1	~~Sterile cylinder~~		~~Tablet~~	~~NO~~	~~E.coli~~	~~6 Hour hold time~~
2	Large Plastic	8:45	NO	NO	TSS	
3	Brown Plastic	8:45	NO	NO	chlorophyll-a	
4	Large Plastic	8:45	NO	NO	CBOD5	
5	~~Large Plastic~~		~~NO~~	~~NO~~	~~CBOD20~~	
6	Small plastic	8:45	NO	NO	total phos	
7	Small plastic (filtered)	8:45	NO	YES	nutrients	remember to filter!
8	Glass DO	9:30	NO	NO	winker DO	finished sample should be amber in color

Upper Merrimack and Pemigewasset River Study
High-Flow Water Quality
Field Measurement Worksheet

Station #: M012

Date: 05-17-2012

Weather Conditions: very windy, warm & sunny

Sampler Names: Ethan Sobo & Sammy Datti

Team No.: 3 (NA1)

1. record site # (001 through 072)
2. record conditions and site description
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings, record times!
6. vertical DO/temp profile (if necessary at the site)
7. Collect all samples (fill out worksheet!)

Site Description

Total water depth (units): 5.5 ft

Algae coverage: no

Tree cover: no

Wildlife:

Other observations (sights, smells, etc) very fast moving current

FOR QA PURPOSES, REPEAT YSI READINGS. RECORD TIME OF EACH READING

Data Collection

Parameter	Time 1: ~~9:44am~~	Time 2: 9:53	Comment time 2 10:07
Temperature °C	~~9.44am 12.54 c~~	12.5	12.5
Conductivity ms/cm	~~0.034 ms/cm~~	0.03	0.030
Sp. Cond. ms/cm[c]		N/A	N/A
DO %		98.2	95.7
DO mg/L		10.1	9.8
pH su		6.24	6.23
Turbidity ntu		8.5	8.0
Secchi Disk* indicate units	Up:		note units
	Down:		note units

Secchi disk not necessary in flowing river reaches or in shallow water.

could not get Secchi Disk down due to current

Upper Merrimack and Pemigewasset River Study
High-Flow Water Quality
Sample Collection Worksheet

Station #: M012

Date: 5/17/12

Time: 10:00

Weather Conditions: Sunny, warm very windy

Sampler Names: Ethan Sobo, Sammy Datti

Team #: 3 (NAI)

☐ QA SAMPLE? Dup. Blank Rinse

Sample ID: M012-G-HF1

Instructions:

1. record date, time, and initial sample bottles
2. fill bottles to shoulder
3. remember to filter the "nut" sample
4. remember to add reagents to DO sample

Total water depth (feet): 5.5 ft

Sample depth (feet): 1.0 ft

used white bucket to fill sample bottles

Sample Collection

	Bottle	Time Filled	Preservative?	Filter?	Analyte	Comment
1	~~Sterile cylinder~~		~~Tablet~~	~~NO~~	~~e.coli~~	~~6 Hour hold time~~
2	Large Plastic	10:00	NO	NO	TSS	
3	~~Brown Plastic~~		~~NO~~	~~NO~~	~~chlorophyll-a~~	
4	Large Plastic	10:00	NO	NO	CBOD5	
5	~~Large Plastic~~		~~NO~~	~~NO~~	~~CBOD20~~	
6	Small plastic	10:01	NO	NO	total phos	
7	Small plastic (filtered)	10:01	NO	YES	nutrients	remember to filter!
8	~~Glass DO~~		~~NO~~	~~NO~~	~~winker DO~~	finished sample ~~should be amber in~~ color

Upper Merrimack and Pemigewasset River Study
High-Flow Water Quality
Field Measurement Worksheet

Station #: M013

Date: 5/17/12

Weather Conditions: Sunny, warm very windy

Sampler Names: Ethan R. Sobo, Sammy Datti

Team No.: 3 (NAI)

1. record site # (001 through 072)
2. record conditions and site description
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings, record times!
6. vertical DO/temp profile (if necessary at the site)
7. Collect all samples (fill out worksheet!)

Site Description

Total water depth (units): 4.0 feet

Algae coverage: No

Tree cover: No

Wildlife:

Other observations (sights, smells, etc) very fast current, sandy bottom

FOR QA PURPOSES, REPEAT YSI READINGS. RECORD TIME OF EACH READING

Data Collection

Parameter	Time 1: 10:25	Time 2: 10:35	Comment
Temperature °C	12.2	12.2	
Conductivity ms/cm	0.029	0.029	
Sp. Cond. ms/cm[c]	N/A	N/A	
DO %	96.9	95.2	
DO mg/L	10.1	9.9	
pH su	6.22	6.21	
Turbidity ntu	8.5	8.8	
Secchi Disk* indicate units	Up:		note units
	Down:		note units

*Secchi disk not necessary in flowing river reaches or in shallow water.

could not get secchi readings

Upper Merrimack and Pemigewasset River Study
High-Flow Water Quality
Sample Collection Worksheet

Station #: M013

Date: 5/17/12

Time: 10:25

Weather Conditions: sunny, warm very windy

Sampler Names: Ethan R. Sobo Sammy Datti

Team #: 3 (NAI)

☐ QA SAMPLE? Dup. Blank Rinse

Sample ID: M013-G-HF1

Instructions:

1. record date, time, and initial sample bottles
2. fill bottles to shoulder
3. remember to filter the "nut" sample
4. remember to add reagents to DO sample

Total water depth (feet): 4.0 ft

Sample depth (feet): 1.0 ft

Sample Collection

	Bottle	Time Filled	Preservative?	Filter?	Analyte	Comment
1	~~Sterile cylinder~~		~~Tablet~~	~~NO~~	~~e coli~~	~~6 Hour hold time~~
2	Large Plastic	10:25	NO	NO	TSS	
~~3~~	~~Brown Plastic~~		~~NO~~	~~NO~~	~~chlorophyll-a~~	
4	Large Plastic	10:25	NO	NO	CBOD5	
~~5~~	~~Large Plastic~~		~~NO~~	~~NO~~	~~CBOD20~~	
6	Small plastic	10:25	NO	NO	total phos	
7	Small plastic (filtered)	10:25	NO	YES	nutrients	remember to filter!
~~8~~	~~Glass DO~~		~~NO~~	~~NO~~	~~winker DO~~	finished sample ~~should be amber in~~ color

Upper Merrimack and Pemigewasset River Study
High-Flow Water Quality
Field Measurement Worksheet

Station #: M017

Date: 05-17-2012

Weather Conditions: Sunny & windy, warm

Sampler Names: Ethan Sobo, Sammy Datti

Team No.: 3 (NAI)

1. record site # (001 through 072)
2. record conditions and site description
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings, record times!
6. vertical DO/temp profile (if necessary at the site)
7. Collect all samples (fill out worksheet!)

Site Description

Total water depth (units): 23 ft

Algae coverage: No

Tree cover: No

Wildlife:

Other observations (sights, smells, etc)

FOR QA PURPOSES, REPEAT YSI READINGS. RECORD TIME OF EACH READING

Data Collection

Parameter	Time 1: 12:09	Time 2: 12:50	Comment
Temperature °C	13.9	14.0	
Conductivity ms/cm	0.032	0.032	
Sp. Cond. ms/cm[c]	N/A	N/A	
DO %	83.9	84.2	
DO mg/L	8.35	8.40	
pH su	6.31	6.31	
Turbidity ntu	3.0	3.4	
Secchi Disk* indicate units	Up: 9.7 ft		note units
	Down: 8.9 ft		note units

Secchi disk not necessary in flowing river reaches or in shallow water.

Upper Merrimack and Pemigewasset River Study
High-Flow Water Quality
Sample Collection Worksheet

Station #: M017

Date: 05-17-2012

Time: 12:09

Weather Conditions: warm & sunny, windy

Sampler Names: Ethan Sebo, Sammy Datti

Team #: 3 (NAI)

☐ QA SAMPLE? Dup. Blank Rinse

Sample ID: M017-G-HFI

Instructions:

1. record date, time, and initial sample bottles
2. fill bottles to shoulder
3. remember to filter the "nut" sample
4. remember to add reagents to DO sample

Total water depth (feet): 23.0 ft

Sample depth (feet): 1.0 ft

used white bucket to fill samples

Sample Collection

	Bottle	Time Filled	Preservative?	Filter?	Analyte	Comment
~~1~~	~~Sterile cylinder~~		~~Tablet~~	~~NO~~	~~e. coli~~	~~6 Hour hold time~~
2	Large Plastic	12:15	NO	NO	TSS	
3	Brown Plastic	12:15	NO	NO	chlorophyll-a	
4	Large Plastic	12:15	NO	NO	CBOD5	
~~5~~	~~Large Plastic~~		~~NO~~	~~NO~~	~~CBOD20~~	
6	Small plastic	12:15	NO	NO	total phos	
7	Small plastic (filtered)	12:15	NO	YES	nutrients	remember to filter!
8	Glass DO	12:24	NO	NO	winker DO	finished sample should be amber in color

Upper Merrimack and Pemigewasset River Study
High-Flow Water Quality
Field Measurement Worksheet

Station #: M018

Date: 5/17/12

Weather Conditions: Sunny, Calm to Windy

Sampler Names: Zach + Ali

Team No.: 2 (CDM Smith)

1. record site # (001 through 072)
2. record conditions and site description
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings, record times!
6. vertical DO/temp profile (if necessary at the site)
7. Collect all samples (fill out worksheet!)

Site Description

Total water depth (units): ~~3-4' Sample~~ Data collected @ ~1' off bank.

Algae coverage: Ø

Tree cover: small trees (many)

Wildlife: none

Other observations (sights, smells, etc) high velocity, deep class I-II, large standing wave in middle

FOR QA PURPOSES, REPEAT YSI READINGS. RECORD TIME OF EACH READING

Data Collection

Parameter	Time 1: 13:15	Time 2: 13:17	Comment
Temperature °C	12.19	12.19	
Conductivity ms/cm	0.028	0.028	
Sp. Cond. ms/cm[c]			
DO %	99.2	98.1	
DO mg/L	10.25	10.20	
pH su	5.78	5.66	
Turbidity ntu	13.2	~~16~~ 15.5	
Secchi Disk* indicate units	Up:		note units
	Down:		note units

Secchi disk not necessary in flowing river reaches or in shallow water.

Upper Merrimack and Pemigewasset River Study
High-Flow Water Quality
Sample Collection Worksheet

Station #: M018

Date: 5/17/12

Time: 13:05

Weather Conditions: sunny + calm

Sampler Names: Zach / Al

Team #: 2 (CDM Smith)

☐ QA SAMPLE? Dup. Blank Rinse

Sample ID: M018-G-HFI

Instructions:

1. record date, time, and initial sample bottles
2. fill bottles to shoulder
3. remember to filter the "nut" sample
4. remember to add reagents to DO sample

Total water depth (feet): 3-4

Sample depth (feet): surface

Sample Collection

	Bottle	Time Filled	Preservative?	Filter?	Analyte	Comment
~~1~~	~~Sterile cylinder~~		~~Tablet~~	~~NO~~	~~coli~~	~~6 Hour hold time~~
2	Large Plastic	13:05	NO	NO	TSS	
~~3~~	~~Brown Plastic~~		~~NO~~	~~NO~~	~~chlorophyll a~~	
4	Large Plastic	13:05	NO	NO	CBOD5	
~~5~~	~~Large Plastic~~		~~NO~~	~~NO~~	~~CBOD20~~	
6	Small plastic	13:05	NO	NO	total phos	
7	Small plastic (filtered)	13:05	NO	YES	nutrients	remember to filter!
~~8~~	~~Glass DO~~		~~NO~~	~~NO~~	~~winker DO~~	finished sample ~~should be amber in~~ color

Upper Merrimack and Pemigewasset River Study
High-Flow Water Quality
Field Measurement Worksheet

Station #: M020

Date: 5/17/12

Weather Conditions: sunny, windy

Sampler Names: Ali + Zach

Team No.: 2 (CDM Smith)

1. record site # (001 through 072)
2. record conditions and site description
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings, record times!
6. vertical DO/temp profile (if necessary at the site)
7. Collect all samples (fill out worksheet!)

Site Description

Total water depth (units): — off bridge, very deep

Algae coverage: none

Tree cover: none

Wildlife: none

Other observations (sights, smells, etc) none

FOR QA PURPOSES, REPEAT YSI READINGS. RECORD TIME OF EACH READING

Data Collection

Parameter	Time 1: 2:20	Time 2: 2:30	Comment
Temperature °C	13.94°C	13.70	
Conductivity ms/cm	0.028	0.028	
Sp. Cond. ms/cm[c]	—	—	
DO %	98.9	56.1	
DO mg/L	9.86	5.62	
pH su	6.26	6.12	
Turbidity ntu	10.0	8.8	
Secchi Disk* indicate units	Up:		note units
	Down:		note units

Secchi disk not necessary in flowing river reaches or in shallow water.

Upper Merrimack and Pemigewasset River Study
High-Flow Water Quality
Sample Collection Worksheet

Station #: M020

Date: 5/17

Time: 2:10

Weather Conditions: sunny, breezy

Sampler Names: Ari + Zach

Team #: 2 (CDM Smith)

☐ QA SAMPLE? Dup. Blank Rinse

Sample ID: M020-G-HF1

Instructions:

1. record date, time, and initial sample bottles
2. fill bottles to shoulder
3. remember to filter the "nut" sample
4. remember to add reagents to DO sample

Total water depth (feet): — off bridge, v. deep

Sample depth (feet):

Sample Collection

	Bottle	Time Filled	Preservative?	Filter?	Analyte	Comment
1	~~Sterile cylinder~~		~~Tablet~~		~~e.coli~~	~~6 Hour hold time~~
2	Large Plastic	2:10	NO	NO	TSS	
3	~~Brown Plastic~~		~~NO~~	~~NO~~	~~chlorophyll a~~	
4	Large Plastic	2:10	NO	NO	CBOD5	
5	~~Large Plastic~~		~~NO~~	~~NO~~	~~CBOD20~~	
6	Small plastic	2:10	NO	NO	total phos	
7	Small plastic (filtered)	2:10	NO	YES	nutrients	remember to filter!
8	Glass DO	2:10	NO	NO	winker DO	finished sample should be amber in color

Upper Merrimack and Pemigewasset River Study
High-Flow Water Quality
Field Measurement Worksheet

Station #: M023

Date: 05-17-2012

Weather Conditions: Sunny & warm, Slight wind

Sampler Names: Ethan Sobo, Sammy Datti

Team No.: 3 (NAI)

1. record site # (001 through 072)
2. record conditions and site description
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings, record times!
6. vertical DO/temp profile (if necessary at the site)
7. Collect all samples (fill out worksheet!)

Site Description

Total water depth (units): 35 ft

Algae coverage: No

Tree cover: No

Wildlife: Song birds, geese

Other observations (sights, smells, etc) Water level higher than normal, tree trunks below water line

FOR QA PURPOSES, REPEAT YSI READINGS. RECORD TIME OF EACH READING

Data Collection

Parameter	Time 1: 14:43	Time 2: 14:53	Comment
Temperature °C	13.7°C	13.7°C	
Conductivity ms/cm	0.036	0.036	
Sp. Cond. ms/cm[c]	N/A	N/A	
DO %	93.8	90.1	
DO mg/L	9.49	9.09	
pH su	6.43	6.45	
Turbidity ntu	5.0	5.0	
Secchi Disk* indicate units	Up: 5.8 feet		(decimal feet note units
	Down: 5.1 feet		not inches) note units

Secchi disk not necessary in flowing river reaches or in shallow water.

Upper Merrimack and Pemigewasset River Study
High-Flow Water Quality
Sample Collection Worksheet

Station #: M023

Date: 5/17/12

Time: 14:47

Weather Conditions: Sunny, clear sky occasional wind gust, warm

Sampler Names: Ethan R. Sobo, Sammy Datti

Team #: 3 (NAI)

☐ QA SAMPLE? Dup. Blank Rinse

Sample ID: M023-G-HF1

Instructions:

1. record date, time, and initial sample bottles
2. fill bottles to shoulder
3. remember to filter the "nut" sample
4. remember to add reagents to DO sample

Total water depth (feet): 35ft

Sample depth (feet): 1.5 ft

used white bucket to fill sample bottles

Sample Collection

	Bottle	Time Filled	Preservative?	Filter?	Analyte	Comment
~~1~~	~~Sterile cylinder~~		~~Tablet~~	~~NO~~	~~e.coli~~	~~6 Hour hold time~~
2	Large Plastic	14:47	NO	NO	TSS	
3	Brown Plastic	14:47	NO	NO	chlorophyll-a	
4	Large Plastic	14:47	NO	NO	CBOD5	
~~5~~	~~Large Plastic~~		~~NO~~	~~NO~~	~~CBOD20~~	
6	Small plastic	14:47	NO	NO	total phos	
7	Small plastic (filtered)	14:47	NO	YES	nutrients	remember to filter!
~~8~~	~~Glass BOD~~		~~NO~~	~~NO~~	~~winkler DO~~	~~finished sample should be amber in~~ color

Upper Merrimack and Pemigewasset River Study
High-Flow Water Quality
Field Measurement Worksheet

Station #: M024

Date: 05-17-2012

Weather Conditions: Sunny & warm

Sampler Names: Ethan Sobo, Sammy Datti

Team No.: 3 (NAI)

1. record site # (001 through 072)
2. record conditions and site description
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings, record times!
6. vertical DO/temp profile (if necessary at the site)
7. Collect all samples (fill out worksheet!)

