

### Flow by Velocity Meter Field Worksheet

Project: \_\_\_\_\_  
 Waterbody Name: \_\_\_\_\_  
 Station ID: 21-454  
 Station Description: (Draw sketch in field book)  
 By (Staff Names): \_\_\_\_\_

Date: \_\_\_\_\_  
 Time begin (Military): \_\_\_\_\_  
 Time end (Military): \_\_\_\_\_

Total River Width (ft-in): \_\_\_\_\_

Distance Readings		Depth (ft)	Velocity (V) Readings (ft/sec)			Comments
Tape (ft)	Bank (ft)		FOR DEPTHS ≤ 2 FT	FOR DEPTHS > 2 FT		
			V @ 60% depth from surface	V @ 20% depth from surface	V @ 80% depth from surface	
			>>>>>>>>	>>>>>>>>	>>>>>>>>	
37.9		.85	.05			
50.6		.95	>>>>>>>>	>>>>>>>>	>>>>>>>>	
39.3		.8	.03			
40		.65	>>>>>>>>	>	>>>>>>>>	
40.9		.6	.01			
41.6		.1	>>>>>>>>			
42.3		.15	-.02			
43		0	>>>>>>>>		>>	
			>>>>>>>>	>>>>>>>>	>>>>>>>>	
			>>>>>>>>	>>>>>>>>	>>>>>>>>	
			>>>>>>>>	>>>>>>>>	>>>>>>>>	
			>>>>>>>>	>>>>>>>>	>>>>>>>>	
			>>>>>>>>	>>>>>>>>	>>>>>>>>	
			>>>>>>>>	>>>>>>>>	>>>>>>>>	
>>>>>>	>>>>>>	>>>>>>	>>>>>>>>	>>>>>>>>	>>>>>>>>	
			>>>>>>>>	>>>>>>>>	>>>>>>>>	Run 1 duplicate reading for each set of 10 readings (duplicate the last set of readings recorded on this page)
			>>>>>>>>	>>>>>>>>	>>>>>>>>	



### Flow by Velocity Meter Field Worksheet

Project: \_\_\_\_\_  
 Waterbody Name: \_\_\_\_\_  
 Station ID: \_\_\_\_\_  
 Station Description: (Draw sketch in field book) \_\_\_\_\_  
 By (Staff Names): \_\_\_\_\_

Date: \_\_\_\_\_  
 Time begin (Military): \_\_\_\_\_  
 Time end (Military): \_\_\_\_\_

Total River Width (ft-in): \_\_\_\_\_

Distance Readings		Depth (ft)	Velocity (V) Readings (ft/sec)			Comments
Tape (ft)	Bank (ft)		FOR DEPTHS ≤ 2 FT	FOR DEPTHS > 2 FT		
			V @ 60% depth from surface	V @ 20% depth from surface	V @ 80% depth from surface	
			>>>>>>>>	>>>>>>>>	>>>>>>>>	
37.5	31.5	2.6		.14	.02	
39	33	2.8	>>>>>>>>	>>>>>>>>	>>>>>>>>	
40.5	34.5	2.7		.12	.13	
42	36	2.7	>>>>>>>>	>>>>>>>>	>>>>>>>>	
43.5	37.5	2.7		.17	.05	
45	39	2.8	>>>>>>>>	>>>>>>>>	>>>>>>>>	
46.5	40.5	2.7		.14	.08	
48	42	2.75	>>>>>>>>	>>>>>>>>	>>>>>>>>	
49.5	43.5	2.8		.20	.05	
51	45	2.85	>>>>>>>>	>>>>>>>>	>>>>>>>>	
52.5	46.5	2.85		.20	.13	
54	48	2.9	>>>>>>>>	>>>>>>>>	>>>>>>>>	
55.5	49.5	2.9		.21	.11	
57	51	2.75	>>>>>>>>	>>>>>>>>	>>>>>>>>	
58.5	52.5	2.85		.19	.14	
60	54	2.7	>>>>>>>>	>>>>>>>>	>>>>>>>>	
61.5	55.5	2.65		.14	.05	
63	57	2.55	>>>>>>>>	>>>>>>>>	>>>>>>>>	
64.5	58.5	2.55		.14	.06	
66	60	2.5	>>>>>>>>	>>>>>>>>	>>>>>>>>	
>>>>>>	>>>>>>	>>>>>	>>>>>>>>	>>>>>>>>	>>>>>>>>	
			>>>>>>>>	>>>>>>>>	>>>>>>>>	Run 1 duplicate reading for each set of 10 readings (duplicate the last set of readings recorded on this page)
64.5	58.5	2.55	.12	.12	.06	
			>>>>>>>>	>>>>>>>>	>>>>>>>>	



# Flow by Velocity Meter Field Worksheet

QC - 11-10-02  
continue low

Project: \_\_\_\_\_  
 Waterbody Name: \_\_\_\_\_  
 Station ID: 17-ASH  
 Station Description: (Draw sketch in field book) 10 meters upstream of old gauge  
 By (Staff Names): \_\_\_\_\_

Date: 2/25/01  
 Time begin (Military): 13:20  
 Time end (Military): \_\_\_\_\_

Total River Width (ft-in): \_\_\_\_\_

Distance Readings		Depth (ft)	Velocity (V) Readings (ft/sec)			Comments  LIKELY DEEPER WATER
Tape (ft)	Bank (ft)		FOR DEPTHS ≤ 2 FT	FOR DEPTHS > 2 FT		
			V @ 60% depth from surface	V @ 20% depth from surface	V @ 80% depth from surface	
6	0		>>>>>>>>	>>>>>>>>	>>>>>>>>	
7	1	.25	.06			
8	2	.6	>>>>>>>>	>>>>>>>>	>>>>>>>>	
9	3	.8	.02			
10	4	1.05	>>>>>>>>	>>>>>>>>	>>>>>>>>	
11	5	1.2	.02			
12	6	1.3	>>>>>>>>	>>>>>>>>	>>>>>>>>	
13	7	1.45	.05			
14	8	1.55	>>>>>>>>	>>>>>>>>	>>>>>>>>	
15	9	1.6	.04			
16	10	1.75	>>>>>>>>	>>>>>>>>	>>>>>>>>	
17	11	1.7	.09			
18	12	1.9	>>>>>>>>	>>>>>>>>	>>>>>>>>	
19	13	1.95	.10			
20	14	1.8	>>>>>>>>	>>>>>>>>	>>>>>>>>	
21	15	1.9	.10			
22	16	1.85	>>>>>>>>	>>>>>>>>	>>>>>>>>	
23	17	1.9	.07			
24	18	1.9	>>>>>>>>	>>>>>>>>	>>>>>>>>	
25	19	1.95	.03			
26	20	1.9	>>>>>>>>	>>>>>>>>	>>>>>>>>	
>>>>>>>>	>>>>>>>>	>>>>>>>>	>>>>>>>>	>>>>>>>>	>>>>>>>>	>>>>>>>>
			>>>>>>>>	>>>>>>>>	>>>>>>>>	Run 1 duplicate reading for each set of 10 readings (duplicate the last set of readings recorded on this page)
25	19	1.95	.08			
			>>>>>>>>	>>>>>>>>	>>>>>>>>	

Flow by Velocit

Ashuelot  
7/29/01  
Labels  
+ page  
MISSING

Project: \_\_\_\_\_  
Waterbody Name: \_\_\_\_\_  
Station ID: \_\_\_\_\_  
Station Description: (Draw sketch in field book)  
By (Staff Names): \_\_\_\_\_

Military): \_\_\_\_\_  
ilitary): \_\_\_\_\_

Total River Width (ft-in): \_\_\_\_\_

Distance Readings		Depth (ft)	V			Comments
Tape (ft)	Bank (ft)		FOR DEPTHS ≤			
			V @ 60% depth from surface	V @ 20% depth from surface	V @ 80% depth from surface	
			>>>>>>>>	>>>>>>>>	>>>>>>>>	
27	21	1.9	.05			Layer of sludge removed
28	22	1.9	>>>>>>>>	>>>>>>>>	>>>>>>>>	
29	23	1.9	.07			
30	24	1.9	>>>>>>>>	>>>>>>>>	>>>>>>>>	
31	25	1.9	.06			
32	26	1.9	>>>>>>>>	>>>>>>>>	>>>>>>>>	
33	27	1.85	.02			
34	28	1.8	>>>>>>>>	>>>>>>>>	>>>>>>>>	
35	29	1.7	.02			30 sec. coverage
36	30	1.6	>>>>>>>>	>>>>>>>>	>>>>>>>>	
37	31	1.5	.00			
38	32	1.6	>>>>>>>>	>>>>>>>>	>>>>>>>>	
39	33	1.6	.03			
40	34	1.35	>>>>>>>>	>>>>>>>>	>>>>>>>>	
41	35	1.2	.01			
42	36	1.15	>>>>>>>>	>>>>>>>>	>>>>>>>>	
43	37	1.1	.00			
44	38	1	>>>>>>>>	>>>>>>>>	>>>>>>>>	
45	39	1.9	.04			
46	40	.6	>>>>>>>>	>>>>>>>>	>>>>>>>>	
>>>>>>	>>>>>>	>>>>>>	>>>>>>>>	>>>>>>>>	>>>>>>>>	
			>>>>>>>>	>>>>>>>>	>>>>>>>>	Run 1 duplicate reading for each set of 10 readings (duplicate the last set of readings recorded on this page)
45	39	.9	.00			
			>>>>>>>>	>>>>>>>>	>>>>>>>>	

## Flow by Velocity Meter Field Worksheet

Project: \_\_\_\_\_

Date: \_\_\_\_\_

Waterbody Name: \_\_\_\_\_

Time begin (Military): \_\_\_\_\_

Station ID: \_\_\_\_\_

Time end (Military): \_\_\_\_\_

Station Description: (Draw sketch in field book) \_\_\_\_\_

By (Staff Names): \_\_\_\_\_

Total River Width (ft-in): \_\_\_\_\_

Distance Readings		Depth (ft)	Velocity (V) Readings (ft/sec)			Comments
Tape (ft)	Bank (ft)		FOR DEPTHS ≤ 2 FT	FOR DEPTHS > 2 FT		
			V @ 60% depth from surface	V @ 20% depth from surface	V @ 80% depth from surface	
			>>>>>>>>	>>>>>>>>	>>>>>>>>	30 sec. average
47	41	.6	-.02			↓
48	42	.7	>>>>>>>>	>>>>>>>>	>>>>>>>>	
49	43	.6	-.05			
50	44	.6	>>>>>>>>	>>>>>>>>	>>>>>>>>	
			>>>>>>>>	>>>>>>>>	>>>>>>>>	
			>>>>>>>>	>>>>>>>>	>>>>>>>>	
			>>>>>>>>	>>>>>>>>	>>>>>>>>	
			>>>>>>>>	>>>>>>>>	>>>>>>>>	
			>>>>>>>>	>>>>>>>>	>>>>>>>>	
			>>>>>>>>	>>>>>>>>	>>>>>>>>	
			>>>>>>>>	>>>>>>>>	>>>>>>>>	
			>>>>>>>>	>>>>>>>>	>>>>>>>>	
			>>>>>>>>	>>>>>>>>	>>>>>>>>	
>>>>>>	>>>>>>	>>>>>>	>>>>>>>>	>>>>>>>>	>>>>>>>>	>>>>>>>>>>>>
			>>>>>>>>	>>>>>>>>	>>>>>>>>	Run 1 duplicate reading for each set of 10 readings (duplicate the last set of readings recorded on this page)
			>>>>>>>>	>>>>>>>>	>>>>>>>>	







Flow by Velocity Meter Field Worksheet

Project: Amherst Falls  
 Waterbody Name: Amherst Falls  
 Station ID: 01-180  
 Station Description: (Draw sketch in field book) 1.5 ft from bank  
 By (Staff Names): JEA, R0

Date: 7/25/11  
 Time begin (Military): 1427  
 Time end (Military): 1502

Total River Width (ft-in): 71.7

Distance Readings		Depth (ft)	Velocity (V) Readings (ft/sec)			Comments
Tape (ft)	Bank (ft)		FOR DEPTHS ≤ 2 FT	FOR DEPTHS > 2 FT		
			V @ 60% depth from surface	V @ 20% depth from surface	V @ 80% depth from surface	
			>>>>>>>>	>>>>>>>>	>>>>>>>>	
11.5		0.43	1.26			
12		0.43	>>>>>>>>	>>>>>>>>	>>>>>>>>	
12.5		0.44	1.30			
13		0.40	>>>>>>>>	>>>>>>>>	>>>>>>>>	
13.5		0.42	1.27			
14		0.42	>>>>>>>>	>>>>>>>>	>>>>>>>>	
14.5		0.40	1.25			
15		0.40	>>>>>>>>	>>>>>>>>	>>>>>>>>	
15.5		0.37	1.18			
16		0.37	>>>>>>>>	>>>>>>>>	>>>>>>>>	
16.5		0.40	1.19			
17		0.40	>>>>>>>>	>>>>>>>>	>>>>>>>>	
17.5		0.41	1.17			
18		0.39	>>>>>>>>	>>>>>>>>	>>>>>>>>	
18.5		0.39	1.14			
19		0.33	>>>>>>>>	>>>>>>>>	>>>>>>>>	
19.5		0.35	0.97			Corr = 0.99
20		0.31	>>>>>>>>	>>>>>>>>	>>>>>>>>	
20.5		0.30	1.01			
21		0.29	>>>>>>>>	>>>>>>>>	>>>>>>>>	
>>>>>>	>>>>>>	>>>>>>	>>>>>>>>	>>>>>>>>	>>>>>>>>	
			>>>>>>>>	>>>>>>>>	>>>>>>>>	Run 1 duplicate reading for each set of 10 readings (duplicate the last set of readings recorded on this page)
20.5		0.30	1.03			
			>>>>>>>>	>>>>>>>>	>>>>>>>>	



Flow by Velocity Meter Field Worksheet

Project: Amur - 201  
 Waterbody Name: Amur River  
 Station ID: 04-AC  
 Station Description: (Draw sketch in field book) ~ 50' U.S. OF CONFLUENCE  
 By (Staff Names): TBA RG

Date: 1/24/01  
 Time begin (Military): 1351  
 Time end (Military): 1347

Total River Width (ft-in): 6.2

Distance Readings		Depth (ft)	Velocity (V) Readings (ft/sec)			Comments
Tape (ft)	Bank (ft)		FOR DEPTHS ≤ 2 FT	FOR DEPTHS > 2 FT		
			V @ 60% depth from surface	V @ 20% depth from surface	V @ 80% depth from surface	
0.8		1.5	>>>>>>>>	>>>>>>>>	>>>>>>>>	
1.1		0.18	0.25			cor. = 0.99
1.4		0.22	>>>>>>>>	>>>>>>>>	>>>>>>>>	
1.7		0.24	0.46			
2		0.25	>>>>>>>>	>>>>>>>>	>>>>>>>>	
3.3		0.25	0.41			
2.6		0.26	>>>>>>>>	>>>>>>>>	>>>>>>>>	
2.9		0.24	0.69			
3.2		0.20	>>>>>>>>	>>>>>>>>	>>>>>>>>	
3.5		0.23	0.95			
3.8		6.28	>>>>>>>>	>>>>>>>>	>>>>>>>>	
4.1		0.28	1.13			
4.4		0.29	>>>>>>>>	>>>>>>>>	>>>>>>>>	
4.7		0.30	0.94			
5		0.30	>>>>>>>>	>>>>>>>>	>>>>>>>>	
5.3		0.30	0.93			
5.6		0.24	>>>>>>>>	>>>>>>>>	>>>>>>>>	
5.9		0.23	0.71			
6.2		0.26	>>>>>>>>	>>>>>>>>	>>>>>>>>	
6.5		0.12	0.16			
7		0	>>>>>>>>	>>>>>>>>	>>>>>>>>	
>>>>>>	>>>>>>	>>>>>>	>>>>>>>>	>>>>>>>>	>>>>>>>>	
			>>>>>>>>	>>>>>>>>	>>>>>>>>	Run 1 duplicate reading for each set of 10 readings (duplicate the last set of readings recorded on this page)
6.5		0.12	0.16			
			>>>>>>>>	>>>>>>>>	>>>>>>>>	







v. 12/14/01

Field Meter Calibration Field Sheet  
 Sampling Team ID: EMST 1

Date: 8/29/01  
 Project Name: Ashvelt Tunn

Meter Serial Numbers for Each Team

Sampling Team	EMST 1	EMST 2	ST 1	ST 2	ST 3	ST 4
Team Member Initials	<u>Co. Conroy, B. &amp; G. Carlson</u>	<u>St. Ducharme, J. &amp; George, D. &amp; L. Gendron</u>				
DO/Temp Meter Serial No.	<u>1150218AB</u>	<u>0102216AM</u>				
PH Meter Serial No.						
Spec Conductivity Meter Serial Number						

	DO/Temp Meter			
	EMST 1	EMST 2	ST 1	ST 2
Date when membrane cap and KCL solution were last changed.				
Calibration Check 1	Calibration Elevation			
	<u>5.00</u>	<u>5.00</u>		
	<u>6:00</u>	<u>6:05</u>	<u>6:</u>	
Group check (all probes same bucket should be within 0.4 mg/L or 4%, whichever is larger)	% Sat Reading (calibration chamber should be > 98%)			
	<u>100.0</u>	<u>98.1</u>		
	<u>98.2</u>			
Calibration Check 2	Temp (deg C)			
	<u>21.1</u>	<u>21.1</u>		
	<u>7.34</u>	<u>7.49</u>		
Group check (all probes same bucket should be within 0.4 mg/L or 4%, whichever is larger)	Time (Military)			
	<u>6:49</u>	<u>6:49</u>		
	<u>19.9</u>			
Calibration Check 3	% Sat Reading (calibration chamber should be +/- 2% of CAL 1 value)			
Group check (all probes same bucket should be within 0.4 mg/L or 4%, whichever is larger)	Temp (deg C)			
	<u>6.19.8</u>	<u>19.9</u>		
	<u>6.39</u>	<u>6.38</u>		
Calibration Check 3	Comments			
	<u>100 needed to recalibrate</u>			
Group check (all probes same bucket should be within 0.4 mg/L or 4%, whichever is larger)	Time (Military)			
Calibration Check 3	% Sat Reading (calibration chamber should be +/- 2% of CAL 1 value))			
Group check (all probes same bucket should be within 0.4 mg/L or 4%, whichever is larger)	Temp (deg C)			
	<u>20.6</u>	<u>20.6</u>		
	<u>6.32</u>	<u>6.23</u>		
	Comments			

See back for pH Calibration Check



Field Meter Calibration Field Sheet  
Sampling Team ID:

Date: 8/29/01  
Project Name: Ashviolet TMDL

Meter Serial Numbers for Each Team

Sampling Team	EMST 1	EMST 2	ST 1	ST 2	ST 3	ST 4
Team Member Initials						
DO/Temp Meter Serial No.			<u>0100218 AB</u>	<u>010218 AM</u>	<u>98MD308 AB</u>	<u>98MD512 AF</u>
PH Meter Serial No.			<u>010737</u>		<u>012979</u>	<u>014166</u>
Spec Conductivity Meter Serial Number			<u>0100665 AP</u>		<u>00D0153 AB</u>	<u>00C0771 AB</u>

	DO/Temp Meter			
	EMST 1	EMST 2	ST 1	ST 2
Date when membrane cap and KCL solution were last changed.				
Calibration Elevation				
Calibration Check 1				
Time (Military)				
Temp (deg C)				
% Sat Reading (calibration chamber should be > 98%)				
Temp (deg C)				
DO (mg/L)				
Comments				
Group check (all probes same bucket should be within 0.4 mg/L or 4%, whichever is larger)				
Calibration Check 2				
Time (Military)				
Temp (deg C)				
% Sat Reading (calibration chamber should be +/- 2% of CAL 1 value)				
Temp (deg C)				
DO (mg/L)				
Comments				
Group check (all probes same bucket should be within 0.4 mg/L or 4%, whichever is larger)				
Calibration Check 3				
Time (Military)				
Temp (deg C)				
% Sat Reading (calibration chamber should be +/- 2% of CAL 1 value))				
Temp (deg C)				
DO (mg/L)				
Comments				
Group check (all probes same bucket should be within 0.4 mg/L or 4%, whichever is larger)				