Site Description

Total water depth (units): 21.5 ft

Algae coverage: No

Tree cover: No

Wildlife:

Other observations (sights, smells, etc)

FOR QA PURPOSES, REPEAT YSI READINGS. RECORD TIME OF EACH READING

Data Collection

Parameter	Time 1: 15:59	Time 2: 16:08	Comment
Temperature °C	13.63	13.75	
Conductivity ms/cm	0.038	0.038	
Sp. Cond. ms/cm[c]	N/A	N/A	
DO %	95.4	93.7	
DO mg/L	9.62	9.40	
pH su	6.46	6.43	
Turbidity ntu	4.2	4.3	
Secchi Disk* indicate units	Up: 6.5ft		note units
	Down: 6.0ft		note units

Secchi disk not necessary in flowing river reaches or in shallow water. Secchi Disk attached to sampling stick

Upper Merrimack and Pemigewasset River Study
High-Flow Water Quality
Sample Collection Worksheet

Station #: M024

Date: 05-17-2012

Time: 16:02

Weather Conditions: Sunny, warm

Sampler Names: Ethan Sobo, Sammy Datti

Team #: 3 (NAI)

☐ QA SAMPLE? Dup. Blank Rinse

Sample ID: M024-G-HF1

Instructions:

1. record date, time, and initial sample bottles
2. fill bottles to shoulder
3. remember to filter the "nut" sample
4. remember to add reagents to DO sample

Total water depth (feet): 21.5 ft

Sample depth (feet): 1.0 ft

Sample Collection

	Bottle	Time Filled	Preservative?	Filter?	Analyte	Comment
1	~~Sterile cylinder~~		~~Tablet~~	~~NO~~	~~e coli~~	~~6 Hour hold time~~
2	Large Plastic	16:02	NO	NO	TSS	
3	Brown Plastic	16:02	NO	NO	chlorophyll-a	
4	Large Plastic	16:02	NO	NO	CBOD5	
5	~~Large Plastic~~		~~NO~~	~~NO~~	~~CBOD20~~	
6	Small plastic	16:02	NO	NO	total phos	
7	Small plastic (filtered)	16:02	NO	YES	nutrients	remember to filter!
8	~~Glass DO~~		~~NO~~	~~NO~~	~~winker DO~~	~~finished sample should be amber in color~~

Upper Merrimack and Pemigewasset River Study
High-Flow Water Quality
Field Measurement Worksheet

Station #: M026

Date: 5-17-12

Weather Conditions: Clear, sunny, mild 60's slight breeze

Sampler Names: KRP & JD

Team No.: 4 (NA)

1. record site # (001 through 072)
2. record conditions and site description
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings, record times!
6. vertical DO/temp profile (if necessary at the site)
7. Collect all samples (fill out worksheet!)

Site Description

Total water depth (units): 3 ft

Algae coverage: none

Tree cover: none

Wildlife: NA

Other observations (sights, smells, etc)

FOR QA PURPOSES, REPEAT YSI READINGS. RECORD TIME OF EACH READING

Data Collection

Parameter	Time 1: 9:20	Time 2: 9:25	Comment allowed YSI to stabilize for 20 minutes
Temperature °C	13.78	13.77	
Conductivity ms/cm	~~0.044~~	—	
Sp. Cond. ms/cm[c]	0.044	0.044	
DO %	131.8	129.0	may still be dropping
DO mg/L	13.21	12.93	"
pH su	5.94	6.23	
Turbidity ntu	4.7	5.4	
Secchi Disk* indicate units	Up:		note units
	Down:		note units

Secchi disk not necessary in flowing river reaches or in shallow water.

Upper Merrimack and Pemigewasset River Study
High-Flow Water Quality
Sample Collection Worksheet

Station #: M026

Date: 5-17-12

Time: 9:10

Weather Conditions: Sunny, clear, light breeze temp mid 60's

Sampler Names: KRP & JD

Team #: 4 (NAI)

☐ QA SAMPLE? Dup. Blank Rinse

Sample ID: M026-G-HF1

Instructions:

1. record date, time, and initial sample bottles
2. fill bottles to shoulder
3. remember to filter the "nut" sample
4. remember to add reagents to DO sample

Total water depth (feet): 3

Sample depth (feet): 1.5-2

Sample Collection

	Bottle	Time Filled	Preservative?	Filter?	Analyte	Comment
1	~~Sterile cylinder~~		~~Tablet~~	~~NO~~	~~ecoli~~	~~6 Hour hold time~~
2	Large Plastic	9:10	NO	NO	TSS	
~~3~~	~~Brown Plastic~~		~~NO~~	~~NO~~	~~chlorophyll a~~	
4	Large Plastic	9:10	NO	NO	CBOD5	
~~5~~	~~Large Plastic~~		~~NO~~	~~NO~~	~~CBOD20~~	
6	Small plastic	9:10	NO	NO	total phos	
7	Small plastic (filtered)	9:10	NO	YES	nutrients	remember to filter! OK
~~8~~	~~Clear DO~~		~~NO~~	~~NO~~	~~winkler DO~~	~~finished sample should be amber in color~~

Upper Merrimack and Pemigewasset River Study
High-Flow Water Quality
Field Measurement Worksheet

Station #: M030

Date: 5-17-12

Weather Conditions: sunny, light breeze

Sampler Names: KRP & JD

Team No.: 4 (NAI)

1. record site # (001 through 072)
2. record conditions and site description
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings, record times!
6. vertical DO/temp profile (if necessary at the site)
7. Collect all samples (fill out worksheet!)

Site Description

Total water depth (units): 3.5 ft

Algae coverage: NA

Tree cover: 50% of bank, bank flooded

Wildlife: groundhog

Other observations (sights, smells, etc)

FOR QA PURPOSES, REPEAT YSI READINGS. RECORD TIME OF EACH READING

Data Collection

Parameter	Time 1: 11:24	Time 2: 11:59	Comment
Temperature °C	14.35	14.41	
~~Conductivity ms/cm~~	—	—	
Sp. Cond. ms/cm[c]	0.052	0.052	
DO %	119.0	117.3	
DO mg/L	11.70	11.59	no bouncing - flux
pH su	6.35	6.13	
Turbidity ntu	5.8	5.6	
Secchi Disk* indicate units	Up:		note units
	Down:		note units

*Secchi disk not necessary in flowing river reaches or in shallow water.

Upper Merrimack and Pemigewasset River Study
High-Flow Water Quality
Sample Collection Worksheet

Station #: M030

Date: 5-17-12

Time: 11:26

Weather Conditions:

☐ QA SAMPLE? Dup. Blank Rinse

Sample ID: M030-G-HF

Sampler Names: KRPAJD

Team #: 4 (NAI)

Instructions:

1. record date, time, and initial sample bottles
2. fill bottles to shoulder
3. remember to filter the "nut" sample
4. remember to add reagents to DO sample

Total water depth (feet): 3.5

Sample depth (feet): 1.5

Sample Collection

	Bottle	Time Filled	Preservative?	Filter?	Analyte	Comment
1	~~Sterile cylinder~~		~~Tablet~~	~~NO~~	~~e.coli~~	~~6 Hour hold time~~
2	Large Plastic	11:26	NO	NO	TSS	
~~3~~	~~Brown Plastic~~		~~NO~~	~~NO~~	~~chlorophyll-a~~	
4	Large Plastic	11:26	NO	NO	CBOD5	
5	Large Plastic	11:26	NO	NO	CBOD20	
6	Small plastic	11:26	NO	NO	total phos	
7	Small plastic (filtered)	11:26	NO	YES	nutrients	remember to filter!
8	Glass DO	11:26	NO	NO	winker DO	finished sample should be amber in color

DO not sampled w/ Van Dorn
used sample cup

Upper Merrimack and Pemigewasset River Study
High-Flow Water Quality
Field Measurement Worksheet

Station #: M032

Date: 5-17-12

Weather Conditions: Sunny, lt breeze, high 60's

Sampler Names: KRD JD

Team No.: 4 (NAI)

1. record site # (001 through 072)
2. record conditions and site description
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings, record times!
6. vertical DO/temp profile (if necessary at the site)
7. Collect all samples (fill out worksheet!)

Site Description

Total water depth (units): 8ft

Algae coverage: NA

Tree cover: Ø

Wildlife:

Other observations (sights, smells, etc)

FOR QA PURPOSES, REPEAT YSI READINGS. RECORD TIME OF EACH READING

Data Collection

Parameter	Time 1: 1:48	Time 2: 2:00	Comment 2:35 test set
Temperature °C	14.97	14.88	14.89
Conductivity ms/cm	—	—	—
Sp. Cond. ms/cm[c]	0.055	0.053	0.054
DO %	123.4	113.4	115.8
DO mg/L	12.05	11.10	11.33
pH su	6.79	6.34	6.33
Turbidity ntu	5.2	5.2	5.2
Secchi Disk* indicate units	Up:		note units
	Down:		note units

*Secchi disk not necessary in flowing river reaches or in shallow water.

Upper Merrimack and Pemigewasset River Study
High-Flow Water Quality
Sample Collection Worksheet

Station #: M032

Date: 5-17-12

Time: 1:48

Weather Conditions: sunny, light breeze, upper 60's

Sampler Names: KEP + JD

Team #: 4 (NAM)

☐ QA SAMPLE? Dup. Blank Rinse

Sample ID: M032-G-HF1

Instructions:

1. record date, time, and initial sample bottles
2. fill bottles to shoulder
3. remember to filter the "nut" sample
4. remember to add reagents to DO sample

Total water depth (feet): 8

Sample depth (feet): 1.5

Sample Collection

	Bottle	Time Filled	Preservative?	Filter?	Analyte	Comment
1	~~Sterile cylinder~~		~~Tablet~~	~~NO~~	~~e.coli~~	~~6 Hour hold time~~
2	Large Plastic	1:48	NO	NO	TSS	
~~3~~	~~Brown Plastic~~		~~NO~~	~~NO~~	~~chlorophyll-a~~	
4	Large Plastic	1:48	NO	NO	CBOD5	
~~5~~	~~Large Plastic~~		~~NO~~	~~NO~~	~~CBOD20~~	
6	Small plastic	1:48	NO	NO	total phos	
7	Small plastic (filtered)	1:48	NO	YES	nutrients	remember to filter!
~~8~~	~~Glass DO~~		~~NO~~	~~NO~~	~~winker DO~~	finished sample ~~should be amber in~~ color

*Used sample bottles labeled M033, relabelled them

Upper Merrimack and Pemigewasset River Study
High-Flow Water Quality
Field Measurement Worksheet

Station #: M033

Date: 5-17-12

Weather Conditions: Sunny, light breeze

Sampler Names: KRP & JD

Team No.: 4 (NAI)

1. record site # (001 through 072)
2. record conditions and site description
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings, record times!
6. vertical DO/temp profile (if necessary at the site)
7. Collect all samples (fill out worksheet!)

Site Description

Total water depth (units): 8 ft

Algae coverage: NA

Tree cover: Ø

Wildlife:

Other observations (sights, smells, etc)

FOR QA PURPOSES, REPEAT YSI READINGS. RECORD TIME OF EACH READING

Data Collection

Parameter	Time 1: 2:08	Time 2: 2:17	Comment
Temperature °C	14.85	14.95	
Conductivity ms/cm	—	—	
Sp. Cond. ms/cm[c]	0.054	0.053	
DO %	107.8	118.1	
DO mg/L	10.56	11.54	
pH su	6.34	6.35	
Turbidity ntu	4.8	5.1	
Secchi Disk* indicate units	Up:		note units
	Down:		note units

Secchi disk not necessary in flowing river reaches or in shallow water.

Upper Merrimack and Pemigewasset River Study
High-Flow Water Quality
Sample Collection Worksheet

Station #: M033

Date: 5-17-12

Time: 2:06

Weather Conditions: Sunny, light breeze

☐ QA SAMPLE? Dup. Blank Rinse

Sample ID: M033-G-HF1

Sampler Names: KRP & JD

Team #: 4 (NAI)

Instructions:

1. record date, time, and initial sample bottles
2. fill bottles to shoulder
3. remember to filter the "nut" sample
4. remember to add reagents to DO sample

Total water depth (feet): 8

Sample depth (feet): 1.5

Sample Collection

	Bottle	Time Filled	Preservative?	Filter?	Analyte	Comment
1	~~Sterile cylinder~~		~~Tablet~~	~~NO~~	~~e.coli~~	~~6 Hour hold time~~
2	Large Plastic	2:06	NO	NO	TSS	
~~3~~	~~Brown Plastic~~		~~NO~~	~~NO~~	~~chlorophyll-a~~	
4	Large Plastic	2:06	NO	NO	CBOD5	
~~5~~	~~Large Plastic~~		~~NO~~	~~NO~~	~~CBOD20~~	
6	Small plastic	2:06	NO	NO	total phos	
7	Small plastic (filtered)	2:06	NO	YES	nutrients	remember to filter!
~~8~~	~~Glass DO~~		~~NO~~	~~NO~~	~~winker DO~~	finished sample ~~should be amber in~~ color

* Used sample bottles labeled M032, relabeled them

Upper Merrimack and Pemigewasset River Study
High-Flow Water Quality
Field Measurement Worksheet

Station #: M036

Date: 5/17/12

Weather Conditions: Sunny, windy, 60°F

Sampler Names: Andrew Poyant & Kevin Leroux

Team No.: 5 (CDM Smith)

1. record site # (001 through 072)
2. record conditions and site description
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings, record times!
6. vertical DO/temp profile (if necessary at the site)
7. Collect all samples (fill out worksheet!)

Site Description

Total water depth (units): 11.0 Ft

Algae coverage: none

Tree cover: Trees and shrubs along bank

Wildlife: birds

Other observations (sights, smells, etc)

FOR QA PURPOSES, REPEAT YSI READINGS. RECORD TIME OF EACH READING

Data Collection

Parameter	Time 1: 9:15	Time 2: 9:25	Comment
Temperature °C	14.01	14.18	
Conductivity ms/cm	.052	0.052	
Sp. Cond. ms/cm[c]			
DO %	111.5	110.8	
DO mg/L	10.97	11.03	
pH su	6.66	6.68	
Turbidity ntu	6.2	6.9	
Secchi Disk* indicate units	Up: —		note units
	Down: —		note units

Secchi disk not necessary in flowing river reaches or in shallow water.

Upper Merrimack and Pemigewasset River Study
High-Flow Water Quality
Sample Collection Worksheet

Station #: M036

Date: 5/17/12

Time: 9:15AM

Weather Conditions: Sunny, windy, 60°F

Sampler Names: Andrew Pogant & Kevin Leroux

Team #: 5 (CDM Smith)

☐ QA SAMPLE? Dup. Blank Rinse

Sample ID: M036-G-HF1

Instructions:

1. record date, time, and initial sample bottles
2. fill bottles to shoulder
3. remember to filter the "nut" sample
4. remember to add reagents to DO sample

Total water depth (feet): 11.0 Ft

Sample depth (feet): 2'

Sample Collection

	Bottle	Time Filled	Preservative?	Filter?	Analyte	Comment
~~1~~	~~Sterile cylinder~~		~~Tablet~~	~~NO~~	~~e.coli~~	~~6 Hour hold time~~
2	Large Plastic	9:15	NO	NO	TSS	
~~3~~	~~Brown Plastic~~		~~NO~~	~~NO~~	~~chlorophyll-a~~	
4	Large Plastic	9:15	NO	NO	CBOD5	
~~5~~	~~Large Plastic~~		~~NO~~	~~NO~~	~~CBOD20~~	
6	Small plastic	9:15	NO	NO	total phos	
7	Small plastic (filtered)	9:15	NO	YES	nutrients	remember to filter!
~~8~~	~~Glass DO~~		~~NO~~	~~NO~~	~~winker DO~~	finished sample ~~should be amber in~~ color

Upper Merrimack and Pemigewasset River Study
High-Flow Water Quality
Sample Collection Worksheet

Station #: M036

Date: 5/17/12

Time: 9:25 AM

Weather Conditions: Sunny, Windy 60°F

Sampler Names: Andrew Poyant & Kevin Leroux

Team #: 5

☑ QA SAMPLE? (Dup.) Blank Rinse

Sample ID: M236-D-HF1

Instructions:

1. record date, time, and initial sample bottles
2. fill bottles to shoulder
3. remember to filter the "nut" sample
4. remember to add reagents to DO sample

Total water depth (feet): 11.0 Ft

Sample depth (feet): 2 Ft

Sample Collection

	Bottle	Time Filled	Preservative?	Filter?	Analyte	Comment
	~~Sterile cylinder~~		~~Tablet~~	~~NO~~	~~e.coli~~	~~6 Hour hold time~~
2	Large Plastic	9:25	NO	NO	TSS	
~~3~~	~~Brown Plastic~~		~~NO~~	~~NO~~	~~chlorophyll a~~	
4	Large Plastic	9:25	NO	NO	CBOD5	
5	Large Plastic	9:25	NO	NO	CBOD20	
6	Small plastic	9:25	NO	NO	total phos	
7	Small plastic (filtered)	9:25	NO	YES	nutrients	remember to filter!
~~8~~	~~Glass DO~~		~~NO~~	~~NO~~	~~winker DO~~	finished sample should be amber in color
	Large Plastic	9:25		No	CBOD20 Xtra	

Upper Merrimack and Pemigewasset River Study
High-Flow Water Quality
Sample Collection Worksheet

Station #: M036

Date: 5/17/12

Time: 10.34

Weather Conditions: Sunny 60°F

Sampler Names: Andrew Poyant & Kevin Leroux

Team #: 5

☑ QA SAMPLE? Dup. (Blank) Rinse

Sample ID: M136-B-HF1

Instructions:

1. record date, time, and initial sample bottles
2. fill bottles to shoulder
3. remember to filter the "nut" sample
4. remember to add reagents to DO sample

Total water depth (feet): 11.0

Sample depth (feet): 2

Sample Collection

	Bottle	Time Filled	Preservative?	Filter?	Analyte	Comment
	~~Sterile cylinder~~		~~Tablet~~	~~NO~~	~~e.coli~~	~~6 Hour hold time~~
2	Large Plastic	10:34	NO	NO	TSS	
~~3~~	~~Brown Plastic~~		~~NO~~	~~NO~~	~~chlorophyll a~~	
4	Large Plastic	10:34	NO	NO	CBOD5	
5	Large Plastic	10:34	NO	NO	CBOD20	
6	Small plastic	10:34	NO	NO	total phos	
7	Small plastic (filtered)	10:34	NO	YES	nutrients	remember to filter!
~~8~~	~~Glass DO~~		~~NO~~	~~NO~~	~~winkler DO~~	~~finished sample should be amber in color~~
	LargePlastic	10:34	No	No	BOD20 Xtra	

Upper Merrimack and Pemigewasset River Study
High-Flow Water Quality
Sample Collection Worksheet

Station #: M036

Date: 5/17/12

Time: 10:55 AM

Weather Conditions: Sunny, 60°F

Sampler Names: Andrew Pogant & Kevin Leroux

Team #: 5

☑ QA SAMPLE? Dup. Blank (Rinse)

Sample ID: M336-R-HF1

Instructions:

1. record date, time, and initial sample bottles
2. fill bottles to shoulder
3. remember to filter the "nut" sample
4. remember to add reagents to DO sample

Total water depth (feet): 11.0

Sample depth (feet): 2

Sample Collection

	Bottle	Time Filled	Preservative?	Filter?	Analyte	Comment
	~~Sterile cylinder~~		~~Tablet~~	~~NO~~	~~coliform~~	~~24 hour hold time~~
2	Large Plastic	10:55	NO	NO	TSS	
3	~~Brown Plastic~~		~~NO~~	~~NO~~	~~chlorophyll~~	
4	Large Plastic	10:55	NO	NO	CBOD5	
5	Large Plastic	10:55	NO	NO	CBOD20	
6	Small plastic	10:55	NO	NO	total phos	
7	Small plastic (filtered)	10:55	NO	YES	nutrients	remember to filter!
8	~~Glass DO~~		~~NO~~	~~NO~~	~~winker DO~~	~~finished sample should be amber in color~~
	Large Plastic	10:55	No	No	CBOD20	

Upper Merrimack and Pemigewasset River Study
High-Flow Water Quality
Field Measurement Worksheet

Station #: M037

Date: 5/17/12

Weather Conditions: Sunny, 60°F

Sampler Names:

Team No.: 5 (CDM Smith)

1. record site # (001 through 072)
2. record conditions and site description
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings, record times!
6. vertical DO/temp profile (if necessary at the site)
7. Collect all samples (fill out worksheet!)