*All new membranes*

*Read at first station 14:34*

*Temp. all over*

See back for pH Calibration Check

pH Meter Calibration Field Sheet

Station *Deb* Date *1/2/03* Town *Andover*

EMST 1	EMST 2	ST 1	ST 2	ST 3	ST 4
Calibration 1					
Time (Military)					
% Slope using 7.0 and 4.01 standard					
pH Reading using 6.0 test buffer					
pH reading - Group check (all probes in same bucket)					
Comments					
Calibration 2					
Time (Military)					
% Slope using 7.0 and 4.01 standard					
pH Reading using 6.0 test buffer					
pH reading - Group check (all probes in same bucket)					
Comments					
Calibration 3					
Time (Military)					
% Slope using 7.0 and 4.01 standard					
pH Reading using 6.0 test buffer					
pH reading - Group check (all probes in same bucket)					
Comments					

9:20 9:20 9:20 9:20 9:20 9:20  
 97.6 96.8 98.1 98.1 98.1 97.1  
 6.06 6.05 6.01 6.01 6.01 6.06  
 6.57 6.39 6.66 6.66 6.66 6.53  
 6.84 6.62 6.66 6.66 6.66 6.50

98.4 / 96.8  
 7.15 6.88 6.81  
 6.75 6.88 6.81  
 6.88 6.81  
 6.88 6.81  
 6.88 6.81

15:00  
 7.02 6.86  
 15:11 15:11 15:11 15:11 15:11 15:11

277.7 283.3 284.3 275.0  
 Conductivity  
 Meter in same bucket  
 probes

42 4/17/02

Measurements taken by Team #1

Sampling Field Worksheet

Project: Ashuelot River TMDL Date: 8-29-01  
 Name of Samplers: (Comp) Samples collected from 8-28-01 @ 10:00 am thru 8-29-01 (6:00 am)  
 Waterbody Name: Keene WHITE Station ID: Keene WHITE  
 Weather:

Field Measurements (Most are bucket samples taken within the top 6 inches of water except at impoundments - see note below)									
Bucket (B) or Instream (I)	Depth of Sample from surface (feet)	~ distance from mid-channel (ft)	Military Time -		Temperature (degrees C)	DO (mg/L)	Conductivity (uS/cm)	pH	pH slope (SLP)
			Hours:Min	Field measurements taken					
Composite sample at 12:53/8-29-01					23.1	6.20	722		6.43
Grab sample at 1308/8-29-01									
Is DUPLICATE to be run? NO									
(If yes, record duplicate of last set of field measurements in this row.)									

Lab Samples (All lab samples are bucket samples taken within the top 6 inches of water)									
Approximate Average Depth of River (feet):									
Parameters	Bottle Type	Preservation	Duplicates?	Total # of bottles to fill.	Military Time: Min	~ distance from mid-channel (ft)	~ distance from bank (ft)		
BOD5 and/or BOD20, TSS, NO2+NO3-N	1.6 L (1/2 gal) white, polyethylene	Chilled on ice to 4 deg C.	NO	1					
TKN, NH3-N, TP	250 mL, brown polyethylene	(pre-acidified), 0.5 mL of 9N H2SO4 to pH <2, chilled on ice to 4 deg C.		1					
Ortho-P	50 mL, clear polyethylene	Field filtered through 0.45 um filter, chilled on ice to 4 deg C.		1					
Chlor A	1L brown polyethylene	Chilled on ice to 4 deg C.		1					
TOC	2-40 mL glass vials	(pre-acidified), 0.5 mL of 9N H2SO4 to pH <2, chilled on ice to 4 deg C.		2					

Aquatic Plant Growth: % Coverage  
 Macrophytes (rooted plants):  
 Phytoplankton (free floating):  
 Periphyton (attached algae):  
 Canopy (Well Shaded, Moderately Shaded, Mostly Open):

Other Comments / Observations  
 Color (clear, tea-colored, etc): Color = weak tea / straw  
 Substrate (ie, sandy, cobbles, muck, etc.):  
 Odor: Grab sample stinks.

Notes: Label sample bottles with black permanent marker before they get wet. Each bottle label must include the following: Waterbody name, station ID, sample date, sample time, initials of samplers, and the parameters to be analyzed. If duplicates are taken, designate one bottle as "D1" and the other as "D2". Do not take duplicates from the same bucket of water. For calibration of the DO meter, use an elevation of 100 ft for the Cochecho River and 500 ft for the Ashuelot River. Most field measurements are taken of the top 6 inches by bucket. At certain impoundments, however, DO/Temp and depth measurements will also be taken in-stream, at 25% depth from surface, at mid-depth and ~ 1 foot from the bottom.

# 24 Hour Flow Compositing

Keene POTW  
QL 5/15/02

first sample at: 10:00 date: 8-28-01

final sample at: 9:00 date: 8-29-01

maximum chart reading: 3.5 MGD

Time	Flow <small>MGD</small>	% of maximum flow	ml.	= amount from	bottle #
10	3.1	.89	312	✓	1.
11	3.1	.89	312	✓	2.
12 noon	3.2	.91	319	✓	3.
1	2.9	.83	291	✓	4.
2	2.7	.77	270	✓	5.
3	2.7	.77	270	✓	6.
4	2.4	.69	242	✓	7.
5	2.4	.69	242	✓	8.
6	2.3	.66	231	✓	9.
7	2.6	.74	259	✓	10.
8	2.8	.80	280	✓	11.
9	2.8	.80	280	✓	12.
10	2.7	.77	270	✓	13.
11	2.5	.71	249	✓	14.
12 midnight	1.9	.54	189	✓	15.
1	1.8	.51	179	✓	16.
2	1.7	.49	172	✓	17.
3	1.1	.31	109	✓	18.
4	0.9	.26	91	✓	19.
5	0.8	.23	81	✓	20.
6	0.8	.23	81	✓	21.
7	2.1	.60	210	✓	22.
8	2.8	.80	280	✓	23.
9	3.5	1.00	<del>375</del> 350 ml	✓	24.
					25.
					26.
					27.
					28.
					Standby

uc 5/15/02

Sampling Field Worksheet

Project: Ashuelot River TMDL Date: 8/29/01  
 Name of Samplers: KLP/JKC (8/29/01 @ 10AM - 8/29/01 @ 9AM)  
 Waterbody Name: W. Swarzey WWTF Station ID: W. Swarzey WWTF  
 Weather: Dns / Partly Cloudy

Field Measurements (Most are bucket samples taken within the top 6 inches of water except at impoundments - see note below)

Bucket (B) or Instream (I)	Depth of Sample from surface (feet)	~ distance from mid-channel (ft)	Military Time -		Temperature (degrees C)	DO (mg/L)	Conductivity (uS/cm)	pH
			Hours:Min	Field measurement taken				
		Collected Grab at	11:10	11:12	23.1	4.25	828	7.10

Is DUPLICATE to be run? (If yes, record duplicate of last set of field measurements in this row.)

Lab Samples (All lab samples are bucket samples taken within the top 6 inches of water)

Approximate Average Depth of River (feet): \_\_\_\_\_

Approximate width of river (feet): \_\_\_\_\_

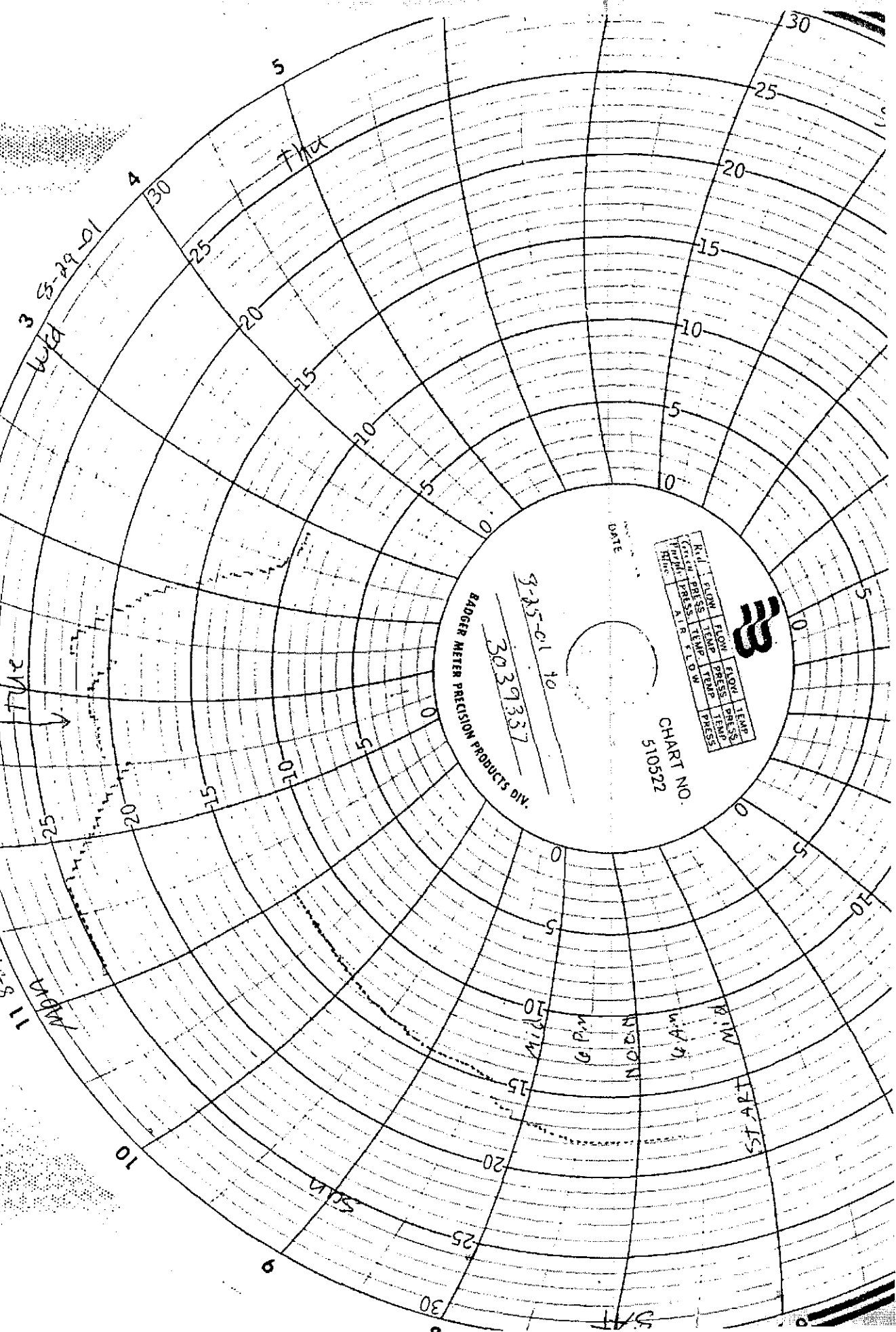
Parameters	Bottle Type	Preservation	Duplicates?	Total # of bottles to fill	Military Time - Hours:Min	~ distance from mid-channel (ft)	~ distance from bank (ft)
BOD5 and/or BOD20, TSS, NO2+NO3-N,	1.6 L (1/2 gal) white, polyethylene	Chilled on ice to 4 deg C.	No	1	(See above)		
TKN, NH3-N, TP	250 mL, brown polyethylene	(pre-acidified), 0.5 mL of 9N H2SO4 to pH <2, chilled on ice to 4 deg C.		1	24 hrs comp		
Ortho-P	50 mL clear polyethylene	Field filtered through 0.45 um filter; chilled on ice to 4 deg C.		1	11		
Chlor A	1L brown polyethylene	Chilled on ice to 4 deg C.		1	11		
TOC	2-40 mL glass vials	(pre-acidified), 0.5 mL of 9N H2SO4 to pH <2, chilled on ice to 4 deg C.		2	11		