Site Description

Total water depth (units): 7.6

Algae coverage: NONE

Tree cover: NONE

Wildlife:

Other observations (sights, smells, etc) 4.5 sec/14.5 Ft flow

FOR QA PURPOSES, REPEAT YSI READINGS. RECORD TIME OF EACH READING

Data Collection

Parameter	Time 1: 9:55	Time 2:	Comment
Temperature °C	14.01	14.06	
Conductivity ms/cm			
Sp. Cond. ms/cm[c]	0.053	0.052	
DO %	~~10.59~~ 106.0	110.9	
DO mg/L	10.59	11.04	
pH su	6.67	6.68	
Turbidity ntu	5.4	5.2	
Secchi Disk* indicate units	Up: —		note units
	Down: —		note units

Secchi disk not necessary in flowing river reaches or in shallow water.

Upper Merrimack and Pemigewasset River Study
High-Flow Water Quality
Sample Collection Worksheet

Station #: M037

Date: 5/17/12

Time: 9:55 AM

Weather Conditions: Sunny, 60°F

☐ QA SAMPLE? Dup. Blank Rinse

Sample ID: M037-G-HF1

Sampler Names: Andrew Poyant & Kevin Lee

Team #: 5 (CDM Smith)

Instructions:

1. record date, time, and initial sample bottles
2. fill bottles to shoulder
3. remember to filter the "nut" sample
4. remember to add reagents to DO sample

Total water depth (feet): 7.6

Sample depth (feet): 1.5

Sample Collection

	Bottle	Time Filled	Preservative?	Filter?	Analyte	Comment
1	~~Sterile cylinder~~		~~Tablet~~	~~NO~~	~~e.coli~~	~~6 Hour hold time~~
2	Large Plastic	9:55	NO	NO	TSS	
3	~~Brown Plastic~~		~~NO~~	~~NO~~	~~chlorophyll-a~~	
4	Large Plastic	9:55	NO	NO	CBOD5	
5	Large Plastic	9:55	NO	NO	CBOD20	
6	Small plastic	9:55	NO	NO	total phos	
7	Small plastic (filtered)		NO	YES	nutrients	remember to filter!
8	~~Glass DO~~		~~NO~~	~~NO~~	~~winker DO~~	~~finished sample should be amber in color~~
	Large Plastic	9:55	No	No	BOD	

Upper Merrimack and Pemigewasset River Study
High-Flow Water Quality
Field Measurement Worksheet

Station #: M039

Date: 5/17/12

Weather Conditions: Sunny 60°F

Sampler Names: Andrew & Kevin

Team No.: 5 (CDM Smith)

1. record site # (001 through 072)
2. record conditions and site description
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings, record times!
6. vertical DO/temp profile (if necessary at the site)
7. Collect all samples (fill out worksheet!)

Site Description

Total water depth (units): 11.5

Algae coverage: NO

Tree cover: NO

Wildlife: NO

Other observations (sights, smells, etc) –

FOR QA PURPOSES, REPEAT YSI READINGS. RECORD TIME OF EACH READING

Data Collection

Parameter	Time 1: 11:45	Time 2: 11:55	Comment
Temperature °C	14.75	14.78	
Conductivity ms/cm	0.052	0.052	
Sp. Cond. ms/cm[c]			
DO %	110.1	112.1	
DO mg/L	10.80	10.99	
pH su	6.66	6.20	
Turbidity ntu	5.4	5.6	
Secchi Disk* indicate units	Up: NA		note units
	Down: NA		note units

*Secchi disk not necessary in flowing river reaches or in shallow water.

Upper Merrimack and Pemigewasset River Study
High-Flow Water Quality
Sample Collection Worksheet

Station #: M039

Date: 5/17/12
Time: 11:55 AM
Weather Conditions: Sunny 60°F

Sampler Names: Andrew Poyant & Kevin Leroux
Team #: 5 (CDM Smith)

☐ QA SAMPLE? Dup. Blank Rinse

Sample ID: M039-G-HF1

Instructions:

1. record date, time, and initial sample bottles
2. fill bottles to shoulder
3. remember to filter the "nut" sample
4. remember to add reagents to DO sample

Total water depth (feet): 11.5
Sample depth (feet): 1

Sample Collection

	Bottle	Time Filled	Preservative?	Filter?	Analyte	Comment
1	~~Sterile cylinder~~		~~Tablet~~	~~NO~~	~~e.coli~~	~~6 Hour hold time~~
2	Large Plastic	11:55	NO	NO	TSS	
~~3~~	~~Brown Plastic~~		~~NO~~	~~NO~~	~~chlorophyll-a~~	
4	Large Plastic	11:55	NO	NO	CBOD5	
~~5~~	~~Large Plastic~~		~~NO~~	~~NO~~	~~CBOD20~~	
6	Small plastic	11:55	NO	NO	total phos	
7	Small plastic (filtered)	11:55	NO	YES	nutrients	remember to filter!
~~8~~	~~Glass DO~~		~~NO~~	~~NO~~	~~winker DO~~	finished sample ~~should be amber in~~ color

Upper Merrimack and Pemigewasset River Study
High-Flow Water Quality
Field Measurement Worksheet

Station #: M041

Date: 5/17/12

Weather Conditions: Sunny, 70°F

Sampler Names: Andrew Payant & Kevin Leroux

Team No.: 5 (CDM Smith)

1. record site # (001 through 072)
2. record conditions and site description
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings, record times!
6. vertical DO/temp profile (if necessary at the site)
7. Collect all samples (fill out worksheet!)

Site Description

Total water depth (units): 17.6

Algae coverage: NO

Tree cover: NO

Wildlife: BLUE HERON (1)

Other observations (sights, smells, etc)

FOR QA PURPOSES, REPEAT YSI READINGS. RECORD TIME OF EACH READING

Data Collection

Parameter	Time 1: 1243	Time 2:	Comment
Temperature °C	14.83	14.90	
Conductivity ms/cm	0.053	0.052	
Sp. Cond. ms/cm[c]	—		
DO %	108.9	110.8	
DO mg/L	10.68	10.82	
pH su	6.63	6.71	
Turbidity ntu	5.5	6.5	
Secchi Disk* indicate units	Up: —		note units
	Down: —		note units

Secchi disk not necessary in flowing river reaches or in shallow water.

Upper Merrimack and Pemigewasset River Study
High-Flow Water Quality
Sample Collection Worksheet

Station #: M041

Date: 5/17/12

Time: 12:45

Weather Conditions: Sunny, 60°F

Sampler Names: Andrew Poyant & Kevin Letourx

Team #: 5 (CDM Smith)

☐ QA SAMPLE? Dup. Blank Rinse

Sample ID: M041-G-HF1

Instructions:

1. record date, time, and initial sample bottles
2. fill bottles to shoulder
3. remember to filter the "nut" sample
4. remember to add reagents to DO sample

Total water depth (feet): 17.6

Sample depth (feet): 1'

Sample Collection

	Bottle	Time Filled	Preservative?	Filter?	Analyte	Comment
1	Sterile cylinder	12:58	Tablet	NO	e.coli	6 Hour hold time
2	Large Plastic	12:45	NO	NO	TSS	
3	Brown Plastic	12:45	NO	NO	chlorophyll-a	
4	Large Plastic	12:45	NO	NO	CBOD5	
5	Large Plastic	12:45	NO	NO	CBOD20	
6	Small plastic	12:45	NO	NO	total phos	
7	Small plastic (filtered)	12:45	NO	YES	nutrients	remember to filter!
8	Glass DO	1:20	NO	NO	winker DO	finished sample should be amber in color
9	Large Plastic	12:45	No	No	BOD20 extra	

Upper Merrimack and Pemigewasset River Study
High-Flow Water Quality
Field Measurement Worksheet

Station #: M045

Date: 5/17/12

Weather Conditions: Sunny, upper 50's

Sampler Names: CAF/AB

Team No.: 6 (NAI)

1. record site # (001 through 072)
2. record conditions and site description
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings, record times!
6. vertical DO/temp profile (if necessary at the site)
7. Collect all samples (fill out worksheet!)

Site Description

Total water depth (units): 8.5'

Algae coverage: No

Tree cover: No

Wildlife: No

Other observations (sights, smells, etc)

FOR QA PURPOSES, REPEAT YSI READINGS. RECORD TIME OF EACH READING

Data Collection

Parameter	Time 1: 0920	Time 2: 0935	Comment
Temperature °C	14.10	14.11	lots of pollen and leaf debris floating on water surface
Conductivity ms/cm	0.061	0.061	
Sp. Cond. ms/cm[c]			No Sp. cond. reading on meter
DO %	92.4	90.4	
DO mg/L	9.20	8.99	
pH su	6.39	6.48	
Turbidity ntu	12.3	12.4	
Secchi Disk* indicate units	Up:		flow taking disk note units
	Down:		down stream no accurate readings. note units

Secchi disk not necessary in flowing river reaches or in shallow water.

Upper Merrimack and Pemigewasset River Study
High-Flow Water Quality
Sample Collection Worksheet

Station #: M045

Date: 5/12/12

Time: 0925

Weather Conditions: Sunny, upper 50's wind 10mph

Sampler Names: CAF/AB

Team #: 6 (NAI)

☐ QA SAMPLE? Dup. Blank Rinse

Sample ID: M045-G-HF1

Instructions:

1. record date, time, and initial sample bottles
2. fill bottles to shoulder
3. remember to filter the "nut" sample
4. remember to add reagents to DO sample

Total water depth (feet): 8.5'

Sample depth (feet): 1.5'

Sample Collection

	Bottle	Time Filled	Preservative?	Filter?	Analyte	Comment
~~1~~	~~Sterile cylinder~~		~~Tablet~~	~~NO~~	~~e.coli~~	~~6 Hour hold time~~
2	Large Plastic	0925	NO	NO	TSS ✓	
3	Brown Plastic	0925	NO	NO	chlorophyll-a ✓	
4	Large Plastic	0925	NO	NO	CBOD5 ✓	
~~5~~	~~Large Plastic~~		~~NO~~	~~NO~~	~~CBOD20~~	
6	Small plastic	0925	NO	NO	total phos ✓	
7	Small plastic (filtered)		NO	YES	nutrients ✓	remember to filter!
~~8~~	~~Glass DO~~		~~NO~~	~~NO~~	~~winkler DO~~	finished sample ~~should be amber in~~ color

Upper Merrimack and Pemigewasset River Study
High-Flow Water Quality
Field Measurement Worksheet

Station #: M048

Date: 5/17/12

Weather Conditions: Sunny, lower 60's

Sampler Names: CAF/AB

Team No.: 6 (NAI)

1. record site # (001 through 072)
2. record conditions and site description
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings, record times!
6. vertical DO/temp profile (if necessary at the site)
7. Collect all samples (fill out worksheet!)

Site Description

Total water depth (units): 7.5

Algae coverage: No

Tree cover: No

Wildlife: No

Other observations (sights, smells, etc)

FOR QA PURPOSES, REPEAT YSI READINGS. RECORD TIME OF EACH READING

Data Collection

Parameter	Time 1: 1035	Time 2: 1047	Comment
Temperature °C	14.27	14.43	
Conductivity ms/cm	0.062	0.062	
Sp. Cond. ms/cm[c]	—	—	No sp. cond, on meter
DO %	93.5	90.5	
DO mg/L	9.27	8.97	
pH su	6.63	6.46	
Turbidity ntu	11.0	12.3	
Secchi Disk* indicate units	Up: 3.4		Not accurate note units
	Down: 3.5		going down stream note units

Secchi disk not necessary in flowing river reaches or in shallow water.

* Attached disk to pole.

Upper Merrimack and Pemigewasset River Study
High-Flow Water Quality
Sample Collection Worksheet

Station #: M048

Date: 8/17/12

Time: 1040

Weather Conditions: Sunny, lower 60's

Sampler Names: CAF/AB

Team #: 6 (NAI)

☐ QA SAMPLE? Dup. Blank Rinse

Sample ID: M048-G-HF1

Instructions:

1. record date, time, and initial sample bottles
2. fill bottles to shoulder
3. remember to filter the "nut" sample
4. remember to add reagents to DO sample

Total water depth (feet): 8.5'

Sample depth (feet): 1.5'

Sample Collection

	Bottle	Time Filled	Preservative?	Filter?	Analyte	Comment
1	~~Sterile cylinder~~		~~Tablet~~	~~NO~~	~~e coli~~	~~6 Hour hold time~~
2	Large Plastic	1040	NO	NO	TSS ✓	
3	~~Brown Plastic~~		~~NO~~	~~NO~~	~~chlorophyll a~~	
4	Large Plastic	1040	NO	NO	CBOD5 ✓	
5	~~Large Plastic~~		~~NO~~	~~NO~~	~~CBOD20~~	
6	Small plastic	1040	NO	NO	total phos ✓	
7	Small plastic (filtered)	1040	NO	YES	nutrients ✓	remember to filter!
8	~~Clear DO~~		~~NO~~	~~NO~~	~~winkler DO~~	finished sample ~~should be amber in~~ color

Upper Merrimack and Pemigewasset River Study
High-Flow Water Quality
Field Measurement Worksheet

Station #: M051

Date: 5/17/12

Weather Conditions: Sunny low 60's

Sampler Names: CAF/AB

Team No.: 6 (NA1)

1. record site # (001 through 072)
2. record conditions and site description
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings, record times!
6. vertical DO/temp profile (if necessary at the site)
7. Collect all samples (fill out worksheet!)

Site Description

Total water depth (units): 11.0'

Algae coverage: No

Tree cover: No

Wildlife: No

Other observations (sights, smells, etc)

FOR QA PURPOSES, REPEAT YSI READINGS. RECORD TIME OF EACH READING

Data Collection

Parameter	Time 1: 1150	Time 2: 1200	Comment
Temperature °C	14.66	14.67	
Conductivity ms/cm	0.061	0.061	
Sp. Cond. ms/cm[c]	—	—	No Sp. cond. on meter
DO %	110.5	99.0	
DO mg/L	10.86	9.73	
pH su	6.62	6.59	
Turbidity ntu	10.6	11.4	
Secchi Disk* indicate units	Up: 3.5'		disk on pole note units
	Down: 3.5'		note units

Secchi disk not necessary in flowing river reaches or in shallow water.

Upper Merrimack and Pemigewasset River Study
High-Flow Water Quality
Sample Collection Worksheet

Station #: M051

Date: 5/17/12

Time: 1155

Weather Conditions: Sunny, low 60's
wind 10+ mph

Sampler Names: CAF/AB

Team #: 6 (NAI)

☐ QA SAMPLE? Dup. Blank Rinse

Sample ID: M051-G-HF1

Instructions:

1. record date, time, and initial sample bottles
2. fill bottles to shoulder
3. remember to filter the "nut" sample
4. remember to add reagents to DO sample

Total water depth (feet): 11.0'

Sample depth (feet): 1.5'

Sample Collection

	Bottle	Time Filled	Preservative?	Filter?	Analyte	Comment
1	~~Sterile cylinder~~		~~Tablet~~	~~NO~~	~~e.coli~~	~~6 Hour hold time~~
2	Large Plastic	1155	NO	NO	TSS ✓	
~~3~~	~~Brown Plastic~~		~~NO~~	~~NO~~	~~chlorophyll-a~~	
4	Large Plastic	1155	NO	NO	CBOD5 ✓	
~~5~~	~~Large Plastic~~		~~NO~~	~~NO~~	~~CBOD20~~	
6	Small plastic	1155	NO	NO	total phos ✓	
7	Small plastic (filtered)	1155	NO	YES	nutrients ✓	remember to filter!
~~8~~	~~Glass DO~~		~~NO~~	~~NO~~	~~winker DO~~	finished sample ~~should be amber in~~ color

Upper Merrimack and Pemigewasset River Study
High-Flow Water Quality
Field Measurement Worksheet

Station #: M052

Date: 5/17/12

Weather Conditions: Sunny, low 60's

Sampler Names: CAF/AB

Team No.: 6 (NAI)

1. record site # (001 through 072)
2. record conditions and site description
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings, record times!
6. vertical DO/temp profile (if necessary at the site)
7. Collect all samples (fill out worksheet!)

Site Description

sample location Lat. + Long. N 43.06049° W 71.46020

Total water depth (units): 17.0'

Algae coverage: No

Tree cover: No

Wildlife: No

Other observations (sights, smells, etc)

FOR QA PURPOSES, REPEAT YSI READINGS. RECORD TIME OF EACH READING

Data Collection

Parameter	Time 1: 1218	Time 2: 1244	Comment
Temperature °C	14.69	14.71	
Conductivity ms/cm	0.061	0.061	
Sp. Cond. ms/cm[c]	—	—	
DO %	97.3	94.6	
DO mg/L	9.57	9.29	
pH su	6.67	6.73	
Turbidity ntu	11.6	11.2	
Secchi Disk* indicate units	Up: 3.1'		disk attached to pole note units
	Down: 3.0'		note units

*Secchi disk not necessary in flowing river reaches or in shallow water.

Upper Merrimack and Pemigewasset River Study
High-Flow Water Quality
Sample Collection Worksheet

Station #: M052

Date: 5/17/12

Time:

Weather Conditions: Sunny, low 60's
wind 10+ mph.

Sampler Names:

Team #: 6 (NAI)

☐ QA SAMPLE? Dup. Blank Rinse

Sample ID: M052-G-HF1

Instructions:

1. record date, time, and initial sample bottles
2. fill bottles to shoulder
3. remember to filter the "nut" sample
4. remember to add reagents to DO sample

Total water depth (feet): 17.0'

Sample depth (feet): 1.5'

Sample Collection

	Bottle	Time Filled	Preservative?	Filter?	Analyte	Comment
1	~~Sterile cylinder~~		~~Tablet~~	~~NO~~	~~e.coli~~	~~6 Hour hold time~~
2	Large Plastic	1225	NO	NO	TSS ✓	
3	~~Brown Plastic~~		~~NO~~	~~NO~~	~~chlorophyll-a~~	
4	Large Plastic	1225	NO	NO	CBOD5 ✓	
5	Large Plastic	1225	NO	NO	CBOD20 ✓	
6	Small plastic	1225	NO	NO	total phos ✓	
7	Small plastic (filtered)	1225	NO	YES	nutrients ✓	remember to filter!
8	Glass DO		NO	NO	winker DO	finished sample should be amber in color

BOD20 extra 1225 ✓

Upper Merrimack and Pemigewasset River Study
High-Flow Water Quality
Field Measurement Worksheet

Station #: M054

Date: 5/17/12

Weather Conditions: Sunny, low 60's

Sampler Names: CAF / AB

Team No.: 6 (NAI)

1. record site # (001 through 072)
2. record conditions and site description
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings, record times!
6. vertical DO/temp profile (if necessary at the site)
7. Collect all samples (fill out worksheet!)

Site Description

Total water depth (units): 15.0'

Algae coverage: No

Tree cover: No

Wildlife: No

Other observations (sights, smells, etc)

FOR QA PURPOSES, REPEAT YSI READINGS. RECORD TIME OF EACH READING

Data Collection

Parameter	Time 1: 1305	Time 2: 1312	Comment
Temperature °C	14.89	14.89	
Conductivity ms/cm	0.063	0.063	
Sp. Cond. ms/cm[c]	—	—	
DO %	95.0	93.3	
DO mg/L	9.30	9.13	
pH su	6.57	6.54	
Turbidity ntu	12.7	12.8	
Secchi Disk* indicate units	Up: 4.0'		disk attached to pole note units
	Down: 4.0'		note units

*Secchi disk not necessary in flowing river reaches or in shallow water.

Upper Merrimack and Pemigewasset River Study
High-Flow Water Quality
Sample Collection Worksheet

Station #: M054

Date: 5/17/12

Time: ~~1302~~ 1305

Weather Conditions: Sunny. low 60's

Sampler Names: CAF/AB

Team #: 6 (NA1)

☐ QA SAMPLE? Dup. Blank Rinse

Sample ID: M054-G-HF1

Instructions:

1. record date, time, and initial sample bottles
2. fill bottles to shoulder
3. remember to filter the "nut" sample
4. remember to add reagents to DO sample

Total water depth (feet): 15.0'

Sample depth (feet): 1.5'

Sample Collection

	Bottle	Time Filled	Preservative?	Filter?	Analyte	Comment
1	~~Sterile cylinder~~		~~Tablet~~	~~NO~~	~~e.coli~~	~~6 Hour hold time~~
2	Large Plastic	1305	NO	NO	TSS ✓	
3	Brown Plastic	1305	NO	NO	chlorophyll-a ✓	
4	Large Plastic	1305	NO	NO	CBOD5 ✓	
5	~~Large Plastic~~		~~NO~~	~~NO~~	~~CBOD20~~	
6	Small plastic	1305	NO	NO	total phos ✓	
7	Small plastic (filtered)	1305	NO	YES	nutrients ✓	remember to filter!
8	~~Glass DO~~		~~NO~~	~~NO~~	~~winker DO~~	finished sample ~~should be amber in~~ color

Upper Merrimack and Pemigewasset River Study
High-Flow Water Quality
Field Measurement Worksheet

Station #: M055

Date: 5/17/12

Weather Conditions: Sunny, 60's

Sampler Names: CAF/AD

Team No.: 6 (NAI)

1. record site # (001 through 072)
2. record conditions and site description
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings, record times!
6. vertical DO/temp profile (if necessary at the site)
7. Collect all samples (fill out worksheet!)

Site Description

Total water depth (units): 11.0'

Algae coverage: No

Tree cover: No

Wildlife: No

Other observations (sights, smells, etc)

FOR QA PURPOSES, REPEAT YSI READINGS. RECORD TIME OF EACH READING

Data Collection

Parameter	Time 1: 1435	Time 2: 1540	Comment
Temperature °C	15.70	15.52	
Conductivity ms/cm	0.065	0.065	
Sp. Cond. ms/cm[c]	—	—	
DO %	92.4	89.4	
DO mg/L	8.90	8.63	
pH su	6.58	6.40	
Turbidity ntu	12.4	11.2	
Secchi Disk* indicate units	Up:		note units
	Down:		note units

*Secchi disk not necessary in flowing river reaches or in shallow water.

Upper Merrimack and Pemigewasset River Study
High-Flow Water Quality
Sample Collection Worksheet

Station #: M055

Date: 5/17/12

Time: 1435

Weather Conditions: Sunny, 60's
wind 10 mph

Sampler Names: CAE/AB

Team #: 6 (NAI)

☐ QA SAMPLE? Dup. Blank Rinse

Sample ID: M055-6-HFI

Instructions:

1. record date, time, and initial sample bottles
2. fill bottles to shoulder
3. remember to filter the "nut" sample
4. remember to add reagents to DO sample

Total water depth (feet): 11.0'

Sample depth (feet): 1.5'

Sample Collection

	Bottle	Time Filled	Preservative?	Filter?	Analyte	Comment
1	Sterile cylinder	1435	Tablet	NO	e.coli ✓	6 Hour hold time
2	Large Plastic	1435	NO	NO	TSS ✓	
~~3~~	~~Brown Plastic~~		~~NO~~	~~NO~~	~~chlorophyll-a~~	
4	Large Plastic	1435	NO	NO	CBOD5 ✓	
~~5~~	~~Large Plastic~~		~~NO~~	~~NO~~	~~CBOD20~~	
6	Small plastic	1435	NO	NO	total phos ✓	
7	Small plastic (filtered)	1435	NO	YES	nutrients ✓	remember to filter!
~~8~~	~~Glass DO~~		~~NO~~	~~NO~~	~~winker DO~~	finished sample ~~should be amber in~~ color

Upper Merrimack and Pemigewasset River Study
High-Flow Water Quality
Field Measurement Worksheet

Station #: M058

Date: 5/17

Weather Conditions: Sunny 60's

Sampler Names: MB/KR

Team No.: 7 (CDM Smith)

1. record site # (001 through 072)
2. record conditions and site description
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings, record times!
6. vertical DO/temp profile (if necessary at the site)
7. Collect all samples (fill out worksheet!)

Site Description

Total water depth (units): Steep drop-off [redacted]; indeterminate

Algae coverage: No visible coverage

Tree cover: Dense

Wildlife: Birds

Other observations (sights, smells, etc)

→ Return later to take field measurements

FOR QA PURPOSES, REPEAT YSI READINGS. RECORD TIME OF EACH READING

Data Collection

Parameter	Time 1: 4:14pm	Time 2: 4:17	Comment
Temperature °C	15.97	15.96	
Conductivity ms/cm	~~62~~ 51	51	
Sp. Cond. ms/cm[c]	~~51~~ 62	62	
DO %	107.1	106.6	
DO mg/L	10.58	10.53	
pH su	7.13	7.04	
Turbidity ntu	2.35	2.15	
Secchi Disk* indicate units	Up:		note units
	Down:		note units

*Secchi disk not necessary in flowing river reaches or in shallow water.

Upper Merrimack and Pemigewasset River Study
High-Flow Water Quality
Sample Collection Worksheet

Station #: M058

Date: 5/17

Time: 8:50

Weather Conditions: Sunny, 60's

Sampler Names: MB/KR

Team #: 7 (CDM Smith)

☐ QA SAMPLE? Dup. Blank Rinse

Sample ID: M058-G-HFI

Instructions:

1. record date, time, and initial sample bottles
2. fill bottles to shoulder
3. remember to filter the "nut" sample
4. remember to add reagents to DO sample

Total water depth (feet):

Sample depth (feet): ~2'

Sample Collection

	Bottle	Time Filled	Preservative?	Filter?	Analyte	Comment
1	~~Sterile cylinder~~		~~Tablet~~	~~NO~~	~~e.coli~~	~~6 Hour hold time~~
2	Large Plastic	8:50	NO	NO	TSS	
~~3~~	~~Brown Plastic~~		~~NO~~	~~NO~~	~~chlorophyll-a~~	
4	Large Plastic	8:50	NO	NO	CBOD5	
5	Large Plastic	8:50	NO	NO	CBOD20	
6	Small plastic	8:50	NO	NO	total phos	
7	Small plastic (filtered)	8:50	NO	YES	nutrients	remember to filter!
8	Glass DO	8:50	NO	NO	winker DO	finished sample should be amber in color

note: not same time as YSI reading

Upper Merrimack and Pemigewasset River Study
High-Flow Water Quality
Field Measurement Worksheet

Station #: M061

Date: 5/17

Weather Conditions: Sunny, 70's

Sampler Names: MB/KR

Team No.: 7 (CDM Smith)

1. record site # (001 through 072)
2. record conditions and site description
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings, record times!
6. vertical DO/temp profile (if necessary at the site)
7. Collect all samples (fill out worksheet!)

Site Description

Total water depth (units): 5'

Algae coverage: No visible Algae

Tree cover: Sparce, fallen trees in sample area

Wildlife: Birds

Other observations (sights, smells, etc)

FOR QA PURPOSES, REPEAT YSI READINGS. RECORD TIME OF EACH READING

Data Collection

Parameter	Time 1: 11:20	Time 2: 11:23	Comment
Temperature °C	15.39	15.40	
Conductivity ms/cm	53	53	
Sp. Cond. ms/cm[c]	65	65	
DO %	103.5	103.5	
DO mg/L	10.36	10.35	
pH su	8.05	7.66	
Turbidity ntu	2.01	2.06	Time 1 = 11:27 Time 2 = 11:31
Secchi Disk* indicate units	Up:		note units
	Down:		note units

*Secchi disk not necessary in flowing river reaches or in shallow water.

Upper Merrimack and Pemigewasset River Study
High-Flow Water Quality
Sample Collection Worksheet

Station #: M061

Date: 5/17

Time: ~~12:00~~ 11:10

Weather Conditions: Sunny, 70's

☐ QA SAMPLE? Dup. Blank Rinse

Sample ID: M061-G-HF1

Sampler Names: Michaela Bagosh, Kevin Rathbun

Team #: 7 (CDM Smith)

Instructions:

1. record date, time, and initial sample bottles
2. fill bottles to shoulder
3. remember to filter the "nut" sample
4. remember to add reagents to DO sample

Total water depth (feet): 5'

Sample depth (feet): 2'

Sample Collection

	Bottle	Time Filled	Preservative?	Filter?	Analyte	Comment
1	~~Sterile cylinder~~		~~Tablet~~	~~NO~~	~~e.coli~~	~~8 Hour hold time~~
2	Large Plastic	11:10	NO	NO	TSS	
3	Brown Plastic	11:10	NO	NO	chlorophyll-a	
4	Large Plastic	11:10	NO	NO	CBOD5	
5	~~Large Plastic~~		~~NO~~	~~NO~~	~~CBOD20~~	
6	Small plastic	11:10	NO	NO	total phos	
7	Small plastic (filtered)	11:10	NO	YES	nutrients	remember to filter!
8	~~Glass DO~~		~~NO~~	~~NO~~	~~winkler DO~~	finished sample ~~should be amber in~~ color

Upper Merrimack and Pemigewasset River Study
High-Flow Water Quality
Field Measurement Worksheet

Station #: M062

Date: 5/17

Weather Conditions: Sunny 70's

Sampler Names: MB/KR

Team No.: 7 (CDM Smith)

1. record site # (001 through 072)
2. record conditions and site description
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings, record times!
6. vertical DO/temp profile (if necessary at the site)
7. Collect all samples (fill out worksheet!)

Site Description

Total water depth (units):

Algae coverage: No visible algea

Tree cover: Open where sampling

Wildlife: Birds

Other observations (sights, smells, etc)

FOR QA PURPOSES, REPEAT YSI READINGS. RECORD TIME OF EACH READING

Data Collection

Parameter	Time 1: 1:03	Time 2: 1:06	Comment
Temperature °C	15.68	15.69	
Conductivity ms/cm	54	55	
Sp. Cond. ms/cm[c]	66	66	
DO %	105.7	105.6	
DO mg/L	10.51	10.50	
pH su	7.89	7.68	
Turbidity ntu	1.72	1.78	Time 1: 1:23 Time 2: 1:26
Secchi Disk* indicate units	Up:		note units
	Down:		note units

Secchi disk not necessary in flowing river reaches or in shallow water.

Upper Merrimack and Pemigewasset River Study
High-Flow Water Quality
Sample Collection Worksheet

Station #: M062

Date: 5/17

Time: 12:50

Weather Conditions: Sunny, 70's

Sampler Names: Michaela Bogosh, Kevin Rathbun

Team #: 7 (CDM Smith)

☐ QA SAMPLE? Dup. Blank Rinse

Sample ID: M062-G-HF1

Instructions:

1. record date, time, and initial sample bottles
2. fill bottles to shoulder
3. remember to filter the "nut" sample
4. remember to add reagents to DO sample

Total water depth (feet):

Sample depth (feet):

Sample Collection

	Bottle	Time Filled	Preservative?	Filter?	Analyte	Comment
1	~~Sterile cylinder~~		~~Tablet~~	~~NO~~	~~coli~~	~~24 hour hold time~~
2	Large Plastic	12:50	NO	NO	TSS	
~~3~~	~~Brown Plastic~~		~~NO~~	~~NO~~	~~chlorophyll a~~	
4	Large Plastic	12:50	NO	NO	CBOD5	
5	Large Plastic	12:50	NO	NO	CBOD20	
6	Small plastic	12:50	NO	NO	total phos	
7	Small plastic (filtered)	12:50	NO	YES	nutrients	remember to filter!
8	Glass DO	12:50	NO	NO	winker DO	finished sample should be amber in color

Upper Merrimack and Pemigewasset River Study
High-Flow Water Quality
Field Measurement Worksheet

Station #: M065

Date: 17 May 12

Weather Conditions: Sunny, 5-10mph wind, mid 50°F

Sampler Names: Mason, Therrault

Team No.: 8 (NAI)

1. record site # (001 through 072)
2. record conditions and site description
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings, record times!
6. vertical DO/temp profile (if necessary at the site)
7. Collect all samples (fill out worksheet!)

Site Description

Total water depth (units): 15.4'

Algae coverage: none

Tree cover: none

Wildlife: none

Other observations (sights, smells, etc) none

FOR QA PURPOSES, REPEAT YSI READINGS. RECORD TIME OF EACH READING

Data Collection

Parameter	Time 1: 0947	Time 2: 1017	Comment
Temperature °C	16.10	16.09	
Conductivity ms/cm	0.073	0.070	
Sp. Cond. ms/cm[c]	—	—	
DO %	93.3	87.5	
DO mg/L	8.87	8.35	
pH su	6.71	6.79	
Turbidity ntu	9.5	7.4	
Secchi Disk* indicate units	Up: 4.0 ft.		ft note units
	Down: 4.9 ft		ft note units

*Secchi disk not necessary in flowing river reaches or in shallow water.

Upper Merrimack and Pemigewasset River Study
High-Flow Water Quality
Sample Collection Worksheet

Station #: M065

Date: 17 May 12

Time: 0947

Weather Conditions: Sunny, mid 50's°F, 5-10 mph wind

Sampler Names: Mason, Theriault

Team #: 8 (NAI)

☐ QA SAMPLE? Dup. Blank Rinse

Sample ID: M065-G-HF1

Instructions:

1. record date, time, and initial sample bottles
2. fill bottles to shoulder
3. remember to filter the "nut" sample
4. remember to add reagents to DO sample

Total water depth (feet): 15.4

Sample depth (feet): 2

Sample Collection

	Bottle	Time Filled	Preservative?	Filter?	Analyte	Comment
	~~Sterile cylinder~~		~~Tablet~~	~~NO~~	~~e.coli~~	~~6 Hour hold time~~
2	Large Plastic	0957	NO	NO	TSS	
3	Brown Plastic	0957	NO	NO	chlorophyll-a	
4	Large Plastic	0957	NO	NO	CBOD5	
~~5~~	~~Large Plastic~~		~~NO~~	~~NO~~	~~CBOD20~~	
6	Small plastic	0957	NO	NO	total phos	
7	Small plastic (filtered)	0957	NO	YES	nutrients	remember to filter!
~~8~~	~~Glass DO~~		~~NO~~	~~NO~~	~~winkler DO~~	~~finished sample should be amber in~~ color

Upper Merrimack and Pemigewasset River Study
High-Flow Water Quality
Field Measurement Worksheet

Station #: M066

Date: 17 May 2012

Weather Conditions: Clear, wind 10-15mph ~60°F

Sampler Names: Mason, Theriault

Team No.: 8 (NA1)

1. record site # (001 through 072)
2. record conditions and site description
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings, record times!
6. vertical DO/temp profile (if necessary at the site)
7. Collect all samples (fill out worksheet!)

Site Description

Total water depth (units): 19.2'

Algae coverage: none

Tree cover: none

Wildlife: Songbirds

Other observations (sights, smells, etc) none

FOR QA PURPOSES, REPEAT YSI READINGS. RECORD TIME OF EACH READING

Data Collection

Parameter	Time 1: 1052	Time 2: 1112	Comment
Temperature °C	16.14°	16.09°	
Conductivity ms/cm	0.068	0.068	
Sp. Cond. ms/cm[c]	—	—	
DO %	87.1	81.6	
DO mg/L	8.30	7.79	
pH su	6.81	6.94	
Turbidity ntu	22.1	35.9	
Secchi Disk* indicate units	Up: 4.8		ft note units
	Down: 5.0		ft note units

*Secchi disk not necessary in flowing river reaches or in shallow water.

Upper Merrimack and Pemigewasset River Study
High-Flow Water Quality
Sample Collection Worksheet

Station #: M066

Date: 17 May 12

Time: 1052

Weather Conditions:

Sampler Names:

Team #: 8 (NAI)

☐ QA SAMPLE? Dup. Blank Rinse

Sample ID: M066-G-HF1

Instructions:

1. record date, time, and initial sample bottles
2. fill bottles to shoulder
3. remember to filter the "nut" sample
4. remember to add reagents to DO sample

Total water depth (feet): 19.2

Sample depth (feet): 1 ft

Sample Collection

	Bottle	Time Filled	Preservative?	Filter?	Analyte	Comment
	~~Sterile cylinder~~		~~Tablet~~	~~NO~~	~~e.coli~~	~~6 Hour hold time~~
2	Large Plastic	1054	NO	NO	TSS	
	~~Brown Plastic~~		~~NO~~	~~NO~~	~~chlorophyll-a~~	
4	Large Plastic	1054	NO	NO	CBOD5	
5	Large Plastic	1054	NO	NO	CBOD20	
6	Small plastic	1054	NO	NO	total phos	
7	Small plastic (filtered)	1054	NO	YES	nutrients	remember to filter!
	~~Glass DO~~		~~NO~~	~~NO~~	~~winkler DO~~	~~finished sample should be amber in color~~

Upper Merrimack and Pemigewasset River Study
High-Flow Water Quality
Field Measurement Worksheet

Station #: M070

Date: 17 May 12, 1253 am

Weather Conditions: Sunny, breezy, 60s°F

Sampler Names: Mason, Theriault

Team No.: 8 (NAI)

1. record site # (001 through 072)
2. record conditions and site description
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings, record times!
6. vertical DO/temp profile (if necessary at the site)
7. Collect all samples (fill out worksheet!)