Aquatic Plant Growth: % Coverage \_\_\_\_\_  
 Macrophytes (rooted plants): \_\_\_\_\_  
 Phytoplankton (free floating): \_\_\_\_\_  
 Periphyton (attached algae): \_\_\_\_\_  
 Canopy (Well Shaded, Moderately Shaded, Mostly Open): \_\_\_\_\_

Other Comments / Observations  
 Color (clear, tea-colored, etc): \_\_\_\_\_  
 Substrate (ic, sandy, cobbles, muck, etc.): \_\_\_\_\_  
 Odor: \_\_\_\_\_

Notes: Label sample bottles with black permanent marker before they get wet. Each bottle label must include the following: Waterbody name, station ID, sample date, sample time, initials of samplers, and the parameters to be analyzed. If duplicates are taken, designate one bottle as "D1" and the other as "D2". Do not take duplicates from the same bucket of water. For calibration of the DO meter, use an elevation of 300 ft for the Cochoeco River and 500 ft for the Ashuelot River. Most field measurements are taken of the top 6 inches by bucket. At certain impoundments, however, DO/Temp and depth measurements will also be taken in-stream, at 25% depth from surface, at mid-depth and ~ 1 foot from the bottom.

Swanzen Waste water Treatment Plant  
 11 8-27-01  
 8-28-01  
 8-29-01  
 Tuesday 6:30 AM 3044444  
 Wed. 10:45 AM 3046384



K.I.D.	FLOW	FLOW	FLOW	TEMP	TEMP	TEMP
Flow	Press	Temp	Temp	Temp	Temp	Temp
Flow	Press	Temp	Temp	Temp	Temp	Temp
Flow	Press	Temp	Temp	Temp	Temp	Temp
Flow	Press	Temp	Temp	Temp	Temp	Temp
Flow	Press	Temp	Temp	Temp	Temp	Temp
Flow	Press	Temp	Temp	Temp	Temp	Temp

BADGER METER PRECISION PRODUCTS DIV.  
 3-25-01 10  
 3039337

CHART NO.  
 510522

START  
 STOP  
 TESTING  
 24 hr

NOON

MIDN

6 PM

NOON

4 AM

MIDN

START

# 24 Hour Flow Compositing

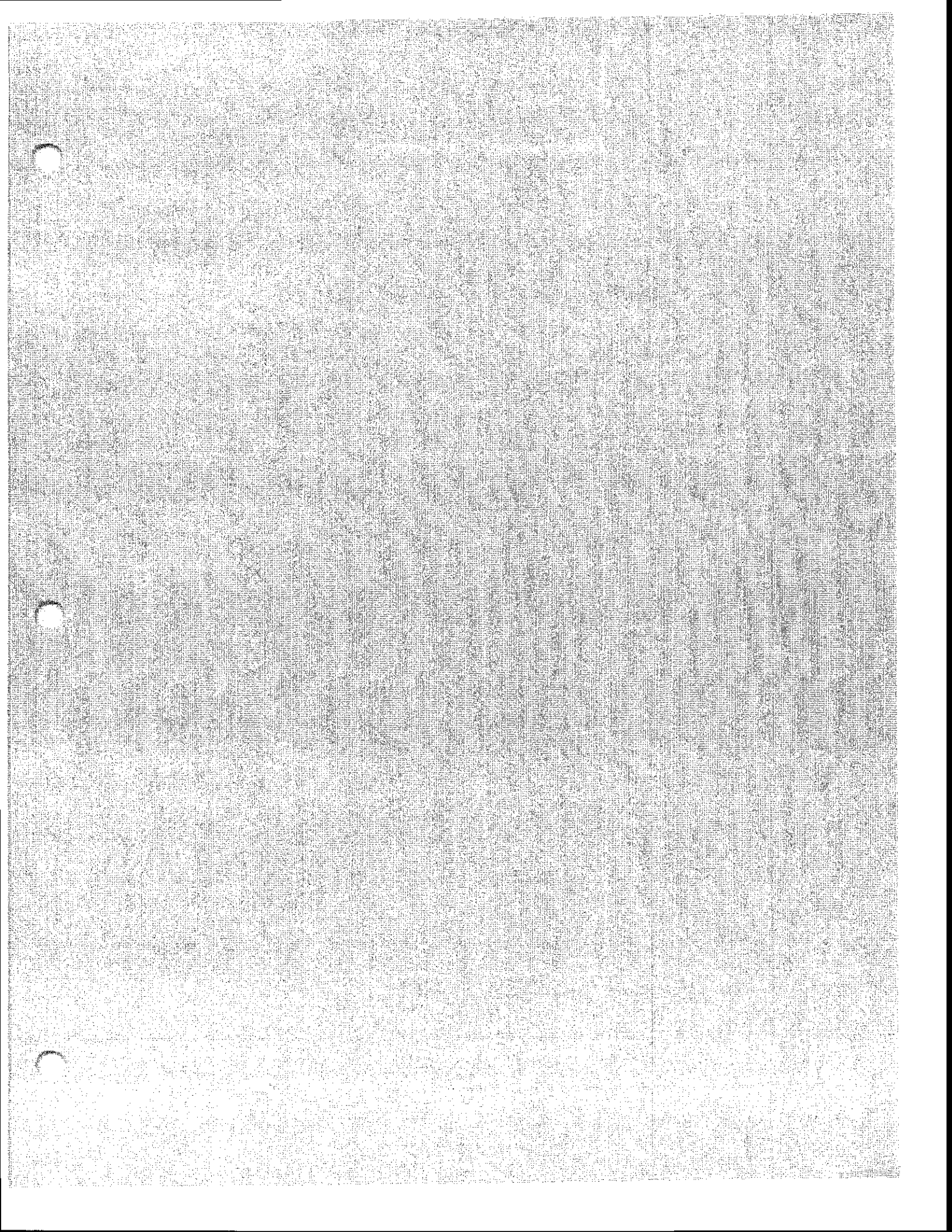
Swanzy  
POTW  
@ 5/15/07

first sample at: 10:00am date: 8-28-01

final sample at: 9:00pm date: 8-29

maximum chart reading: 22

Time	Flow	% of maximum flow	<u>350</u> ml	= amount from	bottle #
10	21	.95	333		1.
11	21	.95	333		2.
12 noon	21	.95	333		3.
1	21	.95	333		4. ✓
2	19.5	.89	312		5. "
3	20	.91	319		6. ✓
4	22	1	350	350	7.
5	22	1	350	350	8.
6	22	1	350	350	9.
7	21	.95	333		10.
8	20	.91	319		11.
9	19.5	.89	312		12.
10	18	.82	287	✓	13.
11	17	.77	270	✓	14.
12 midnight	<del>18</del> 16	.73	256	✓	15.
<del>B</del> 1	14.5	.66	231	✓	16.
<del>B</del> 2	13.5	.61	214	✓	17.
<del>B</del> 3	12.5	.57	200	✓	18.
<del>B</del> 4	12	.55	193	✓	19.
<del>B</del> 5	11	.5	175	✓	20.
<del>B</del> 6	10.5	.49	168	✓	21.
<del>B</del> 7	10.5	.48	168	✓	22.
<del>B</del> 8	10.0	.45	158	✓	23.
<del>B</del> 9	10.0	.45	158	✓	24.
<del>B</del> 10					25.
					26.
					27.
					28.
					Standby





**2002 ASHUELOT RIVER TMDL SAMPLING TEAMS**  
**August 28, 2002**

Hydrolab Team: Matt Jones (MJ)  
Sarah Sand (SS)

ISCO Team: Tom Croteau (TC)  
Roy Gilbreth (RG)

Early Morning Sampling Team 1: George Berlandi (GB)  
Sharon Ducharme (SD)

Early Morning Sampling Team 2 : Rayann Richard (RR)  
Margaret Foss (PG)

Sampling Team 1 : George Berlandi (GB)

Sampling Team 2 : Rayann Richard (RR)  
Mike Racine (MR)

Sampling Team 3 : Paul Piszczek (PP)  
Joe Cunningham (JC)

Sampling Team 4 : Matt Jones (MJ)  
Sarah Sand (SS)

Flow Team 1 : Ken Edwardson (KE)  
Dave Neils (DN)

Flow Team 2 : Wayne Ives (WI)  
Dan Dudley (DD)



ASHUELOT RIVER TMDL  
Early Morning Sampling Team (EMST) Field Worksheet

EMST #: 1 Names: Raymond i. Pugh Date: 8/28/03

DO/Temp Meter Serial Number: 025237

Sample Location Information				Time of Sample Collection / Measurements Taken			Dissolved Oxygen / Temperature			
Station ID	Approximate Average Width of Entire River	Approximate Depth of River at Sample Location	Approximate Distance from River Right Bank at Sample Location	Bucket Sample Taken	Field Measurement Taken	Temp degrees C	Sample DO %sat	Sample DO mg/L	Post-sample storage chamber reading	
Calibration					6:37	19.4 °C	98.0 %sat	550 mg/L	94.4 %sat	
12-Ash	45 ft	2 ft	15 ft	6:35	6:42	20.5 °C	61.8 %sat	550 mg/L		
Calibration					6:48	16.1 °C	98.0 %sat		101.8 %sat	
14T-Ash	85 ft	2 ft	20 ft	6:56	7:05	19.4 °C	71.8 %sat	662 mg/L		
Calibration					7:12	16.7 °C	98.0 %sat		98.0 %sat	
15E-Ash	30 ft	4(?) ft	5 ft	7:15	7:23	19.7 °C	66.6 %sat	606 mg/L		
Calibration					7:38	16.6 °C	98.0 %sat		93.8 %sat	
<del>16M-Ash</del>	50 ft	4(?) ft	5 ft	7:40	7:46	19.3 °C	63.4 %sat	584 mg/L		
Calibration					8:13	17.3 °C	98 %sat		98.5 %sat	
OA-Asb	7.5 ft	4.0 ft	3 ft	8:13	8:21	15.7 °C	71.4 %sat	745 mg/L		

For impoundments, record the DO/Temp at four depths; the top 6 inches, at 25% from the surface, mid-depth (50%) and 1 foot from the bottom.