Site Description

Total water depth (units): 19.3 ft

Algae coverage: none

Tree cover: none

Wildlife: Songbirds

Other observations (sights, smells, etc) none

FOR QA PURPOSES, REPEAT YSI READINGS. RECORD TIME OF EACH READING

Data Collection

Parameter	Time 1: 1258	Time 2: 1337	Comment
Temperature °C	16.82	16.82	
Conductivity ms/cm	0.086	0.074	
Sp. Cond. ms/cm[c]	—	—	
DO %	87.2	96.2	
DO mg/L	8.20	9.05	
pH su	7.31	7.11	
Turbidity ntu	7.4	11.1	
Secchi Disk* indicate units	Up: 4.5		ft note units
	Down: 5.0		ft note units

*Secchi disk not necessary in flowing river reaches or in shallow water.

Upper Merrimack and Pemigewasset River Study
High-Flow Water Quality
Sample Collection Worksheet

Station #: M070

Date: 17 May 12

Time: 1253

Weather Conditions: Sunny, breezy, 60s°F

Sampler Names: Mason, Theriault

Team #: 8 (NAI)

☐ QA SAMPLE? Dup. Blank Rinse

Sample ID: M070-G-HF1

Instructions:

1. record date, time, and initial sample bottles
2. fill bottles to shoulder
3. remember to filter the "nut" sample
4. remember to add reagents to DO sample

Total water depth (feet): 19.3 ft

Sample depth (feet): 1.5 ft

Sample Collection

	Bottle	Time Filled	Preservative?	Filter?	Analyte	Comment
	~~Sterile cylinder~~		~~Tablet~~	~~NO~~	~~e-coli~~	~~6 Hour hold time~~
2	Large Plastic	1300	NO	NO	TSS	
3	Brown Plastic	1300	NO	NO	chlorophyll-a	
4	Large Plastic	1300	NO	NO	CBOD5	
~~5~~	~~Large Plastic~~		~~NO~~	~~NO~~	~~CBOD20~~	
6	Small plastic	1300	NO	NO	total phos	
7	Small plastic (filtered)	1300	NO	YES	nutrients	remember to filter!
~~8~~	~~Glass DO~~		~~NO~~	~~NO~~	~~winker DO~~	finished sample ~~should be amber in~~ color

Upper Merrimack and Pemigewasset River Study
High-Flow Water Quality
Sample Collection Worksheet

Station #: M070

Date: 17 May 12

Time: 1253

Weather Conditions: Sunny, Breezy, 60s°F

Sampler Names: Mason, Theriault

Team #: 8

☑ QA SAMPLE? (Dup.) Blank Rinse

Sample ID: M270-D-HF1

Instructions:

1. record date, time, and initial sample bottles
2. fill bottles to shoulder
3. remember to filter the "nut" sample
4. remember to add reagents to DO sample

Total water depth (feet): 19.3 ft

Sample depth (feet): 1.5 ft

Sample Collection

	Bottle	Time Filled	Preservative?	Filter?	Analyte	Comment
	~~Sterile cylinder~~		~~Tablet~~	~~NO~~	~~ecoli~~	~~6 Hour hold time~~
2	Large Plastic	1300	NO	NO	TSS	
3	Brown Plastic	1300	NO	NO	chlorophyll-a	
4	Large Plastic	1300	NO	NO	CBOD5	
~~5~~	~~Large Plastic~~		~~NO~~	~~NO~~	~~CBOD20~~	
6	Small plastic	1300	NO	NO	total phos	
7	Small plastic (filtered)	1300	NO	YES	nutrients	remember to filter!
~~8~~	~~Glass DO~~		~~NO~~	~~NO~~	~~winkler DO~~	~~finished sample should be amber in color~~

Upper Merrimack and Pemigewasset River Study
High-Flow Water Quality
Sample Collection Worksheet

Station #: M070

☑ QA SAMPLE? Dup. (Blank) Rinse

Sample ID: M170-B-HF1

Date: 17 May 12

Time: 1253

Weather Conditions: Sunny, breezy, 60s °F

Sampler Names: Mason, therriault

Team #: 8

Instructions:

1. record date, time, and initial sample bottles
2. fill bottles to shoulder
3. remember to filter the "nut" sample
4. remember to add reagents to DO sample

Total water depth (feet): 19.3 ft

Sample depth (feet):

Sample Collection

	Bottle	Time Filled	Preservative?	Filter?	Analyte	Comment
1	~~Sterile cylinder~~		~~Tablet~~	~~NO~~	~~e coli~~	~~6 hour hold time~~
2	Large Plastic	1310	NO	NO	TSS	
3	Brown Plastic	1310	NO	NO	chlorophyll-a	
4	Large Plastic	1310	NO	NO	CBOD5	
5	~~Large Plastic~~		~~NO~~	~~NO~~	~~CBOD20~~	
6	Small plastic	1310	NO	NO	total phos	
7	Small plastic (filtered)	1310	NO	YES	nutrients	remember to filter!
8	~~Glass DO~~		~~NO~~	~~NO~~	~~winker DO~~	~~finished sample should be amber in~~ color

Upper Merrimack and Pemigewasset River Study
High-Flow Water Quality
Sample Collection Worksheet

Station #: M070

Date: 17 May 12

Time: 1253

Weather Conditions: Sunny, breezy, 60s °F

Sampler Names: Mason, Theriault

Team #: 8

☑ QA SAMPLE? Dup. Blank (Rinse)

Sample ID: M370-R-HF1

Instructions:

1. record date, time, and initial sample bottles
2. fill bottles to shoulder
3. remember to filter the "nut" sample
4. remember to add reagents to DO sample

Total water depth (feet): 19.3 ft

Sample depth (feet):

Sample Collection

	Bottle	Time Filled	Preservative?	Filter?	Analyte	Comment
1	~~Sterile cylinder~~		~~Tablet~~	~~NO~~	~~e.coli~~	~~6 Hour hold time~~
2	Large Plastic	1322	NO	NO	TSS	
3	Brown Plastic	1322	NO	NO	chlorophyll-a	
4	Large Plastic	1322	NO	NO	CBOD5	
5	~~Large Plastic~~		~~NO~~	~~NO~~	~~CBOD20~~	
6	Small plastic	1322	NO	NO	total phos	
7	Small plastic (filtered)	1322	NO	YES	nutrients	remember to filter!
8	~~Glass DO~~		~~NO~~	~~NO~~	~~winker DO~~	finished sample ~~should be amber in~~ color

Upper Merrimack and Pemigewasset River Study
High-Flow Water Quality
Field Measurement Worksheet

Station #: M071

Date: 17 May 12, 1407

Weather Conditions: Sunny, breezy, 60s°F

Sampler Names: Mason, Therjault

Team No.: 8 (NAI)

1. record site # (001 through 072)
2. record conditions and site description
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings, record times!
6. vertical DO/temp profile (if necessary at the site)
7. Collect all samples (fill out worksheet!)

Site Description

Total water depth (units): 13.6 ft

Algae coverage: none

Tree cover: none

Wildlife: Song birds

Other observations (sights, smells, etc) none

FOR QA PURPOSES, REPEAT YSI READINGS. RECORD TIME OF EACH READING

Data Collection

Parameter	Time 1: 1405	Time 2: 1448	Comment
Temperature °C	16.88	16.98	
Conductivity ms/cm	0.075	0.085	
Sp. Cond. ms/cm[c]	—	—	
DO %	87.3	88.2	
DO mg/L	8.20	8.27	
pH su	6.92	6.94	
Turbidity ntu	20.3	6.3	
Secchi Disk* indicate units	Up: 5.0		ft note units
	Down: 5.5		ft note units

Secchi disk not necessary in flowing river reaches or in shallow water.

Upper Merrimack and Pemigewasset River Study
High-Flow Water Quality
Sample Collection Worksheet

Station #: M071

Date: 17 May 12

Time: 1402

Weather Conditions: Sunny, breezy, 60s

Sampler Names: Mason, Thériault

Team #: 8 (NAI)

☐ QA SAMPLE? Dup. Blank Rinse

Sample ID: M071-G-HF1

Instructions:

1. record date, time, and initial sample bottles
2. fill bottles to shoulder
3. remember to filter the "nut" sample
4. remember to add reagents to DO sample

Total water depth (feet): 13.6 ft

Sample depth (feet): 1.5 ft

Sample Collection

	Bottle	Time Filled	Preservative?	Filter?	Analyte	Comment
	~~Sterile cylinder~~		~~Tablet~~	~~NO~~	~~ecoli~~	~~6 Hour hold time~~
2	Large Plastic	1408	NO	NO	TSS	
3	Brown Plastic	1408	NO	NO	chlorophyll-a	
4	Large Plastic	1408	NO	NO	CBOD5	
~~5~~	~~Large Plastic~~		~~NO~~	~~NO~~	~~CBOD20~~	
6	Small plastic	1408	NO	NO	total phos	
7	Small plastic (filtered)	1408	NO	YES	nutrients	remember to filter!
8	Glass DO		NO	NO	winker DO	finished sample should be amber in color

Upper Merrimack and Pemigewasset River Study
High-Flow Water Quality
Field Measurement Worksheet

Station #: T002

Date: 5/17/12

Weather Conditions: Sunny 70°F

Sampler Names: JTO SLC

Team No.: 1 (CDM Smith)

1. record site # (001 through 072)
2. record conditions and site description
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings, record times!
6. vertical DO/temp profile (if necessary at the site)
7. Collect all samples (fill out worksheet!)

Site Description

Total water depth (units): 2'-2"

Algae coverage: None

Tree cover: None

Wildlife: None

Other observations (sights, smells, etc) REVISED SAMPLING POINT DUE TO ACCESS RESTRICTIONS SEE EMAIL FROM JTO FOR APPROX. LOCATION.

FOR QA PURPOSES, REPEAT YSI READINGS. RECORD TIME OF EACH READING

Data Collection

Parameter	Time 1: 10:55AM	Time 2: 11:10 AM	Comment
Temperature °C	10.23	10.33	
Conductivity ms/cm			
Sp. Cond. ms/cm[c]	0.021	0.021	
DO %	107.2	102.6	
DO mg/L	11.72	11.16	
pH su	6.01	6.01	
Turbidity ntu	2.9	3.4	
Secchi Disk* indicate units	Up:		note units
	Down:		note units

Secchi disk not necessary in flowing river reaches or in shallow water.

Upper Merrimack and Pemigewasset River Study
High-Flow Water Quality
Sample Collection Worksheet

Station #: T002

Date: 5/17/12

Time: 11:00 AM

Weather Conditions: Sunny ~70°F

Sampler Names: JTO SCL

Team #: 1 (CDM Smith)

☐ QA SAMPLE? Dup. Blank Rinse

Sample ID: T002-G-HF1

Instructions:

1. record date, time, and initial sample bottles
2. fill bottles to shoulder
3. remember to filter the "nut" sample
4. remember to add reagents to DO sample

Total water depth (feet): 2'-2"

Sample depth (feet): 1'

REVISED SAMPLING LOCATION. SEE EMAIL FROM JTO.

Sample Collection

	Bottle	Time Filled	Preservative?	Filter?	Analyte	Comment
~~1~~	~~Sterile cylinder~~		~~Tablet~~	~~NO~~	~~e.coli~~	~~6 Hour hold time~~
2	Large Plastic		NO	NO	TSS	
~~3~~	~~Brown Plastic~~		~~NO~~	~~NO~~	~~chlorophyll a~~	
4	Large Plastic		NO	NO	CBOD5	
~~5~~	~~Large Plastic~~		~~NO~~	~~NO~~	~~CBOD20~~	
6	Small plastic		NO	NO	total phos	
7	Small plastic (filtered)		NO	YES	nutrients	remember to filter!
~~8~~	~~Glass DO~~		~~NO~~	~~NO~~	~~winkler DO~~	finished sample should be amber in color

Upper Merrimack and Pemigewasset River Study
High-Flow Water Quality
Field Measurement Worksheet

Station #: T003

Date: 5/7/12

Weather Conditions: SUNNY 70°F

Sampler Names: JTO SLL

Team No.: 1 (CDM Smith)

1. record site # (001 through 072)
2. record conditions and site description
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings, record times!
6. vertical DO/temp profile (if necessary at the site)
7. Collect all samples (fill out worksheet!)

Site Description

Total water depth (units): 3'

Algae coverage: ROCKS ON BANK UNDER TRESSEL. SAND BOTTOM IN MIDDLE

Tree cover: NONE

Wildlife: NONE

Other observations (sights, smells, etc) NONE

FOR QA PURPOSES, REPEAT YSI READINGS. RECORD TIME OF EACH READING

Data Collection

Parameter	Time 1: 11:30 AM	Time 2: 11:45 AM	Comment
Temperature °C	10.95	11.07	
Conductivity ms/cm			
Sp. Cond. ms/cm[c]	0.027	0.027	
DO %	103.9	104.7	
DO mg/L	11.10	11.15	
pH su	6.08	6.13	
Turbidity ntu	2.8	3.1	
Secchi Disk* indicate units	Up:		note units
	Down:		note units

*Secchi disk not necessary in flowing river reaches or in shallow water.

Upper Merrimack and Pemigewasset River Study
High-Flow Water Quality
Sample Collection Worksheet

Station #: T003

Date: 5/17/12

Time: 11:40 AM

Weather Conditions: SUNNY 70°F

Sampler Names: JTO SLL

Team #: 1 (CDM Smith)

☐ QA SAMPLE? Dup. Blank Rinse

Sample ID: T003-G-HF1

Instructions:

1. record date, time, and initial sample bottles
2. fill bottles to shoulder
3. remember to filter the "nut" sample
4. remember to add reagents to DO sample

Total water depth (feet): 3'

Sample depth (feet): 1.5'

Sample Collection

	Bottle	Time Filled	Preservative?	Filter?	Analyte	Comment
1	~~Sterile cylinder~~		~~Tablet~~	~~NO~~	~~ecoli~~	~~6 Hour hold time~~
2	Large Plastic		NO	NO	TSS	
~~3~~	~~Brown Plastic~~		~~NO~~	~~NO~~	~~chlorophyll a~~	
4	Large Plastic		NO	NO	CBOD5	
~~5~~	~~Large Plastic~~		~~NO~~	~~NO~~	~~CBOD20~~	
6	Small plastic		NO	NO	total phos	
7	Small plastic (filtered)		NO	YES	nutrients	remember to filter!
~~8~~	~~Glass BOD~~		~~NO~~	~~NO~~	~~winkler DO~~	finished sample ~~should be amber in~~ color

Upper Merrimack and Pemigewasset River Study
High-Flow Water Quality
Field Measurement Worksheet

Station #: T004

Date: 5/17/12

Weather Conditions: SUNNY ~70°F

Sampler Names: JTO SLC

Team No.: 1 (CDM Smith)

1. record site # (001 through 072)
2. record conditions and site description
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings, record times!
6. vertical DO/temp profile (if necessary at the site)
7. Collect all samples (fill out worksheet!)

Site Description

Total water depth (units): 2'

Algae coverage: NONE

Tree cover: NONE

Wildlife: NONE

Other observations (sights, smells, etc) NONE

FOR QA PURPOSES, REPEAT YSI READINGS. RECORD TIME OF EACH READING

Data Collection

Parameter	Time 1: 1:50 PM	Time 2: 2:25 PM	Comment
Temperature °C	12.18	12.53	
Conductivity ms/cm			
Sp. Cond. ms/cm[c]	0.022	.023	
DO %	113.5	105.8	
DO mg/L	11.79	10.93	
pH su	6.12	6.08	
Turbidity ntu	2.0	2.0	
Secchi Disk* indicate units	Up:		note units
	Down:		note units

*Secchi disk not necessary in flowing river reaches or in shallow water.

Upper Merrimack and Pemigewasset River Study
High-Flow Water Quality
Sample Collection Worksheet

Station #: T004

Date: 5/17/12

Time: 2:00 PM

Weather Conditions: Sunny 70°F

Sampler Names: JTO SLL

Team #: 1 (CDM Smith)

☐ QA SAMPLE? Dup. Blank Rinse

Sample ID: T004-G-HF1

Instructions:

1. record date, time, and initial sample bottles
2. fill bottles to shoulder
3. remember to filter the "nut" sample
4. remember to add reagents to DO sample

Total water depth (feet): 2'

Sample depth (feet): 1'

Sample Collection

	Bottle	Time Filled	Preservative?	Filter?	Analyte	Comment
1	~~Sterile cylinder~~		~~Tablet~~	~~NO~~	~~E.coli~~	~~8 Hour hold time~~
2	Large Plastic		NO	NO	TSS	
3	~~Brown Plastic~~		~~NO~~	~~NO~~	~~chlorophyll a~~	
4	Large Plastic		NO	NO	CBOD5	
5	~~Large Plastic~~		~~NO~~	~~NO~~	~~CBOD20~~	
6	Small plastic		NO	NO	total phos	
7	Small plastic (filtered)		NO	YES	nutrients	remember to filter!
8	Glass DO		NO	NO	winker DO	finished sample should be amber in color

Upper Merrimack and Pemigewasset River Study
High-Flow Water Quality
Field Measurement Worksheet

Station #: T010

Date: 5/17/12

Weather Conditions: clear, 60°

Sampler Names: Zach / Ali

Team No.: 2 (CDM Smith)

1. record site # (001 through 072)
2. record conditions and site description
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings, record times!
6. vertical DO/temp profile (if necessary at the site)
7. Collect all samples (fill out worksheet!)

Site Description

Total water depth (units): 1'2"

Algae coverage: Ø

Tree cover: none

Wildlife: none

Other observations (sights, smells, etc) lots of rocks. high recreation

FOR QA PURPOSES, REPEAT YSI READINGS. RECORD TIME OF EACH READING

Data Collection

Parameter	Time 1: 10:32	Time 2: 10:34	Comment
Temperature °C	10.09	10.10	
Conductivity ms/cm	0.031	0.031	
Sp. Cond. ms/cm[c]			
DO %	96.7	97.3	
DO mg/L	10.57	10.62	
pH su	5.58	5.63	
Turbidity ntu	29.1	26.3	
Secchi Disk* indicate units	Up:		note units
	Down:		note units

*Secchi disk not necessary in flowing river reaches or in shallow water.

Upper Merrimack and Pemigewasset River Study
High-Flow Water Quality
Sample Collection Worksheet

Station #: T010

Date: 5/17/12

Time: 10:25

Weather Conditions: clear, 60°

Sampler Names: Zach Richardson (A. [illegible])

Team #: 2 (CDM Smith)

☐ QA SAMPLE? Dup. Blank Rinse

Sample ID: T010-G-HF1

Instructions:

1. record date, time, and initial sample bottles
2. fill bottles to shoulder
3. remember to filter the "nut" sample
4. remember to add reagents to DO sample

Total water depth (feet): 1'2"

Sample depth (feet): 0.5'

Sample Collection

	Bottle	Time Filled	Preservative?	Filter?	Analyte	Comment
~~1~~	~~Sterile cylinder~~		~~Tablet~~	~~NO~~	~~cfu~~	~~[illegible]~~
2	Large Plastic	10:25	NO	NO	TSS	
~~3~~	~~Brown Plastic~~		~~NO~~	~~NO~~	~~chlorophyll a~~	
4	Large Plastic	10:25	NO	NO	CBOD5	
~~5~~	~~Large Plastic~~		~~NO~~	~~NO~~	~~CBOD20~~	
6	Small plastic	10:25	NO	NO	total phos	
7	Small plastic (filtered)	10:25	NO	YES	nutrients	remember to filter!
~~8~~	~~Clear DO~~		~~NO~~	~~NO~~	~~winkler DO~~	finished sample ~~should be amber in~~
						color

Upper Merrimack and Pemigewasset River Study
High-Flow Water Quality
Field Measurement Worksheet

Station #: T011

Date: 5/17/12

Weather Conditions: Sunny, windy

Sampler Names: Zach / Ali

Team No.: 2 (CDM Smith)

1. record site # (001 through 072)
2. record conditions and site description
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings, record times!
6. vertical DO/temp profile (if necessary at the site)
7. Collect all samples (fill out worksheet!)

Site Description

Total water depth (units): 2'5"

Algae coverage: none

Tree cover: none

Wildlife: none

Other observations (sights, smells, etc) deep fast flowing. No rocks exposed

FOR QA PURPOSES, REPEAT YSI READINGS. RECORD TIME OF EACH READING

Data Collection

Parameter	Time 1: ~~[illegible]~~ 11:10	Time 2: 11:	Comment
Temperature °C	13.52	13.53	
Conductivity ms/cm	0.034	0.034	
Sp. Cond. ms/cm[c]			
DO %	89.7	90.5	
DO mg/L	9.07	9.12	
pH su	5.85	5.87	
Turbidity ntu	14.1	15.1	
Secchi Disk* indicate units	Up:		note units
	Down:		note units

*Secchi disk not necessary in flowing river reaches or in shallow water.

Upper Merrimack and Pemigewasset River Study
High-Flow Water Quality
Sample Collection Worksheet

Station #: T011

Date: 5/17/12

Time: 11:00

Weather Conditions: Sunny

Sampler Names: Zach / Ali

Team #: 2 (CDM Smith)

☐ QA SAMPLE? Dup. Blank Rinse

Sample ID: T011-G-HF1

Instructions:

1. record date, time, and initial sample bottles
2. fill bottles to shoulder
3. remember to filter the "nut" sample
4. remember to add reagents to DO sample

Total water depth (feet): 2.5'

Sample depth (feet): Surface w/ PTS pole

Sample Collection

	Bottle	Time Filled	Preservative?	Filter?	Analyte	Comment
1	~~Sterile cylinder~~		~~Tablet~~	~~NO~~	~~E. coli~~	~~6 Hour hold time~~
2	Large Plastic	11:00	NO	NO	TSS	
3	~~Brown Plastic~~		~~NO~~	~~NO~~	~~chlorophyll a~~	
4	Large Plastic	11:00	NO	NO	CBOD5	
5	~~Large Plastic~~		~~NO~~	~~NO~~	~~CBOD20~~	
6	Small plastic	11:00	NO	NO	total phos	
7	Small plastic (filtered)	11:00	NO	YES	nutrients	remember to filter!
8	~~Clear DO~~		~~NO~~	~~NO~~	~~labor DO~~	finished sample ~~should be amber in~~ color

Upper Merrimack and Pemigewasset River Study
High-Flow Water Quality
Field Measurement Worksheet

Station #: T015

Date: 5/17

Weather Conditions: Clear, ~~windy~~ calm

Sampler Names: Zach/Ali

Team No.: 2 (CDM Smith)

1. record site # (001 through 072)
2. record conditions and site description
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings, record times!
6. vertical DO/temp profile (if necessary at the site)
7. Collect all samples (fill out worksheet!)

Site Description

Total water depth (units): unknown - sampled off bridge. Est 3-4'?

Algae coverage: Ø

Tree cover: moderate to light

Wildlife: none

Other observations (sights, smells, etc) slow, deep

FOR QA PURPOSES, REPEAT YSI READINGS. RECORD TIME OF EACH READING

Data Collection

Parameter	Time 1: 12:11	Time 2: 12:15	Comment
Temperature °C	15.03	14.99	Readings all from bucket lifted from bridge.
Conductivity ms/cm	0.080	0.080	Time 2 used new
Sp. Cond. ms/cm[c]			sample
DO %	67.2	56.9	
DO mg/L	6.54	5.51	
pH su	6.5	6.61	
Turbidity ntu	6.2	5.9	
Secchi Disk* indicate units	Up:		note units
	Down:		note units

*Secchi disk not necessary in flowing river reaches or in shallow water.

Upper Merrimack and Pemigewasset River Study
High-Flow Water Quality
Sample Collection Worksheet

Station #: T015

Date: 5/17/12

Time: 12:00

Weather Conditions: Sunny, calm

☐ QA SAMPLE? Dup. Blank Rinse

Sample ID: T015-G-HF1

Sampler Names: Zach + Ali

Team #: 2 (CDM Smith)

Instructions:

1. record date, time, and initial sample bottles
2. fill bottles to shoulder
3. remember to filter the "nut" sample
4. remember to add reagents to DO sample

Total water depth (feet): unknown - grab from bridge. (Est 3-4 ft)

Sample depth (feet): Surface

Sample Collection

	Bottle	Time Filled	Preservative?	Filter?	Analyte	Comment
~~1~~	~~Sterile cylinder~~		~~Tablet~~	~~NO~~	~~e.coli~~	~~6 Hour hold time~~
2	Large Plastic	12:00	NO	NO	TSS	
~~3~~	~~Brown Plastic~~		~~NO~~	~~NO~~	~~chlorophyll-a~~	
4	Large Plastic	12:00	NO	NO	CBOD5	
~~5~~	~~Large Plastic~~		~~NO~~	~~NO~~	~~CBOD20~~	
6	Small plastic	12:00	NO	NO	total phos	
7	Small plastic (filtered)	12:08	NO	YES	nutrients	remember to filter!
~~8~~	~~Glass DO~~		~~NO~~	~~NO~~	~~winker DO~~	finished sample ~~should be amber in~~ color

Upper Merrimack and Pemigewasset River Study
High-Flow Water Quality
Field Measurement Worksheet

Station #: T021

Date: 5/17

Weather Conditions: clear + calm

Sampler Names: Zach / Ali

Team No.: 2 (CDM Smith)

1. record site # (001 through 072)
2. record conditions and site description
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings, record times!
6. vertical DO/temp profile (if necessary at the site)
7. Collect all samples (fill out worksheet!)

2

Site Description

Total water depth (units): 2' 2"

Algae coverage: none

Tree cover: sparse, but several large trees

Wildlife: 0

Other observations (sights, smells, etc) clear, deep, mod velocity

FOR QA PURPOSES, REPEAT YSI READINGS. RECORD TIME OF EACH READING

Data Collection

Parameter	Time 1: 14:54	Time 2: 14:55	Comment
Temperature °C	13.61	13.61	
Conductivity ms/cm	0.038	0.038	
Sp. Cond. ms/cm[c]			
DO %	94.7	93.1	
DO mg/L	9.51	9.36	
pH su	5.94	6.00	
Turbidity ntu	3.7	3.6	
Secchi Disk* indicate units	Up:		note units
	Down:		note units

*Secchi disk not necessary in flowing river reaches or in shallow water.

Upper Merrimack and Pemigewasset River Study
High-Flow Water Quality
Sample Collection Worksheet

Station #: T021

Date: 5/17/12
Time: 14:50
Weather Conditions: sunny, clear, calm

☐ QA SAMPLE? Dup. Blank Rinse

Sample ID: T021-G-HF1

Sampler Names: Zach/Al
Team #: 2 (CDM Smith)

Instructions:

1. record date, time, and initial sample bottles
2. fill bottles to shoulder
3. remember to filter the "nut" sample
4. remember to add reagents to DO sample

Total water depth (feet): 2' 2"
Sample depth (feet): 0.5'

Sample Collection

	Bottle	Time Filled	Preservative?	Filter?	Analyte	Comment
1	~~Sterile cylinder~~		~~Tablet~~	~~NO~~	~~e.coli~~	~~6 Hour hold time~~
2	Large Plastic	14:50	NO	NO	TSS	
~~3~~	~~Brown Plastic~~		~~NO~~	~~NO~~	~~chlorophyll-a~~	
4	Large Plastic	14:50	NO	NO	CBOD5	
~~5~~	~~Large Plastic~~		~~NO~~	~~NO~~	~~CBOD20~~	
6	Small plastic	14:50	NO	NO	total phos	
7	Small plastic (filtered)	14:50	NO	YES	nutrients	remember to filter!
~~8~~	~~Glass DO~~		~~NO~~	~~NO~~	~~winker DO~~	finished sample ~~should be amber in~~ color

Upper Merrimack and Pemigewasset River Study
High-Flow Water Quality
Field Measurement Worksheet

Station #: T022

Date: 5/17/12

Weather Conditions: Sunny + calm

Sampler Names: Zach / Ali

Team No.: 2 (CDM Smith)

1. record site # (001 through 072)
2. record conditions and site description
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings, record times!
6. vertical DO/temp profile (if necessary at the site)
7. Collect all samples (fill out worksheet!)

Site Description

Total water depth (units): 2'

Algae coverage: none

Tree cover: lots of large trees on bank

Wildlife: none

Other observations (sights, smells, etc) lawnmower next to site
high velocity, relatively shallow - lots of rocks

FOR QA PURPOSES, REPEAT YSI READINGS. RECORD TIME OF EACH READING

Data Collection

Parameter	Time 1: 15:30	Time 2: 15:31	Comment
Temperature °C	15.71	15.71	
Conductivity ms/cm	0.037	0.037	
Sp. Cond. ms/cm[c]	—	—	
DO %	102.0	101.6	
DO mg/L	9.81	9.77	
pH su	6.57	6.62	
Turbidity ntu	19.8	7.9	
Secchi Disk* indicate units	Up:		note units
	Down:		note units

Secchi disk not necessary in flowing river reaches or in shallow water.

Upper Merrimack and Pemigewasset River Study
High-Flow Water Quality
Sample Collection Worksheet

Station #: T022

Date: 5/17/12

Time: 15:20

Weather Conditions: Sunny + calm

Sampler Names: Zach / Ali

Team #: 2 (CDM Smith)

☐ QA SAMPLE? Dup. Blank Rinse

Sample ID: T022-G-HFI

Instructions:

1. record date, time, and initial sample bottles
2. fill bottles to shoulder
3. remember to filter the "nut" sample
4. remember to add reagents to DO sample

Total water depth (feet): 2'

Sample depth (feet): 0.5'

Sample Collection

	Bottle	Time Filled	Preservative?	Filter?	Analyte	Comment
1	~~Sterile cylinder~~		~~Tablet~~	~~NO~~	~~e.coli~~	~~8 Hour hold time~~
2	Large Plastic	15:20	NO	NO	TSS	
3	~~Brown Plastic~~		~~NO~~	~~NO~~	~~chlorophyll a~~	
4	Large Plastic	15:20	NO	NO	CBOD5	
5	~~Large Plastic~~		~~NO~~	~~NO~~	~~CBOD20~~	
6	Small plastic	15:20	NO	NO	total phos	
7	Small plastic (filtered)	15:20	NO	YES	nutrients	remember to filter!
8	~~Glass DO~~		~~NO~~	~~NO~~	~~winkor DO~~	finished sample ~~should be amber in~~ color

Upper Merrimack and Pemigewasset River Study
High-Flow Water Quality
Field Measurement Worksheet

Station #: T027

Date: 05-17-2012

Weather Conditions: Sunny, Warm

Sampler Names: Ethan Soko, Sammy Datti

Team No.: 3 (NAI)

1. record site # (001 through 072)
2. record conditions and site description
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings, record times!
6. vertical DO/temp profile (if necessary at the site)
7. Collect all samples (fill out worksheet!)

Site Description

Total water depth (units): 3.6 ft

Algae coverage: No

Tree cover: Yes

Wildlife: Song birds

Other observations (sights, smells, etc) bottom sediment sandy silt

FOR QA PURPOSES, REPEAT YSI READINGS. RECORD TIME OF EACH READING

Data Collection

Parameter	Time 1: 16:49	Time 2: 17:12	Comment
Temperature °C	17.15°C	17.21°C	
Conductivity ms/cm	0.044	0.044	
Sp. Cond. ms/cm[c]	N/A	N/A	
DO %	97.3	88.8	
DO mg/L	9.10	8.28	
pH su	6.8	6.94	
Turbidity ntu	2.0	2.1	
Secchi Disk* indicate units	Up:		note units
	Down:		note units

*Secchi disk not necessary in flowing river reaches or in shallow water.

Upper Merrimack and Pemigewasset River Study
High-Flow Water Quality
Sample Collection Worksheet

Station #: T027

Date: 05-17-2012

Time: 16:58

Weather Conditions: Sunny, warm

Sampler Names: Ethan Sobo, Sammy ~~Dotti~~

Team #: 3 (WA1)

☐ QA SAMPLE? Dup. Blank Rinse

Sample ID: T027-G-HF1

Instructions:

1. record date, time, and initial sample bottles
2. fill bottles to shoulder
3. remember to filter the "nut" sample
4. remember to add reagents to DO sample

Total water depth (feet): 3.6ft

Sample depth (feet): 1.0ft

Sample Collection

	Bottle	Time Filled	Preservative?	Filter?	Analyte	Comment
~~1~~	~~Sterile cylinder~~		~~Tablet~~	~~NO~~	~~e.coli~~	~~6 Hour hold time~~
2	Large Plastic	16:58	NO	NO	TSS	
~~3~~	~~Brown Plastic~~		~~NO~~	~~NO~~	~~chlorophyll-a~~	
4	Large Plastic	16:58	NO	NO	CBOD5	
~~5~~	~~Large Plastic~~		~~NO~~	~~NO~~	~~CBOD20~~	
6	Small plastic	16:58	NO	NO	total phos	
7	Small plastic (filtered)	16:58	NO	YES	nutrients	remember to filter!
~~8~~	~~Glass DO~~		~~NO~~	~~NO~~	~~winker DO~~	~~finished sample should be amber in~~ color

Upper Merrimack and Pemigewasset River Study
High-Flow Water Quality
Sample Collection Worksheet

Station #: T027

✓ QA SAMPLE? (Dup.) Blank Rinse

Sample ID: M227-D-HF1

Date: 05-17-2012

Time: 16:53

Weather Conditions: Sunny, warm

Sampler Names: Ethan Sobo, Sammy Datti

Team #: 3

Instructions:

1. record date, time, and initial sample bottles
2. fill bottles to shoulder
3. remember to filter the "nut" sample
4. remember to add reagents to DO sample

Total water depth (feet): 3.6ft

Sample depth (feet): 1.0ft

Sample Collection

	Bottle	Time Filled	Preservative?	Filter?	Analyte	Comment
	~~Sterile cylinder~~		~~Tablet~~	~~NO~~	~~e.coli~~	~~6 Hour hold time~~
2	Large Plastic	16:53	NO	NO	TSS	
~~3~~	~~Brown Plastic~~		~~NO~~	~~NO~~	~~chlorophyll a~~	
4	Large Plastic	16:53	NO	NO	CBOD5	
~~5~~	~~Large Plastic~~		~~NO~~	~~NO~~	~~CBOD20~~	
6	Small plastic	16:53	NO	NO	total phos	
7	Small plastic (filtered)	16:53	NO	YES	nutrients	remember to filter!
~~8~~	~~Glass DO~~		NO	NO	winker DO	finished sample ~~should be amber in~~ color

Upper Merrimack and Pemigewasset River Study
High-Flow Water Quality
Sample Collection Worksheet

Station #: T027

Date: 05-17-2012

Time: 17:03

Weather Conditions: Sunny, warm

Sampler Names: Ethan Soby, Sammy Datti

Team #: 3

☑ QA SAMPLE? Dup. (Blank) Rinse

Sample ID: T127-B-HF1

Instructions:

1. record date, time, and initial sample bottles
2. fill bottles to shoulder
3. remember to filter the "nut" sample
4. remember to add reagents to DO sample

Total water depth (feet): 3.6ft

Sample depth (feet): N/A

Sample Collection

	Bottle	Time Filled	Preservative?	Filter?	Analyte	Comment
	~~Sterile cylinder~~		~~Tablet~~	~~NO~~	~~ecoli~~	~~6 Hour hold time~~
2	Large Plastic	17:03	NO	NO	TSS	
~~3~~	~~Brown Plastic~~		~~NO~~	~~NO~~	~~chlorophyll-a~~	
4	Large Plastic	17:03	NO	NO	CBOD5	
~~5~~	~~Large Plastic~~		~~NO~~	~~NO~~	~~CBOD20~~	
6	Small plastic	17:03	NO	NO	total phos	
7	Small plastic (filtered)	17:03	NO	YES	nutrients	remember to filter!
~~8~~	~~Glass DO~~		~~NO~~	~~NO~~	~~winker DO~~	~~finished sample should be amber in color~~

Upper Merrimack and Pemigewasset River Study
High-Flow Water Quality
Sample Collection Worksheet

Station #: T027

Date: 05-17-2012

Time: 17:08

Weather Conditions: Sunny, warm

Sampler Names: Ethan Sobo, Sammy Dotti

Team #: 3

☑ QA SAMPLE? Dup. Blank (Rinse)

Sample ID: T327-R-HF1

Instructions:

1. record date, time, and initial sample bottles
2. fill bottles to shoulder
3. remember to filter the "nut" sample
4. remember to add reagents to DO sample

Total water depth (feet): 3.6 ft

Sample depth (feet): N/A

Sample Collection

	Bottle	Time Filled	Preservative?	Filter?	Analyte	Comment
	~~Sterile cylinder~~		~~Tablet~~	~~NO~~	~~e.coli~~	~~6 Hour hold time~~
2	Large Plastic	17:08	NO	NO	TSS	
~~3~~	~~Brown Plastic~~		~~NO~~	~~NO~~	~~chlorophyll-a~~	
4	Large Plastic	17:08	NO	NO	CBOD5	
~~5~~	~~Large Plastic~~		~~NO~~	~~NO~~	~~CBOD20~~	
6	Small plastic	17:08	NO	NO	total phos	
7	Small plastic (filtered)	17:08	NO	YES	nutrients	remember to filter!
~~8~~	~~Glass DO~~		~~NO~~	~~NO~~	~~winker DO~~	finished sample ~~should be amber in~~ color

Upper Merrimack and Pemigewasset River Study
High-Flow Water Quality
Field Measurement Worksheet

Station #: T028

Date: 5-17-12

Weather Conditions: Sunny, light breeze, upper 60's

Sampler Names: KRP + JD

Team No.: 4 (NA1)

1. record site # (001 through 072)
2. record conditions and site description
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings, record times!
6. vertical DO/temp profile (if necessary at the site)
7. Collect all samples (fill out worksheet!)