ASHUELOT RIVER TMDL  
Early Morning Sampling Team (EMST) Field Worksheet

EMST #: 1 Names: Reagan & Reg Date: 8/28/02

DO/Temp Meter Serial Number: 025337

Sample Location Information				Time of Sample Collection / Measurements Taken			Dissolved Oxygen / Temperature				
Station ID	Approximate Average Width of Entire River	Approximate Depth of River at Sample Location	Approximate Distance from River Right Bank at Sample Location	Bucket Sample Taken	Field Measurement Taken	Temp deg C	Sample DO %sat	Sample DO mg/L	Post-sample storage chamber reading	Sample Site Elevation = 500 ft % Calibration Value Setting = 98% sat	
Calibration					8:58	14.3 C	98.0 %sat		98.9 %sat		
20A-Ash	ft	ft	ft	9:58	9:00	18.5 C	72.0 %sat	6.2 mg/L			
Calibration					:	C	%sat				
21A-Ash	ft	ft	ft	:	:	C	%sat				

For impoundments, record the DO/Temp at four depths; the top 6 inches, at 25% from the surface, mid-depth (50%) and 1 foot from the bottom.

645

23.0 18

log 419-096

ASHUELOT RIVER TMDL

Early Morning Sampling Team (EMST) Field Worksheet

EMST #: 2 Names: Sharon Ducharme & George Berlandi Date: 8/28/02

DO/Temp Meter Serial Number: SN 02E0287AFJ M#025238

Sample Location Information					Time of Sample Collection / Measurements Taken				Dissolved Oxygen / Temperature			
Station ID	Approximate Average Width of Entire River	Approximate Depth of River at Sample Location	Approximate Distance from River Right Bank at Sample Location	Bucket Sample Taken	Field Measurement Taken	Temp deg C	Sample DO %sat	Sample DO mg/L	Post-sample storage chamber reading	Sample Site Elevation = 500 ft % Calibration Value Setting = 98% sat		
Calibration						16.7 c	97.7 %sat					
14-Ash	100 ft	3.10 ft	6 ft	6:34	6:37	20.5 c	63.8 %sat	5.72 mg/L	93.0 %sat			
Calibration						15.9 c	98.0 %sat					
15-Ash	120 ft	0.5 ft	6.6 ft	6:49	7:01	20.3 c	58.2 %sat	5.27 mg/L				
15-Ash	"	1.4 ft	"	7:00	7:00	20.3 c	58.2 %sat	5.27 mg/L				
15-Ash	"	2.75 ft	"	6:58	6:58	20.2 c	62.1 %sat	5.61 mg/L				
15-Ash	"	4.5 ft	"	6:54	6:54	19.2 c	56.6 %sat	5.22 mg/L	98.9 %sat			
Calibration						14.9 c	98.0 %sat					
16-Ash	120 ft	3 ft	10 ft	7:24	7:24	18.9 c	59.3 %sat	5.59 mg/L	97.9 %sat			
Calibration						16.5 c	98.0 %sat					
2-Sba	15 ft	1.5 ft	15 ft	7:35	7:42	16.9 c	65.5 %sat	6.36 mg/L	98.6 %sat			

For impoundments, record the DO/Temp at four depths; the top 6 inches, at 25% from the surface, mid-depth (50%) and 1 foot from the bottom.

12/11

ASHUELOT RIVER TMDL

Early Morning Sampling Team (EMST) Field Worksheet

EMST #: I Names: Ryan & Peg Date: 8/28/02

DO Temp Meter Serial Number: 025237

Sample Location Information				Time of Sample Collection / Measurements Taken			Dissolved Oxygen / Temperature			
Station ID	Approximate Average Width of Entire River	Approximate Depth of River at Sample Location	Approximate Distance from River Right Bank at Sample Location	Bucket Sample Taken	Field Measurement Taken	Temp deg C	Sample DO %sat	Sample DO Mg/L	Post-sample storage chamber reading	Sample Site Elevation = 500 ft % Calibration Value Setting = 98% sat
Calibration					8 : 15	16.0 °C	78 %sat	mg/L	75.8 %sat	
16M-Ash	50 ft	4 ft	15 ft	8 : 15	8 : 32	18.4 °C	65.4 %sat	6.02 Mg/L		
Calibration					9 : 59	20.3 °C	98 %sat	mg/l		
19-Ash	46 ft	1.5 ft	8.0 ft	10 : 00	10 : 00	19.9 °C	72.5 %sat	6.60 mg/L		
Calibration					9 : 27	17.0 °C	98 %sat	mg/L	10.8 %sat	
19A-Ash	ft	0.5 ft	ft	9 : 43	9 : 45	20.1 °C	98 %sat	4.10 mg/L		
19A-Ash	ft	2.1 ft	ft	9 : 45	9 : 50	20.3 °C	50.5 %sat	4.56 mg/L		
19A-Ash	ft	4.2 ft	ft	9 : 50	9 : 55	20.3 °C	51.2 %sat	5.52 mg/L		
19A-Ash	ft	7.4 ft	ft	9 : 55	9 : 59	20.3 °C	51.2 %sat	6.62 mg/L		

For impoundments, record the DO/Temp at four depths; the top 6 inches, at 25% from the surface, mid-depth (50%) and 1 foot from the bottom.

→ 9:51 9:54 20.2 66.6 6.65

ASHUELOT RIVER TMDL  
Early Morning Sampling Team (EMST) Field Worksheet

EMST #: 2 Names: Sharon Ducharme + George Becklandi Date: 8/28/02

DO/Temp Meter Serial Number: SN 0FE0287-AIS#015238

Sample Location Information				Time of Sample Collection / Measurements Taken			Dissolved Oxygen / Temperature			
Station ID	Approximate Average Width of Entire River	Approximate Depth of River at Sample Location	Approximate Distance from River Right Bank at Sample Location	Bucket Sample Taken	Field Measurement Taken	Temp deg C	Sample DO %sat	Sample DO mg/L	Post-sample storage chamber reading	Sample Site Elevation = 500 ft % Calibration Value Setting = 98% sat
Calibration					9:49	18.8 c	98.7 %sat			
17-Ash	42 ft	2 ft	12 ft	9:50	9:53	19.4 c	70.2 %sat	6.46 mg/L	101.5 %sat	
Calibration					9:55	19.1 c	98.1 %sat			
OA-Bra	45 ft	2.5 ft	10 ft	10:00	10:04	19.4 c	68.5 %sat	6.37 mg/L		
Calibration										
16D-Ash	50 ft	0.5 ft	30 ft		8:38	19.2 c	64.8 %sat	5.98 mg/L		
16D-Ash	"	0.85 ft	"		8:38	19.2 c	67.1 %sat	5.80 mg/L		
16D-Ash	"	1.7 ft	"	AS:	8:34	19.2 c	66.5 %sat	6.15 mg/L		
16D-Ash	"	2.4 ft	"	AS:	8:31	19.2 c	60.9 %sat	5.62 mg/L	100.4 %sat	
Calibration					9:19	16.2 c	95.7 %sat			
16B-Ash	40 ft	4 ft	25 ft	In stream	9:21	19.5 c	64.9 %sat	5.95 mg/L	99.2 %sat	

For impoundments, record the DO/Temp at four depths; the top 6 inches, at 25% from the surface, mid-depth (50%) and 1 foot from the bottom.

Calibration

ASHUELOT RIVER TMDL SAMPLING FIELD WORKSHEET

Sample Team # 1 DATE: 8/28/02

Sample Team Member Names: White + Reysman STATION ID: AE-080

TIME OF SAMPLE COLLECTION MILITARY TIME \_\_\_\_\_ : \_\_\_\_\_ (HOUR : MINUTE)

LABORATORY SAMPLES (Samples brought back to lab in bottles)				
Parameter	Bottle Type	Sample Preservation	Duplicates Replicates	Total # of bottles to fill
BOD5 and/or BOD20, TSS, NO2+NO3-N	1.6 L (1/2 gal) white, polyethylene	Chilled on ice to 4 degrees C.	✓	2
TKN, NH3-N, TP	250 mL, brown polyethylene	(pre-acidified), 0.5 mL of 9N H <sub>2</sub> SO <sub>4</sub> to pH <2, chilled on ice to 4 deg C.	✓	2
Chlor A	1L brown polyethylene	Chilled on ice to 4 degrees C.	✓	2
TOC	2-40 mL glass vials	(pre-acidified), 0.5 mL of 9N H <sub>2</sub> SO <sub>4</sub> to pH <2, chilled on ice to 4 deg C.	✓	4
Nitrate/Nitrite	40 ml clear polyethylene with yellow cap	Chilled on ice to 4 degrees C.	✓	2
Ortho-P	50 mL clear polyethylene	Field filtered through 0.45 um filter, chilled on ice to 4 degrees C.	✓	2

NOTES: Label sample bottles with black permanent marker before they get wet. Each bottle label must include the following sample identification information: Waterbody name, station ID, sample date, sample time, initials of samplers, and the parameters to be analyzed. For lab duplicates, write "DUP" above the sample identification information on the bottle. Do not take duplicates from the same bucket of water (Duplicates are a second sample of water taken at the same sample location). For lab Replicates, write "REP" above the sample identification information on the bottle. Replicates ARE taken from the same sample bucket as the regular sample. Samples for Ortho-P (filtered in the field) are to be done last, after all other sample bottles have been filled.