Site Description

Total water depth (units): 6

Algae coverage: NA

Tree cover: NA

Wildlife: NA

Other observations (sights, smells, etc)

FOR QA PURPOSES, REPEAT YSI READINGS. RECORD TIME OF EACH READING

Data Collection

Parameter	Time 1: 3:20	Time 2: 3:33	Comment 3:36
Temperature °C	16.46	16.52	16.54
Conductivity ms/cm			
Sp. Cond. ms/cm[c]	0.093	0.088	0.093
DO %	104.2	107.2	104.1
DO mg/L	9.87	10.14	9.84
pH su	6.59	6.65	6.65
Turbidity ntu	7.1	38.3	5.5
Secchi Disk* indicate units	Up:		note units
	Down:		note units

*Secchi disk not necessary in flowing river reaches or in shallow water.

Upper Merrimack and Pemigewasset River Study
High-Flow Water Quality
Sample Collection Worksheet

Station #: T028

Date: 5-17-12

Time: 3:20

Weather Conditions: sunny, light breeze, upper 60's

Sampler Names: KRP + JD

Team #: 4 (NAI)

☐ QA SAMPLE? Dup. Blank Rinse

Sample ID: T028-G-HF1

Instructions:

1. record date, time, and initial sample bottles
2. fill bottles to shoulder
3. remember to filter the "nut" sample
4. remember to add reagents to DO sample

Total water depth (feet): 6

Sample depth (feet): 1.5

Sample Collection

	Bottle	Time Filled	Preservative?	Filter?	Analyte	Comment
1	Sterile cylinder	3:20	Tablet	NO	e.coli	6 Hour hold time
2	Large Plastic	3:20	NO	NO	TSS	
~~3~~	~~Brown Plastic~~		~~NO~~	~~NO~~	~~chlorophyll-a~~	
4	Large Plastic	3:20	NO	NO	CBOD5	
~~5~~	~~Large Plastic~~		~~NO~~	~~NO~~	~~CBOD20~~	
6	Small plastic	3:20	NO	NO	total phos	
7	Small plastic (filtered)	3:20	NO	YES	nutrients	remember to filter!
~~8~~	~~Glass DO~~		~~NO~~	~~NO~~	~~winker DO~~	finished sample ~~should be amber in~~ color

Upper Merrimack and Pemigewasset River Study
High-Flow Water Quality
Field Measurement Worksheet

Station #: T035

Date: 5/17/12

Weather Conditions: Sunny, 60°F

Sampler Names: Andrew Poyant, Kevin LeRoux

Team No.: 5 (CDM Smith)

1. record site # (001 through 072)
2. record conditions and site description
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings, record times!
6. vertical DO/temp profile (if necessary at the site)
7. Collect all samples (fill out worksheet!)

Site Description

Total water depth (units): 9.9 ft

Algae coverage: none

Tree cover: banks have tree cover

Wildlife: birds

Other observations (sights, smells, etc) Fast Flow

FOR QA PURPOSES, REPEAT YSI READINGS. RECORD TIME OF EACH READING

Data Collection

Parameter	Time 1: 8:31	Time 2:	Comment
Temperature °C	15.79	15.89	
Conductivity ms/cm	.053 ms/cm	.053	
Sp. Cond. ms/cm[c]	—	—	
DO %	116.7	103.8	
DO mg/L	11.07	9.95	
pH su	5.89	6.68	
Turbidity ntu	3.72	2.6	
Secchi Disk* indicate units	Up: to Fast flow		note units
	Down:		note units

Secchi disk not necessary in flowing river reaches or in shallow water.

Upper Merrimack and Pemigewasset River Study
High-Flow Water Quality
Sample Collection Worksheet

Station #: T035

Date: 5/17/12

Time: 8:40 AM

Weather Conditions: Sunny, Windy, 60°F

Sampler Names: Andre w Pogant, Kevin Leroux

Team #: 5 (CDM Smith)

☐ QA SAMPLE? Dup. Blank Rinse

Sample ID: T035-G-HF1

Instructions:

1. record date, time, and initial sample bottles
2. fill bottles to shoulder
3. remember to filter the "nut" sample
4. remember to add reagents to DO sample

Total water depth (feet): 9.9

Sample depth (feet): 3'

Sample Collection

	Bottle	Time Filled	Preservative?	Filter?	Analyte	Comment
1	~~Sterile cylinder~~		~~Tablet~~	~~NO~~	~~e.coli~~	~~6 Hour hold time~~
2	Large Plastic	8:40AM	NO	NO	TSS	
~~3~~	~~Brown Plastic~~		~~NO~~	~~NO~~	~~chlorophyll-a~~	
4	Large Plastic	8:40AM	NO	NO	CBOD5	
~~5~~	~~Large Plastic~~		~~NO~~	~~NO~~	~~CBOD20~~	
6	Small plastic	8:40AM	NO	NO	total phos	
7	Small plastic (filtered)	8:40AM	NO	YES	nutrients	remember to filter!
~~8~~	~~Glass DO~~		~~NO~~	~~NO~~	~~winker DO~~	finished sample ~~should be amber in~~ color

Upper Merrimack and Pemigewasset River Study
High-Flow Water Quality
Field Measurement Worksheet

Station #: T044

Date: 5/17/12

Weather Conditions: Sunny, Upper 50's

Sampler Names: CAF/AB

Team No.: 6 (NAI)

1. record site # (001 through 072)
2. record conditions and site description
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings, record times!
6. vertical DO/temp profile (if necessary at the site)
7. Collect all samples (fill out worksheet!)

Site Description

Total water depth (units): 3.5'

Algae coverage: No

Tree cover: 10%

Wildlife: Swallows, Mallards

Other observations (sights, smells, etc)

FOR QA PURPOSES, REPEAT YSI READINGS. RECORD TIME OF EACH READING

Data Collection

Parameter	Time 1: 0840	Time 2: 0900	Comment
Temperature °C	14.56	14.53	
Conductivity ms/cm	0.077	0.077	
Sp. Cond. ms/cm[c]			No sp. cond. reading on meter
DO %	85.4	CAF 84.9	
DO mg/L	8.62	CAF 8.37	
pH su	6.67	6.54	
Turbidity ntu	14.2	13.8	
Secchi Disk* indicate units	Up: 2'		Can't see to bottom note units
	Down: 2'		note units

*Secchi disk not necessary in flowing river reaches or in shallow water.

Not accurate flow taking down stream

Upper Merrimack and Pemigewasset River Study
High-Flow Water Quality
Sample Collection Worksheet

Station #: T044

Date: 5/17/12

Time: ~~0825~~ 0845

Weather Conditions: Sunny, Air Temp. upper 50's, wind 10 mph

Sampler Names: CAF/AB

Team #: 6 (NA1)

☐ QA SAMPLE? Dup. Blank Rinse

Sample ID: T044-G-HF1

Instructions:

1. record date, time, and initial sample bottles
2. fill bottles to shoulder
3. remember to filter the "nut" sample
4. remember to add reagents to DO sample

Total water depth (feet): 3.5'

Sample depth (feet): 1.5'

Sample Collection

	Bottle	Time Filled	Preservative?	Filter?	Analyte	Comment
1	~~Sterile cylinder~~		~~Tablet~~	~~NO~~	~~e.coli~~	~~6 Hour hold time~~
2	Large Plastic	0855	NO	NO	TSS ✓	
~~3~~	~~Brown Plastic~~		~~NO~~	~~NO~~	~~chlorophyll-a~~	
4	Large Plastic	0855	NO	NO	CBOD5 ✓	
~~5~~	~~Large Plastic~~		~~NO~~	~~NO~~	~~CBOD20~~	
6	Small plastic	0855	NO	NO	total phos ✓	
7	Small plastic (filtered)	0855	NO	YES	nutrients ✓	remember to filter!
~~8~~	~~Glass DO~~		~~NO~~	~~NO~~	~~winker DO~~	~~finished sample should be amber in color~~

T044 bottles

Upper Merrimack and Pemigewasset River Study
High-Flow Water Quality
Field Measurement Worksheet

Station #: T046

Date: 5/17/12

Weather Conditions: Sunny, 50's

Sampler Names: CAR/AB

Team No.: 6 (NA1)

1. record site # (001 through 072)
2. record conditions and site description
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings, record times!
6. vertical DO/temp profile (if necessary at the site)
7. Collect all samples (fill out worksheet!)

Site Description

Total water depth (units): 3.5'

Algae coverage: NO

Tree cover: 10%

Wildlife: Swallows

Other observations (sights, smells, etc)

FOR QA PURPOSES, REPEAT YSI READINGS. RECORD TIME OF EACH READING

Data Collection

Parameter	Time 1: [redacted]	Time 2: [redacted]	Comment
Temperature °C	0955 15.99	1010 15.98	
Conductivity ms/cm	0.061	0.061	
Sp. Cond. ms/cm[c]	[redacted]	[redacted]	No Sp. Cond. reading on meter
DO %	90.5	89.1	
DO mg/L	8.65	8.52	
pH su	6.22	6.44	
Turbidity ntu	8.7	8.7	
Secchi Disk* indicate units	Up: 2'		flow taking note units
	Down: 2'		disk down note units

Secchi disk not necessary in flowing river reaches or in shallow water.

stream reading not accurate

Upper Merrimack and Pemigewasset River Study
High-Flow Water Quality
Sample Collection Worksheet

Station #: T046

Date: 5/17/12

Time: 1000

Weather Conditions: Sunny, Upper 50's

Sampler Names: CAR/AB

Team #: 6 (NAI)

☐ QA SAMPLE? Dup. Blank Rinse

Sample ID: T046-G-HF1

Instructions:

1. record date, time, and initial sample bottles
2. fill bottles to shoulder
3. remember to filter the "nut" sample
4. remember to add reagents to DO sample

Total water depth (feet): 3.5'

Sample depth (feet): 1.5

Sample Collection

	Bottle	Time Filled	Preservative?	Filter?	Analyte	Comment
1	~~Sterile cylinder~~		~~Tablet~~	~~NO~~	~~e.coli~~	~~6 Hour hold time~~
2	Large Plastic	1000	NO	NO	TSS ✓	
3	~~Brown Plastic~~		~~NO~~	~~NO~~	~~chlorophyll-a~~	
4	Large Plastic	1000	NO	NO	CBOD5 ✓	
5	~~Large Plastic~~		~~NO~~	~~NO~~	~~CBOD20~~	
6	Small plastic	1000	NO	NO	total phos ✓	
7	Small plastic (filtered)	1000	NO	YES	nutrients ✓	remember to filter!
8	~~Glass DO~~		~~NO~~	~~NO~~	~~winker DO~~	finished sample ~~should be amber in~~ color

Upper Merrimack and Pemigewasset River Study
High-Flow Water Quality
Field Measurement Worksheet

Station #: T056

Date: 5/17

Weather Conditions: Sunny, 60's

Sampler Names: Michaela Bogosh, Kevin Rathbun

Team No.: 7 (CDM Smith)

1. record site # (001 through 072)
2. record conditions and site description
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings, record times!
6. vertical DO/temp profile (if necessary at the site)
7. Collect all samples (fill out worksheet!)

Site Description

Total water depth (units): 2.5'

Algae coverage: No visible Coverage

Tree cover: Dense

Wildlife: Geese passed through sampling site

Other observations (sights, smells, etc)

8:00 left site YSI not working, water level raised at second ~~site~~ visit

FOR QA PURPOSES, REPEAT YSI READINGS. RECORD TIME OF EACH READING

Data Collection

Parameter	Time 1: 3:50	Time 2: 3:54	Comment
Temperature °C	17.33	17.33	
Conductivity ms/cm	70	70	
Sp. Cond. ms/cm[c]	~~70~~ 82	82	
DO %	101.8	101.9	
DO mg/L	9.78	9.78	
pH su	7.44	7.31	
Turbidity ntu	1.01	0.99	
Secchi Disk* indicate units	Up:		note units
	Down:		note units

*Secchi disk not necessary in flowing river reaches or in shallow water.

Serial #: 06C2658AJ

Upper Merrimack and Pemigewasset River Study
High-Flow Water Quality
Sample Collection Worksheet

Station #: T056

Date: 5/17

Time: ~~0855~~ 7:40

Weather Conditions: Sunny, 60's

Sampler Names: MB / KR

Team #: 7 (CDM Smith)

☐ QA SAMPLE? Dup. Blank Rinse

Sample ID: T056-G-HF1

Instructions:

1. record date, time, and initial sample bottles
2. fill bottles to shoulder
3. remember to filter the "nut" sample
4. remember to add reagents to DO sample

Total water depth (feet): 2.5'

Sample depth (feet): 1.5'

Sample Collection

	Bottle	Time Filled	Preservative?	Filter?	Analyte	Comment
1	~~Sterile cylinder~~		~~Tablet~~	~~NO~~	~~e.coli~~	~~6 Hour hold time~~
2	Large Plastic	7:40	NO	NO	TSS	
~~3~~	~~Brown Plastic~~		~~NO~~	~~NO~~	~~chlorophyll-a~~	
4	Large Plastic	7:40	NO	NO	CBOD5	
~~5~~	~~Large Plastic~~		~~NO~~	~~NO~~	~~CBOD20~~	
6	Small plastic	7:40	NO	NO	total phos	
7	Small plastic (filtered)	7:40	NO	YES	nutrients	remember to filter!
~~8~~	~~Glass DO~~		~~NO~~	~~NO~~	~~winker DO~~	finished sample ~~should be amber in~~ color

Upper Merrimack and Pemigewasset River Study
High-Flow Water Quality
Field Measurement Worksheet

Station #: T059

Date: 5/17

Weather Conditions: Sunny, 60's

Sampler Names: Michaela Bogash, Kevin Rathbun

Team No.: 7 (CDM Smith)

1. record site # (001 through 072)
2. record conditions and site description
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings, record times!
6. vertical DO/temp profile (if necessary at the site)
7. Collect all samples (fill out worksheet!)

Site Description

Total water depth (units): At least 5'

Algae coverage: no

Tree cover: Dense

Wildlife: Birds, Insects

Other observations (sights, smells, etc) Rapids - lots of them
Return later to take field measurements

FOR QA PURPOSES, REPEAT YSI READINGS. RECORD TIME OF EACH READING

Data Collection

Parameter	Time 1: 4:28	Time 2: 4:33	Comment
Temperature °C	19.02	19.03	
Conductivity ms/cm	149	149	
Sp. Cond. ms/cm[c]	168	168	
DO %	102.5	102.7	
DO mg/L	9.51	9.53	
pH su	7.07	7.06	
Turbidity ntu	0.90	1.03	
Secchi Disk* indicate units	Up:		note units
	Down:		note units

*Secchi disk not necessary in flowing river reaches or in shallow water.

Upper Merrimack and Pemigewasset River Study
High-Flow Water Quality
Sample Collection Worksheet

Station #: T059

Date: 5/17

Time: 10:00

Weather Conditions: 60's, sunny

Sampler Names: Michaela Boggosh, Kevin Rathbun

Team #: 7 (CDM Smith)

☐ QA SAMPLE? Dup. Blank Rinse

Sample ID: T059-G-HF1

Instructions:

1. record date, time, and initial sample bottles
2. fill bottles to shoulder
3. remember to filter the "nut" sample
4. remember to add reagents to DO sample

Total water depth (feet): At least 5'

Sample depth (feet): 3'

Sample Collection

	Bottle	Time Filled	Preservative?	Filter?	Analyte	Comment
1	~~Sterile cylinder~~		~~Tablet~~	~~NO~~	~~e coli~~	~~6 Hour hold time~~
2	Large Plastic	10:00	NO	NO	TSS	
~~3~~	~~Brown Plastic~~		~~NO~~	~~NO~~	~~chlorophyll a~~	
4	Large Plastic	10:00	NO	NO	CBOD5	
~~5~~	~~Large Plastic~~		~~NO~~	~~NO~~	~~CBOD20~~	
6	Small plastic	10:00	NO	NO	total phos	
7	Small plastic (filtered)	10:00	NO	YES	nutrients	remember to filter!
~~8~~	~~Clear DO~~		~~NO~~	~~NO~~	~~winker DO~~	~~finished sample should be amber in color~~

Upper Merrimack and Pemigewasset River Study
High-Flow Water Quality
Field Measurement Worksheet

Station #: T064

Date: 5/17

Weather Conditions: 70's, Sunny

Sampler Names: MB / KR

Team No.: 7 (CDM Smith)

1. record site # (001 through 072)
2. record conditions and site description
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings, record times!
6. vertical DO/temp profile (if necessary at the site)
7. Collect all samples (fill out worksheet!)

Site Description

Total water depth (units): > 6 ft.

Algae coverage: no

Tree cover: moderate

Wildlife: Birds

Other observations (sights, smells, etc)

FOR QA PURPOSES, REPEAT YSI READINGS. RECORD TIME OF EACH READING

Data Collection

Parameter	Time 1: 2:15	Time 2: 2:19	Comment
Temperature °C	17.58	17.59	
Conductivity ms/cm	~~85~~ 81	~~81~~ 82	
Sp. Cond. ms/cm[c]	~~81~~ 95	95	
DO %	102.7	102.9	
DO mg/L	9.79	9.82	
pH su	7.61	7.45	
Turbidity ntu	2.02	1.79	
Secchi Disk* indicate units	Up:		note units
	Down:		note units

Secchi disk not necessary in flowing river reaches or in shallow water.

Upper Merrimack and Pemigewasset River Study
High-Flow Water Quality
Sample Collection Worksheet

Station #: T064

Date: 5/17

Time: 2:05

Weather Conditions: 70's, sunny

Sampler Names: MB/KR

Team #: 7 (CDM Smith)

☐ QA SAMPLE? Dup. Blank Rinse

Sample ID: T064-G-HF1

Instructions:

1. record date, time, and initial sample bottles
2. fill bottles to shoulder
3. remember to filter the "nut" sample
4. remember to add reagents to DO sample

Total water depth (feet): > 6 ft.

Sample depth (feet): 2 ft

Sample Collection

	Bottle	Time Filled	Preservative?	Filter?	Analyte	Comment
1	Sterile cylinder	2:05	Tablet	NO	e.coli	6 Hour hold time
2	Large Plastic	2:05	NO	NO	TSS	
~~3~~	~~Large Plastic~~		~~NO~~	~~NO~~	~~chlorophyll a~~	
4	Large Plastic	2:05	NO	NO	CBOD5	
~~5~~	~~Large Plastic~~		~~NO~~	~~NO~~	~~CBOD20~~	
6	Small plastic	2:05	NO	NO	total phos	
7	Small plastic (filtered)	2:05	NO	YES	nutrients	remember to filter!
~~8~~	~~Glass DO~~		~~NO~~	~~NO~~	~~winkler DO~~	finished sample ~~should be amber in~~ color

Upper Merrimack and Pemigewasset River Study
High-Flow Water Quality
Field Measurement Worksheet

Station #: T068

Date: 17 May 12, 1513

Weather Conditions: Sunny, calm, 60s °F

Sampler Names: Mason, Theriault

Team No.: 8 (NAI)

1. record site # (001 through 072)
2. record conditions and site description
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings, record times!
6. vertical DO/temp profile (if necessary at the site)
7. Collect all samples (fill out worksheet!)