ASHUELOT RIVER TMDL SAMPLING FIELD WORKSHEET

Sample Team # 1

DATE: 8/28/02

Sample Team Member Names: Rayson, Nite

STATION ID: SE-ash

from AM sheet

**FIELD MEASUREMENTS** (Most are bucket samples taken within the top 6 inches of water except at impoundments - see note below)  
 APPROXIMATE DEPTH OF RIVER WHERE SAMPLE IS TAKEN 4 ft APPROXIMATE AVERAGE WIDTH OF RIVER: 50 ft

Sample Type: Calibration Sample (bucket) or Impoundment* (I), Replicate or Duplicate	Depth of Sample from surface	Distance from river right bank	Time of Sample Collection / Measurements Taken Military Time Hours:Min	DO/Temp Meter Serial #	pH Meter Serial #	Specific Conductance Meter Serial #
	<u>45</u>	<u>5</u>		Sample Site Elevation <u>500 ft</u> %Calibration Value <u>98 %</u>	(acceptance range of slope is 92-100%)	(acceptance range of 200 standard is 180-200 uS/cm)

Calibration	Temperature (degrees C)	Dissolved Oxygen	post-sample storage chamber (+/- 5 %sat)	SLP	pH	Specific Conductance
<b>SAMPLE (bucket)</b>	<u>12:50</u>	<u>13:03</u>	<u>23.4</u>	<u>8.4</u>	<u>7.39</u>	<u>162.3</u>
I (6" from surface)	<u>0.5</u>	<u>ft</u>	<u>13</u>	<u>89.0</u>	<u>7.55</u>	<u>mg/L</u>
I (25% from surface)	<u>ft</u>	<u>ft</u>	<u>ft</u>	<u>mg/L</u>	<u>mg/L</u>	<u>%sat</u>
I (mid/50% depth)	<u>ft</u>	<u>ft</u>	<u>ft</u>	<u>mg/L</u>	<u>mg/L</u>	<u>%sat</u>
I (1 ft from bottom)	<u>ft</u>	<u>ft</u>	<u>ft</u>	<u>mg/L</u>	<u>mg/L</u>	<u>%sat</u>

Calibration	Temperature (degrees C)	Dissolved Oxygen	post-sample storage chamber (+/- 5 %sat)	SLP	pH	Specific Conductance
<b>REPLICATE</b>	<u>ft</u>	<u>ft</u>	<u>ft</u>	<u>mg/L</u>	<u>mg/L</u>	<u>%sat</u>

Calibration	Temperature (degrees C)	Dissolved Oxygen	post-sample storage chamber (+/- 5 %sat)	SLP	pH	Specific Conductance
<b>DUPLICATE</b>	<u>13:00</u>	<u>13:11</u>	<u>23.9</u>	<u>89</u>	<u>7.55</u>	<u>mg/L</u>

Aquatic Plant Growth: 0-33% 34-66% 67-100% Coverage (choose one range)  
 Macrophytes (rooted plants): 0-33% %Coverage  
 Phytoplankton (free floating): 0-33% %Coverage  
 Periphyton (attached algae): 0-33% %Coverage

Vegetation Canopy: 0-33% 34-67% 67-100% Shaded (choose one range) %

Other Comments / Observations  
 Weather: % Cloud Cover: 0-33%, 34-66%, 67-100% (choose one range)  
 Water Color (clear, silty, tea-colored, etc):  
 Substrate Type (sandy, cobbles, muck, etc): SSS  
 Odor:

**NOTE:** \* Most field measurements are taken by bucket from a bridge, by extension pole from shore or by wading in-stream, and are representative of the top 1 foot of the water column. At impoundments, in addition to the regular bucket sample taken from the top 6" of the water column, DO and Temp readings are taken instream (using the meter) at 4 depths in the water column: top 6 inches, at 25% depth from surface, at mid-depth and ~ 1 foot from the bottom.

ASHUELOT RIVER TMDL SAMPLING FIELD WORKSHEET

DATE: 8/28/02

STATION ID: 12-05h

Sample Team # \_\_\_\_\_

Sample Team Member Names: Reynolds & Weber

TIME OF SAMPLE COLLECTION MILITARY TIME \_\_\_\_\_ : \_\_\_\_\_ (HOUR : MINUTE)

LABORATORY SAMPLES (Samples brought back to lab in bottles)					
Parameter	Bottle Type	Sample Preservation	Duplicates Replicates	Total # of bottles to fill	
BOD5 and/or BOD20, TSS, NO2+NO3-N	1.6 L (1/2 gal) white, polyethylene	Chilled on ice to 4 degrees C.	✓	2	
TKN, NH3-N, TP	250 mL, brown polyethylene	(pre-acidified), 0.5 mL of 9N H <sub>2</sub> SO <sub>4</sub> to pH <2, chilled on ice to 4 deg C.	✓	2	
Chlor A	1L brown polyethylene	Chilled on ice to 4 degrees C.	✓	2	
TOC	2-40 mL glass vials	(pre-acidified), 0.5 mL of 9N H <sub>2</sub> SO <sub>4</sub> to pH <2, chilled on ice to 4 deg C.	✓	4	
Nitrate/Nitrite	40 ml clear polyethylene with yellow cap	Chilled on ice to 4 degrees C.	✓	2	
Ortho-P	50 mL clear polyethylene	Field filtered through 0.45 um filter; chilled on ice to 4 degrees C.	✓	2	

NOTES: Label sample bottles with black permanent marker before they get wet. Each bottle label must include the following sample identification information: Waterbody name, station ID, sample date, sample time, initials of samplers, and the parameters to be analyzed. For lab duplicates, write "DUP" above the sample identification information on the bottle. Do not take duplicates from the same bucket of water (Duplicates are a second sample of water taken at the same sample location). For lab Replicates, write "REP" above the sample identification information on the bottle. Replicates ARE taken from the same sample bucket as the regular sample. Samples for Ortho-P (filtered in the field) are to be done last, after all other sample bottles have been filled.

ASHUELOT RIVER TMDL SAMPLING FIELD WORKSHEET

DATE: 8/28/00

STATION ID: 10-Ash

Sample Team #

Sample Team Member Names: Leonard - Captain; Mike from Am sheet TW

FIELD MEASUREMENTS (Most are bucket samples taken within the top 6 inches of water except at impoundments - see note below)		APPROXIMATE DEPTH OF RIVER WHERE SAMPLE IS TAKEN		Z		R		APPROXIMATE AVERAGE WIDTH OF RIVER:		ft	
Sample Type: Calibration Sample (bucket) or Impoundment (1), Replicate or Duplicate	Depth of Sample from surface	Distance from river right bank	Time of Sample Collection / Measurements Taken		DO/Temp Meter Serial #		pH Meter Serial #		Specific Conductance Meter Serial #		
			Military Time Hours:Min		Sample Site Elevation 500 ft		(acceptance range of slope is 92-100%)		(acceptance range of 200 standard is 130-200 uS/cm)		
					%Calibration Value 98 %						
Calibration	Temperature (degrees C)	Dissolved Oxygen		post-sample storage chamber (+/- 5 %sat)		SLP		pH		Specific Conductance	
		mg/L		mg/L							
SAMPLE (bucket)	ft	ft	12:10	12:15	21.9 C	98 %sat	7.2	7.2	95.6	%sat	%sat
1 (6" from surface)	0.5 ft	ft	:	12:18	22.0 C	91.2 %sat	7.0	7.0		%sat	%sat
1 (25% from surface)	ft	ft	:	:	C	%sat	mg/L	mg/L		%sat	%sat
1 (mid/ 50% depth)	ft	ft	:	:	C	%sat	mg/L	mg/L		%sat	%sat
1 (1 ft from bottom)	ft	ft	:	:	C	%sat	mg/L	mg/L		%sat	%sat
Calibration											
REPLICATE			12:12	12:18	22.8 C	81.2 %sat	7.1	7.1		%sat	%sat
Calibration											
DUPLICATE											
Aquatic Plant Growth: 0-33% 34-66% 67-100% Coverage (choose one range) Macrophytes (rooted plants): 0-33% Coverage Phytoplankton (free floating): 0-33% 67-100% Coverage Periphyton (attached algae): 0-33% Coverage Vegetated Canopy: 0-33% 34-67% 67-100% Shaded (choose one range)											
Other Comments / Observations Weather: % Cloud Cover: 0-33%, 34-66%, 67-100% (choose one range) % Water Color (clear, straw, tea-colored, etc): Substrate Type (sandy, cobbles, muck, etc): Odor:											

NOTE: \* Most field measurements are taken by bucket from a bridge, by extension pole from shore or by wading in-stream, and are representative of the top 1 foot of the water column. At impoundments, in addition to the regular bucket sample taken from the top 6" of the water column, DO and Temp readings are taken instream (using the meter) at 4 depths in the water column: top 6 inches, at 25% depth from surface, at mid-depth and ~ 1 foot from the bottom.

ASHUELOT RIVER TMDL SAMPLING FIELD WORKSHEET

Sample Team # 1 DATE: 8/28/04

Sample Team Member Names: Nalle & Boyard STATION ID: 16M-csh

TIME OF SAMPLE COLLECTION MILITARY TIME 14 : 00  
(HOUR : MINUTE)

LABORATORY SAMPLES (Samples brought back to lab in bottles)				
Parameter	Bottle Type	Sample Preservation	Duplicates Replicates	Total # of bottles to fill
BOD5 and/or BOD20, TSS, NO2+NO3-N	1.6 L (1/2 gal) white, polyethylene	Chilled on ice to 4 degrees C.		1
TKN, NH3-N, TP	250 mL, brown polyethylene	(pre-acidified), 0.5 mL of 9N H <sub>2</sub> SO <sub>4</sub> to pH <2, chilled on ice to 4 deg C.		1
Chlor A	1L brown polyethylene	Chilled on ice to 4 degrees C.		1
TOC	2-40 mL glass vials	(pre-acidified), 0.5 mL of 9N H <sub>2</sub> SO <sub>4</sub> to pH <2, chilled on ice to 4 deg C.		2
Nitrate/Nitrite	40 ml clear polyethylene with yellow cap	Chilled on ice to 4 degrees C.		1
Ortho-P	50 mL clear polyethylene	Field filtered through 0.45 um filter; chilled on ice to 4 degrees C.		1

**NOTES:** Label sample bottles with black permanent marker before they get wet. Each bottle label must include the following sample identification information: Waterbody name, station ID, sample date, sample time, initials of samplers, and the parameters to be analyzed. For lab duplicates, write "DUP" above the sample identification information on the bottle. Do **not** take duplicates from the same bucket of water (Duplicates are a second sample of water taken at the same sample location). For lab Replicates, write "REP" above the sample identification information on the bottle. Replicates **ARE** taken from the same sample bucket as the regular sample. Samples for Ortho-P (filtered in the field) are to be done last, after all other sample bottles have been filled.

ASHUELOT RIVER TMDL SAMPLING FIELD WORKSHEET

Sample Team # 1

DATE: 8/28/02

Sample Team Member Names: Mikel & Raymond

STATION ID: 16AA-ASH

*from AM sheet*

**FIELD MEASUREMENTS** (Most are bucket samples taken within the top 6 inches of water except at impoundments - see note below)  
 APPROXIMATE DEPTH OF RIVER WHERE SAMPLE IS TAKEN 4 ft APPROXIMATE AVERAGE WIDTH OF RIVER: 50 ft

Sample Type: Calibration Sample (bucket) or Impoundment* (I), Replicate or Duplicate	Depth of Sample from surface	Distance from river right bank	Time of Sample Collection / Measurements Taken		DO/Temp Meter Serial #	pH Meter Serial #  (acceptance range of slope is 92- 100%)	Specific Conductance Meter Serial #  (acceptance range of 200- standard is 180- 200 uS/cm)	
			Military Time Hours:Min	Field Measure- ment Taken				
Calibration								
<b>SAMPLE (bucket)</b>	ft <u>5</u>	<u>100</u> ft	Bucket Sample Taken <u>14:00</u>	Temperature (degrees C) <u>25 C</u>	DO/Temp Meter Serial #  Sample Site Elevation <u>500 ft</u> %Calibration Value <u>98 %</u>			
1(6" from surface)	0.5 ft	ft	:	C	Dissolved Oxygen	post-sample storage chamber (+/- 5 %sat)	SLP	pH
1(25% from surface)	ft	ft	:	C	98 %sat	mg/L <u>10.2</u> %sat		
1(mid/ 50% depth)	ft	ft	:	C	84.5 %sat	mg/L <u>7.5</u> %sat		
1(1 ft from bottom)	ft	ft	:	C	%sat	mg/L		
Calibration								
<b>REPLICATE</b>								
Calibration								
<b>DUPLICATE</b>								
Aquatic Plant Growth: <u>0-33%</u> , <u>34-66%</u> , <u>67-100%</u> Coverage (choose one range) Macrophytes (rooted plants): <u>0-33%</u> %Coverage Phytoplankton (free floating): <u>0-33%</u> %Coverage Periphyton (attached algae): <u>0-33%</u> %Coverage Vegetated Canopy: <u>0-33%</u> , <u>34-67%</u> , <u>67-100%</u> Shaded (choose one range) %								
Other Comments / Observations Weather: % Cloud Cover <u>0-33%</u> , <u>34-66%</u> , <u>67-100%</u> (choose one range) Water Color (clear, straw, tea-colored, etc): <u>3000</u> Substrate Type (sandy, cobbles, muck, etc): <u>Gravel</u> Odor: <u>None</u>								

**NOTE:** \* Most field measurements are taken by bucket from a bridge, by extension pole from shore or by wading in-stream, and are representative of the top 1 foot of the water column. At impoundments, in addition to the regular bucket sample taken from the top 6" of the water column, DO and Temp readings are taken in-stream (using the meter) at 4 depths in the water column: top 6 inches, at 25% depth from surface, at mid-depth and ~ 1 foot from the bottom.

# ASHUELOT RIVER TMDL SAMPLING FIELD WORKSHEET

Sample Team # 1 DATE: 8/28/02

Sample Team Member Names: Mike Benjamin STATION ID: QA-csb

Lab Samples (All lab samples are bucket samples taken within the top 6 inches of water)							
Parameters	Bottle Type	Sample Preservation	Duplicates ?	Total # of bottles to fill	Military Time-Hours:Min	~ distance from mid-channel	~ distance from bank
BOD5 and/or BOD20, TSS, NO2+NO3-N	1.6 L (1/2 gal) white, polyethylene	Chilled on ice to 4 degrees C.		1	13:35	ft	ft
TKN, NH3-N, TP	250 mL, brown polyethylene	(pre-acidified), 0.5 mL of 9N H <sub>2</sub> SO <sub>4</sub> to pH <2, chilled on ice to 4 deg C.		1	": "	ft	ft
Ortho-P	50 mL clear polyethylene	Field filtered through 0.45 um filter; chilled on ice to 4 degrees C.		1	": "	ft	ft
Chlor A	1L brown polyethylene	Chilled on ice to 4 degrees C.		1	": "	ft	ft
TOC	2-40 mL glass vials	(pre-acidified), 0.5 mL of 9N H <sub>2</sub> SO <sub>4</sub> to pH <2, chilled on ice to 4 deg C.		2	": "	ft	ft

**NOTES:** Label sample bottles with black permanent marker before they get wet. Each bottle label must include the following: Water ID, sample date, sample time, initials of samplers, and the parameters to be analyzed. If lab duplicates are taken, designate one bottle as "DUP". Do not take duplicates from the same bucket of water.

ASHUELOT RIVER TMDL SAMPLING FIELD WORKSHEET

Sample Team # 1

DATE: 8/28/02

Sample Team Member Names: Mike & Regina

STATION ID: QA-05B

*from station*

**Field Measurements (Most are bucket samples taken within the top 6 inches of water except at impoundments - see note below)**

Approximate Average Depth of River: 3.3 ft      Approximate Average Width of River: 7.5 ft

Sample Type: Calibration, Bucket or Instream (I), Replicate or Duplicate	Depth of Sample from surface	~ distance from mid-channel	~ distance from bank	Time of Sample Collection / Measurements Taken		Temperature (degrees C)	Dissolved Oxygen		Meter Serial #	Meter Serial #	pH (read 6.0 std once during your round)
				Bucket	Instream		Calibration Elevation (98)%sat	ft Rest			
Calibration						Calibration					
Bucket	ft		<u>3</u> ft			<u>21.4</u> C		mg/L			
Calibration								mg/L			
<b>REPLICATE</b>								mg/L			
I (6" from surface)	0.5 ft							mg/L			
I (25% from surface)	ft							mg/L			
I (mid/ 50% depth)	ft							mg/L			
I (1 ft. from bottom)	ft							mg/L			
Calibration								mg/L			
<b>DUPLICATE</b>								mg/L			

Other Comments / Observations  
 Weather: % Cloud Cover, 0-33%, 34-66%, 67-100% (choose one range) 0-33 %  
 Water Color (clear, straw, tea-colored, etc): cloudy  
 Substrate Type (sandy, cobbles, muck, etc): sandy  
 Odor: \_\_\_\_\_

Aquatic Plant Growth: 0-33%, 34-66%, 67-100% Coverage (choose one range)  
 Macrophytes (rooted plants): 0-33% % Coverage  
 Phytoplankton (free floating): 0-33% % Coverage  
 Periphyton (attached algae): 0-33% % Coverage

**NOTE:** Most field measurements are taken by bucket from a bridge, by extension pole from shore or by wading in-stream, and are representative of the top 1 foot of the water column. At certain impoundments however, DO/Temp and depth measurements will be taken in-stream, in four places in the water column: top 6 inches, at 25% depth from surface, at mid-depth and ~ 1 foot from the bottom.

ASHUELOT RIVER TMDL SAMPLING FIELD WORKSHEET

Sample Team # 2

DATE: 8/28/02

Sample Team Member Names: Geoff Nichols & Jay Fox

STATION ID: 16-ACH

TIME OF SAMPLE COLLECTION MILITARY TIME 12:45  
(HOUR : MINUTE)

LABORATORY SAMPLES (Samples brought back to lab in bottles)				
Parameter	Bottle Type	Sample Preservation	Duplicates Replicates	Total # of bottles to fill
BOD5 and/or BOD20, TSS, NO2+NO3-N	1.6 L (1/2 gal) white, polyethylene	Chilled on ice to 4 degrees C.	<i>DUP</i>	2
TKN, NH3-N, TP	250 mL, brown polyethylene	(pre-acidified), 0.5 mL of 9N H <sub>2</sub> SO <sub>4</sub> to pH <2, chilled on ice to 4 deg C.	<i>DUP</i>	2
Chlor A	1L brown polyethylene	Chilled on ice to 4 degrees C.	<i>DUP</i>	2
TOC	2-40 mL glass vials	(pre-acidified), 0.5 mL of 9N H <sub>2</sub> SO <sub>4</sub> to pH <2, chilled on ice to 4 deg C.	<i>DUP</i>	4
Nitrate/Nitrite	40 ml clear polyethylene with yellow cap	Chilled on ice to 4 degrees C.	<i>DUP</i>	2
Ortho-P	50 mL clear polyethylene	Field filtered through 0.45 um filter; chilled on ice to 4 degrees C.	<i>DUP</i>	2

**NOTES:** \* Label sample bottles with black permanent marker before they get wet. Each bottle label must include the following sample identification information: Waterbody name, station ID, sample date, sample time, initials of samplers, and the parameters to be analyzed. For lab duplicates, write "DUP" above the sample identification information on the bottle. Do not take duplicates from the same bucket of water (Duplicates are a second sample of water taken at the same sample location). For lab Replicates, write "REP" above the sample identification information on the bottle. Replicates ARE taken from the same sample bucket as the regular sample. Samples for Ortho-P (filtered in the field) are to be done last, after all other sample bottles have been filled.



ASHUELOT RIVER TMDL SAMPLING FIELD WORKSHEET

Sample Team # 2 DATE: 8/27/02

Sample Team Member Names: George, Bernardi & Peg Foss STATION ID: 16-Ash

**FIELD MEASUREMENTS** (Most are bucket samples taken within the top 6 inches of water except at impoundments - see note below)  
 APPROXIMATE DEPTH OF RIVER WHERE SAMPLE IS TAKEN 4 ft APPROXIMATE AVERAGE WIDTH OF RIVER: 80 ft

Sample Type: Calibration Sample (bucket) or Impoundment (I), Replicate or Duplicate	Depth of Sample from surface	Distance from river right bank	Time of Sample Collection / Measurements Taken  Military Time Hours:Min	DO/Temp Meter Serial #  <u>025237</u>	pH Meter Serial #  (acceptance range of slope is 0.2- 100%)	Specific Conductance Meter Serial #  (acceptance range of 200 standard is 180- 200 uS/cm)
				Sample Site Elevation <u>500 ft</u> %Calibration Value <u>98 %</u>		

Calibration	Temperature (degrees C)	Dissolved Oxygen	post-sample storage chamber (+/- 5 %sat)	SLP	pH	Specific Conductance
<b>SAMPLE (bucket)</b>	ft <u>1.5</u>	Field Measurem ent Taken	98 %sat			
			<u>97.7</u> %sat			
	<u>20.4</u> C		<u>66.7</u> %sat			
			<u>6.07</u> mg/L			

I (6" from surface)	0.5 ft					
I (25% from surface)	ft					
I (mid/ 50% depth)	ft					
I (1 ft from bottom)	ft					

Calibration	Temperature (degrees C)	Dissolved Oxygen	post-sample storage chamber (+/- 5 %sat)	SLP	pH	Specific Conductance
<b>REPLICATE</b>						

Calibration	Temperature (degrees C)	Dissolved Oxygen	post-sample storage chamber (+/- 5 %sat)	SLP	pH	Specific Conductance
<b>DUPLICATE</b>						
	<u>20.4</u> C		<u>97.6</u> %sat			
			<u>80.4</u> %sat			
			<u>7.24</u> mg/L			

Other Comments / Observations  
 Weather: % Cloud Cover; 0-33%, 34-66%, 67-100% (choose one range) 0-33 %  
 Water Color (clear, straw, tea-colored, etc): tee colored  
 Substrate Type (sandy, pebbles, muck, etc): grassy, rocky  
 Odor: None

Vegetated Crumpp: 0-33%, 34-67%, 67-100% Shaded (choose one range) 0-33 %  
**NOTE:** \* Most field measurements are taken by bucket from a bridge, by extension pole from shore or by wading in-stream, and are representative of the top 1 foot of the water column. At impoundments, in addition to the regular bucket sample taken from the top 6" of the water column, DO and Temp readings are taken instream (using the meter) at 4 depths in the water column: top 6 inches, at mid-depth and ~ 1 foot from the bottom.