Site Description

Total water depth (units): 4.4 ft

Algae coverage: none

Tree cover: none

Wildlife: some birds

Other observations (sights, smells, etc): none

FOR QA PURPOSES, REPEAT YSI READINGS. RECORD TIME OF EACH READING

Data Collection

Parameter	Time 1: 1514	Time 2: 1528	Comment
Temperature °C	19.14	19.16	
Conductivity ms/cm	0.167	0.176	
Sp. Cond. ms/cm[c]	—	—	
DO %	72.2	75.7	
DO mg/L	6.48	6.80	
pH su	7.10	7.07	
Turbidity ntu	16.3	4.7	
Secchi Disk* indicate units	Up: N/A		note units
	Down: N/A		note units

*Secchi disk not necessary in flowing river reaches or in shallow water.

Upper Merrimack and Pemigewasset River Study
High-Flow Water Quality
Sample Collection Worksheet

Station #: T068

Date: 17 May 12
Time: 1513
Weather Conditions: Sunny, calm, 60s °F

Sampler Names: Mason Theriault
Team #: 8 (NAI)

☐ QA SAMPLE? Dup. Blank Rinse

Sample ID: T068-G-HF1

Instructions:

1. record date, time, and initial sample bottles
2. fill bottles to shoulder
3. remember to filter the "nut" sample
4. remember to add reagents to DO sample

Total water depth (feet): 4.4 ft
Sample depth (feet): 1.5 ft

Sample Collection

	Bottle	Time Filled	Preservative?	Filter?	Analyte	Comment
	Sterile cylinder	1520	Tablet	NO	e.coli	6 Hour hold time
2	Large Plastic	1520	NO	NO	TSS	
~~3~~	~~Brown Plastic~~		~~NO~~	~~NO~~	~~chlorophyll-a~~	
4	Large Plastic	1520	NO	NO	CBOD5	
~~5~~	~~Large Plastic~~		~~NO~~	~~NO~~	~~CBOD20~~	
6	Small plastic	1520	NO	NO	total phos	
7	Small plastic (filtered)	1520	NO	YES	nutrients	remember to filter!
~~8~~	~~Glass DO~~		~~NO~~	~~NO~~	~~winkler DO~~	finished sample ~~should be amber in~~ color

Upper Merrimack and Pemigewasset River Study
High-Flow Water Quality
Field Measurement Worksheet

Station #: T069

Date: 17 May 12

Weather Conditions: Sunny, low 60s°F

Sampler Names: Mason Theriault

Team No.: 8 (NAI)

1. record site # (001 through 072)
2. record conditions and site description
4. collect data with YSI, turbidimeter, Secchi
5. repeat YSI readings, record times!
6. vertical DO/temp profile (if necessary at the site)
7. Collect all samples (fill out worksheet!)

Site Description

Total water depth (units): 4.0 ft

Algae coverage: none

Tree cover: yes

Wildlife:

Other observations (sights, smells, etc) none, Salmon Brook impounded - sample collected @ culvert outlet - not impounded, flow evident 42.74996, -71.44310

FOR QA PURPOSES, REPEAT YSI READINGS. RECORD TIME OF EACH READING

Data Collection

Parameter	Time 1: 1158	Time 2: 1212	Comment
Temperature °C	18.98	19.04	
Conductivity ms/cm	0.280	0.273	
Sp. Cond. ms/cm[c]	—	—	
DO %	80.2	79.6	
DO mg/L	7.23	7.16	
pH su	7.08	7.20	
Turbidity ntu	6.3	10.7	
Secchi Disk* indicate units	Up: N/A too shallow		note units
	Down: N/A too shallow		note units

Secchi disk not necessary in flowing river reaches or in shallow water.

Upper Merrimack and Pemigewasset River Study
High-Flow Water Quality
Sample Collection Worksheet

Station #: T069

Date: 17 May 12

Time: 1158

Weather Conditions: Sunny, Calm, 60s °F

Sampler Names: mason, Theriault

Team #: 8 (NAI)

☐ QA SAMPLE? Dup. Blank Rinse

Sample ID: T069-G-HF1

Instructions:

1. record date, time, and initial sample bottles
2. fill bottles to shoulder
3. remember to filter the "nut" sample
4. remember to add reagents to DO sample

Total water depth (feet): 4.0 ft

Sample depth (feet): 1.0 ft

Sample Collection

	Bottle	Time Filled	Preservative?	Filter?	Analyte	Comment
	~~Sterile cylinder~~		~~Tablet~~	~~NO~~	~~e.coli~~	~~6 Hour hold time~~
2	Large Plastic	1202	NO	NO	TSS	
	~~Brown Plastic~~		~~NO~~	~~NO~~	~~chlorophyll-a~~	
4	Large Plastic	1202	NO	NO	CBOD5	
	~~Large Plastic~~		~~NO~~	~~NO~~	~~CBOD20~~	
6	Small plastic	1202	NO	NO	total phos	
7	Small plastic (filtered)	1202	NO	YES	nutrients	remember to filter!
	~~Glass DO~~		~~NO~~	~~NO~~	~~winker DO~~	finished sample ~~should be amber in~~ color

Upper Merrimack and Pemigewasset River Study
High-Flow Water Quality
In-Situ Measurement Worksheet

WWTP: Lincoln WWTP (WWTP1)

Date: 5-18-12

Time: 09:00

Sampler Names: Willis Wotton

Notes/Comments:

Data Collection (fill in all possible)

Parameter	Date-Time	Reading	Comment
Temperature °C	5-18-12 09:10	19°C	
Conductivity ms/cm	~~5-18-12~~ HW		
Sp. Cond. ms/cm[c]			
DO %	5-18-12 09:10	69.4%	
DO mg/L	5-18-12 09:10	6.45 mg/L	
pH su	5-18-12 0915	7.47 SU	
Turbidity ntu			

Upper Merrimack and Pemigewasset River Study
High-Flow Water Quality
In-Situ Measurement Worksheet

WWTP: Hooksett WWTP (WWTP10)

Date: May 17, 2012

Time: 12:30 pm

Sampler Names: Scott Tremaine

Notes/Comments:

Data Collection (fill in all possible)

Parameter	Date-Time	Reading	Comment
Temperature °C	5.17.12 12:35pm	14.2 c	
Conductivity ms/cm			
Sp. Cond. ms/cm[c]			
DO %			
DO mg/L	5.17.12 12:30pm	5.9	
pH su	5.17.12 12:35p	7.45	
Turbidity ntu			

Upper Merrimack and Pemigewasset River Study
High-Flow Water Quality
Field Measurement Worksheet

WWTP: HWWTP (Hooksett)

Date: May 18, 2012

Time: 8:30am

Sampler Names: Scott Remaine

Notes/Comments:

Data Collection (fill in all possible)

Parameter	Date-Time	Reading	Comment
Temperature °C	5.18.12 8:30am	11.8 c	
Conductivity ms/cm			
Sp. Cond. ms/cm[c]			
DO %			
DO mg/L	5.18.12 8:30am	6.6	
pH su	5.18.12 8:30am	7.72	
Turbidity ntu			

Upper Merrimack and Pemigewasset River Study
High-Flow Water Quality
In-Situ Measurement Worksheet

WWTP: Manchester WWTP (WWTP11)

Date: 5/16/12

Time: 2350

Sampler Names: Jim Morneau

Notes/Comments:

Data Collection (fill in all possible)

Parameter	Date-Time	Reading	Comment
Temperature °C	5/16/12 2350	16.8	
Conductivity ms/cm			
Sp. Cond. ms/cm[c]			
DO %	5/16/12 2350	48.09	
DO mg/L	5/16/12 2350	4.67	
pH su	5/16/12 2357	6.94	
Turbidity ntu	5/16 2357	5.51	

Upper Merrimack and Pemigewasset River Study
High-Flow Water Quality
In-Situ Measurement Worksheet

WWTP: Manchester WWTP (WWTP11)

Date: 5-17-12

Time: 1240

Sampler Names: Bill Bernard

Notes/Comments:

Data Collection (fill in all possible)

Parameter	Date-Time	Reading	Comment
Temperature °C	5-17-12 1240	16.7	
Conductivity ms/cm			
Sp. Cond. ms/cm[c]			
DO %	5/17/12 1240	50.15	
DO mg/L	5-17-12 1240	4.88	
pH su	5-17-12 1240	6.65	
Turbidity ntu	5-17-12 1240	5.28	

Upper Merrimack and Pemigewasset River Study
High-Flow Water Quality
In-Situ Measurement Worksheet

WWTP: Manchester WWTP (WWTP11)

Date: 5-17-12

Time: 2348

Sampler Names: Dave Hilnes

Notes/Comments:

Data Collection (fill in all possible)

Parameter	Date-Time	Reading	Comment
Temperature °C	5-17-12 2348	16.5	
Conductivity ms/cm			
Sp. Cond. ms/cm[c]			
DO %	5/17/12 2348	48.21	
DO mg/L	5-17-12 2348	4.71	
pH su	5-17-12 2357	6.98	
Turbidity ntu	5-17-12 2355	7.74	

Upper Merrimack and Pemigewasset River Study
High-Flow Water Quality
In-Situ Measurement Worksheet

WWTP: Derry WWTP (WWTP 12)

Date: 5/17/2012

Time: 8:30 Am

Sampler Names: al Costigan

Notes/Comments:

Data Collection (fill in all possible)

Parameter	Date-Time	Reading	Comment
Temperature °C	5/17/2012 8:30 Am	19.2 °C	
Conductivity ms/cm			
Sp. Cond. ms/cm[c]			
DO %			
DO mg/L	5/17/2012 8:30 Am	6.45	
pH su	5/17/2012 8:30 Am	7.10	
Turbidity ntu			

Upper Merrimack and Pemigewasset River Study
High-Flow Water Quality
In-Situ Measurement Worksheet

WWTP: Merrimack WWTP (WWTP13)

Date: 5/17/12

Time: 11:44

Sampler Names: KEVIN WILKINS

Notes/Comments:

Data Collection (fill in all possible)

Parameter	Date-Time	Reading	Comment
Temperature °C	5/17/12 11:53	21.9 C	
Conductivity ms/cm	5/17/12 11:55	1,072	
Sp. Cond. ms/cm[c]	~~5~~ K ~~11:55~~ K	~~1,072~~ K	
DO %	5/17/12 12:05	91.9 %	
DO mg/L	5/17/12 12:05	8.10	
pH su	5/17/12 11:53	7.81	
Turbidity ntu	5/17/12 11:43	4.94	

Upper Merrimack and Pemigewasset River Study
High-Flow Water Quality
In-Situ Measurement Worksheet

WWTP: Woodstock WWTP (WWTP2)

Date: 5/18/12

Time: 9:23AM

Sampler Names: Kathy Welch

Notes/Comments: D.O. was taken in the Effluent building wetwell, All other analysis was done in lab from grab sample.

Data Collection (fill in all possible)

Parameter	Date-Time	Reading	Comment
Temperature °C	5/18/12 9:23AM	14°C	
Conductivity ms/cm	5/18/12 9:23AM	433	
Sp. Cond. ms/cm[c]	~~5/18~~		
DO %			
DO mg/L	5/18/12 9:23AM	8.62	
pH su	5/18/12 9:23AM	6.8	
Turbidity ntu			

Upper Merrimack and Pemigewasset River Study
High-Flow Water Quality
In-Situ Measurement Worksheet

WWTP: Plymouth Village WWTP (WWTP 3)

Date: 5/17 → 5/18/12

Time: 0800 → 0700

Sampler Names: Kirk Young
Arthur Prince

Notes/Comments:

Data Collection (fill in all possible)

Parameter	Date-Time	Reading	Comment
Temperature °C	5/17/12 12:05pm	15.3 °C	
Conductivity ms/cm			
Sp. Cond. ms/cm[c]			
DO %			
DO mg/L	5/17/12 12:05 pm	4.80 mg/L	
pH su	5/17/12 12:05pm (SAMPLE)	6.73	@ 16.3°C 12:10 pm (READING)
Turbidity ntu			

Upper Merrimack and Pemigewasset River Study
High-Flow Water Quality
In-Situ Measurement Worksheet

WWTP: Bristol WWTP (WWTP 4)

Date: 5/17/12 - 5/18/12

Time: 8:00 AMs

Sampler Names: Jesse Lamos
Joel Furmanick

Notes/Comments:

Data Collection (fill in all possible)

Parameter	Date-Time		Reading		Comment
Temperature °C	5/17 2:20	5/18 7:50	5.0	5.5	
Conductivity ms/cm					
Sp. Cond. ms/cm[c]					
DO %	5/17				
DO mg/L	5/17 2:20	5/18 7:40	5.7	8.0	
pH su	5/17 2:22	5/18 7:42	6.42	6.06	
Turbidity ntu	5/17 2:25	5/18 7:48	8.05	7.99	

Upper Merrimack and Pemigewasset River Study
High-Flow Water Quality
In-Situ Measurement Worksheet

WWTP: Winnipesaukee WWTP (WWTP5)

Date: 5/17/12

Time: 0855

Sampler Names: Don Watson

Notes/Comments: Sample was taken through hatch in Plant Water building floor to the left of pH probe, when looking at pH meter interface. Sample is representative of Effluent / Outfall at said date and time above.

Data Collection (fill in all possible)

Parameter	Date-Time	Reading	Comment
Temperature °C	5/17/2 0855	12.5°C	
Conductivity ms/cm	N/A	N/A	
Sp. Cond. ms/cm[c]	N/A	N/A	
DO %	~~66%~~ 5/17/12 0855	66%	
DO mg/L	5/17/12 0855	7.12 mg/L	
pH su	5/17/12 0855	6.75 SU	
Turbidity ntu	N/A	N/A	

Upper Merrimack and Pemigewasset River Study
High-Flow Water Quality
In-Situ Measurement Worksheet

WWTP: Winnipesaukee WWTP (WWTP5)

Date: 5/17/12

Time: 1500

Sampler Names: Jason Randall

Notes/Comments: Sample was taken through hatch in Plant water building floor to the left of pH probe, when looking at pH meter interface. Sample is representative of Effluent/outfall at said date and time above.

Data Collection (fill in all possible)

Parameter	Date-Time	Reading	Comment
Temperature °C	5/17/12 1500	13.2°C	
Conductivity ms/cm	N/A	N/A	
Sp. Cond. ms/cm[c]	N/A	N/A	
DO %	5/17/12 1500	73%	
DO mg/L	5/17/12 1500	7.65mg/L	
pH su	5/17/12 1500	6.75SU	
Turbidity ntu	N/A	N/A	

Upper Merrimack and Pemigewasset River Study
High-Flow Water Quality
In-Situ Measurement Worksheet

WWTP: Merrimack County WWTP (WWTP6)

Date: 5·18·12

Time: 8:40am

Sampler Names: Kevin Nobley

Notes/Comments:

Data Collection (fill in all possible)

Parameter	Date-Time	Reading	Comment
Temperature °C	5·18·12 8:40a	18°c	
Conductivity ms/cm			
Sp. Cond. ms/cm[c]			
DO %			
DO mg/L	5·18·12 8:40a	6·01	
pH su	5·18·12 8:40a	7.03	
Turbidity ntu			

Upper Merrimack and Pemigewasset River Study
High-Flow Water Quality
In-Situ Measurement Worksheet

WWTP: Penacook WWTP (WWTP7)

Date: 5-17-12

Time: 1200

Sampler Names: BRIAN CATE
DAN DRISCOLL

Notes/Comments:

Data Collection (fill in all possible)

Parameter	Date-Time	Reading	Comment
Temperature °C	5-17-12 1200	16.1	
Conductivity ms/cm	—	—	
Sp. Cond. ms/cm[c]	—	—	
DO %	5-17-12 1200	34.7	
DO mg/L	5-17-12 1200	3.46	
pH su	5-17-12 1210	7.11	
Turbidity ntu	—	—	

Upper Merrimack and Pemigewasset River Study
High-Flow Water Quality
In-Situ Measurement Worksheet

WWTP: Concord Hall St WWTP (WWTP8)

Date: 5/18/2012

Time: 07:50

Sampler Names: R. Noel

Notes/Comments:

Data Collection (fill in all possible)

Parameter	Date-Time	Reading	Comment
Temperature °C	5/18/12 07:50	15.7°C	
Conductivity ms/cm	N/A	N/A	
Sp. Cond. ms/cm[c]	N/A	N/A	
DO %	5/18/12 07:50	85.8%	
DO mg/L	5/18/12 07:50	8.56 mg/L	
pH su	5/18/12 08:23	7.35 16.4°C	
Turbidity ntu	N/A	N/A	

Upper Merrimack and Pemigewasset River Study
High-Flow Water Quality
Field Measurement Worksheet

WWTP: Concord Hall St. WWTP (WWTP8)

Date: 5/17/12

Time: 13:55

Sampler Names: K. Noel

Notes/Comments:

Data Collection (fill in all possible)

Parameter	Date-Time	Reading	Comment
Temperature °C	5/17/12 13:55	16.6°C	
Conductivity ms/cm	N/A	N/A	
Sp. Cond. ms/cm[c]	N/A	N/A	
DO %	5/17/12 13:55	84.6%	
DO mg/L	5/17/12 13:55	8.51 mg/L	
pH su	5/17/12 14:03	7.21 s.u. @18.0°C	
Turbidity ntu	N/A	N/A	

Upper Merrimack and Pemigewasset River Study
High-Flow Water Quality
Field Measurement Worksheet

WWTP: Suncook / Allenstown WWTP

Date: 5-18-12

Time: 8:30

Sampler Names: Jeff Backman

Notes/Comments: Composite Sample Points E2E5

Data Collection (fill in all possible)

Parameter	Date-Time	Reading	Comment
Temperature °C	5-18-12 ~~15~~ 8:30	15.4°C	Sample Point E2E5
Conductivity ms/cm			
Sp. Cond. ms/cm[c]			
DO %	5-18-12 8:40	44.7 %	Sample Point E2 hach LDO method
DO mg/L	5-18-12 8:35	4.48 mg/L	Sample Point E2 Hach LDO method
pH su	5-18-12 ~~6.61~~ 8:30	6.61 SU	Sample Point E2E5
Turbidity ntu	~~3.84~~ 5-18-12 8:30	3.84	Sample Point E2E5