ASHUELOT RIVER TMDL SAMPLING FIELD WORKSHEET

Sample Team # 2

DATE: 8/28/02

Sample Team Member Names: George Berlandi + Jay Fass

STATION ID: 14-Ark

TIME OF SAMPLE COLLECTION MILITARY TIME 12:00  
(HOUR : MINUTE)

LABORATORY SAMPLES (Samples brought back to lab in bottles)				
Parameter	Bottle Type	Sample Preservation	Duplicates Replicates	Total # of bottles to fill
BOD5 and/or BOD20, TSS, NO2+NO3-N	1.6 L (1/2 gal) white, polyethylene	Chilled on ice to 4 degrees C.	Rep	2
TKN, NH3-N, TP	250 mL, brown polyethylene	(pre-acidified), 0.5 mL of 9N H <sub>2</sub> SO <sub>4</sub> to pH <2, chilled on ice to 4 deg C.	Rep	2
Chlor A	1L brown polyethylene	Chilled on ice to 4 degrees C.	Rep	2
TOC	2-40 mL glass vials	(pre-acidified), 0.5 mL of 9N H <sub>2</sub> SO <sub>4</sub> to pH <2, chilled on ice to 4 deg C.	Rep	4
Nitrate/Nitrite	40 ml clear polyethylene with yellow cap	Chilled on ice to 4 degrees C.	Rep	2
Ortho-P	50 mL clear polyethylene	Field filtered through 0.45 um filter; chilled on ice to 4 degrees C.	Rep	2

**NOTES:** Label sample bottles with black permanent marker before they get wet. Each bottle label must include the following sample identification information: Waterbody name, station ID, sample date, sample time, initials of samplers, and the parameters to be analyzed. For lab duplicates, write "DUP" above the sample identification information on the bottle. Do not take duplicates from the same bucket of water (Duplicates are a second sample of water taken at the same sample location). For lab Replicates, write "REP" above the sample identification information on the bottle. Replicates ARE taken from the same sample bucket as the regular sample. Samples for Ortho-P (filtered in the field) are to be done last, after all other sample bottles have been filled.

ASHUELOT RIVER TMDL SAMPLING FIELD WORKSHEET

Sample Team # 23

DATE: 11/1/02

Sample Team Member Names: George Bertlandi + Roy Fox

STATION ID: 14-A16

**FIELD MEASUREMENTS** (Most are bucket samples taken within the top 6 inches of water except at impoundments - see note below)  
 APPROXIMATE DEPTH OF RIVER WHERE SAMPLE IS TAKEN 4 ft APPROXIMATE AVERAGE WIDTH OF RIVER: 70 ft

Sample Type: Calibration Sample (bucket) or impoundment (I), Replicate or Duplicate	Depth of Sample from surface	Distance from river right bank	Time of Sample Collection / Measurements Taken		DO/Temp Meter Serial #	pH Meter Serial #  (acceptance range of slope is 92- 100%)	Specific Conductance Meter Serial #  (acceptance range of 200) standard is 180- 200 uS/cm)
			Military Time Hours:Min	Field Measure ment Taken			
Calibration					<u>025237</u>		
SAMPLE (bucket)	<u>0.5</u> ft	<u>10</u> ft	<u>12:08</u>	<u>12:22</u>	Sample Site Elevation: <u>500</u> ft %Calibration Value: <u>98</u> %		
				Temperature (degrees C)	Dissolved Oxygen post-sample storage chamber (+/- 5 %sat)	SLP	pH
				<u>22.8</u> C	<u>98</u> %sat <u>70.8</u> %sat		
	<u>0.5</u> ft	ft	:	C	mg/L		
	ft	ft	:	C	mg/L		
	ft	ft	:	C	mg/L		
	ft	ft	:	C	mg/L		
Calibration					<u>98</u> %sat		
<b>REPLICATE</b>					<u>69.7</u> %sat		
			<u>12:08</u>	<u>12:29</u>	<u>6.05</u> mg/L		
					mg/L		
					mg/L		
					mg/L		
Calibration					mg/L		
<b>DUPLICATE</b>					mg/L		
Aquatic Plant Growth:	Other Comments / Observations						
Macrophytes (rooted plants):	Weather: % Cloud Cover; 0-33%, 34-66%, 67-100% (choose one range) <u>34-66</u> %						
Phytoplankton (free floating):	Water Color (clear, straw, tea-colored, etc): <u>Light Brown</u>						
Periphyton (attached algae):	Substrate Type (sandy, cobbles, muck, etc): <u>Stony / Rocky</u>						
Vegetated Canopy: 0-33%, 34-67%, 67-100% Shaded (choose one range)	Odor: <u>NONE</u>						

**NOTE:** Most field measurements are taken by bucket from a bridge, by extension pole from shore or by wading in-stream, and are representative of the top 1 foot of the water column. At impoundments, in addition to the regular bucket sample taken from the top 6" of the water column, DO and Temp readings are taken in-stream (using the meter) at 4 depths in the water column: top 6 inches, at 25% depth from surface, at mid-depth and ~ 1 foot from the bottom.

ASHUELOT RIVER TN/DL SAMPLING FIELD WORKSHEET

Sample Team # 2 DATE: 8/28/02

Sample Team Member Names: George, Bernardi, & Pogor STATION ID: 17 - Ash

Lab Samples (All lab samples are bucket samples taken within the top 6 inches of water)							
Parameters	Bottle Type	Sample Preservation	Duplicates ?	Total # of bottles to fill	Military Time-Hours:Min	~ distance from mid-channel	~ distance from bank
BOD5 and/or BOD20, TSS, NO2+NO3-N	1.6 L (1/2 gal) white, polyethylene	Chilled on ice to 4 degrees C.	1	1	13:33	ft	ft
TKN, NH3-N, TP	250 mL, brown polyethylene	(pre-acidified), 0.5 mL of 9N H <sub>2</sub> SO <sub>4</sub> to pH <2, chilled on ice to 4 deg C.		1	:	ft	ft
Ortho-P	50 mL clear polyethylene	Field filtered through 0.45 um filter; chilled on ice to 4 degrees C.		1	:	ft	ft
Chlor A	1L brown polyethylene	Chilled on ice to 4 degrees C.		1	:	ft	ft
TOC	2-40 mL glass vials	(pre-acidified), 0.5 mL of 9N H <sub>2</sub> SO <sub>4</sub> to pH <2, chilled on ice to 4 deg C.		2	:	ft	ft

NOTES: \* Label sample bottles with black permanent marker before they get wet. Each bottle label must include the following: Waterbody name, station ID, sample date, sample time, initials of samplers, and the parameters to be analyzed. If lab duplicates are taken, designate one bottle as "SAMPLE" and the other as "DUP". Do not take duplicates from the same bucket of water.

ASHUELOT RIVER TMDL SAMPLING FIELD WORKSHEET

Sample Team # 2 DATE: 8/20/02

Sample Team Member Names: George Bertoldi + Reg Foss STATION ID: 17-Ack

**Field Measurements (Most are bucket samples taken within the top 6 inches of water except at impoundments - see note below)**

Approximate Average Depth of River: 2 ft      Approximate Average Width of River: 45 ft

Sample Type: Calibration, Bucket or Instream (I), Replicate or Duplicate	Depth of Sample from surface	distance from mid-channel	distance from bank	Time of Sample Collection / Measurements Taken		Temperature (degrees C)	Meter Serial #		pH (read 6.0 std once during your round)
				Bucket	Instream		Dissolved Oxygen	Conductance	
Calibration						Calibration Elevation: <u>500</u> ft Calibration: <u>22.6</u> C	<u>025237</u>		
Bucket	<u>1.5</u> ft	<u>20</u> ft	<u>Always right</u>	<u>13:33</u>		<u>21.8</u> C	<u>7.18</u> mg/L		
Calibration									
REPLICATE									
I (6" from surface)	0.5 ft								
I (25% from surface)	ft								
I (mid/ 50% depth)	ft								
I (1 ft. from bottom)	ft								
Calibration									
DUPLICATE									

Other Comments / Observations: Weather: % Cloud Cover: 0-33%, 34-66%, 67-100% (choose one range) 0-33% %  
 Water Color (clear, straw, tea-colored, etc): Free - colored  
 Substrate Type (sandy, cobbles, muck, etc): Gravel  
 Odor: None

Vegetated Canopy: 0-33%, 34-67%, 67-100% Shaded (choose one range) 34-66 %

**NOTE :** Most field measurements are taken by bucket from a bridge, by extension pole from shore or by wading in-stream, and are representative of the top 1 foot of the water column. At certain impoundments however, DO/Temp and depth measurements will be taken in-stream, in four places in the water column: top 6 inches, at 25% depth from surface, at mid-depth and ~ 1 foot from the bottom.

ASHUELOT RIVER TMDL SAMPLING FIELD WORKSHEET

Sample Team # 2 DATE: 8/20/02

Sample Team Member Names: George Bertland, Jeff Fox STATION ID: JA-68A

Lab Samples (All lab samples are bucket samples taken within the top 6 inches of water)						
Parameters	Bottle Type	Sample Preservation	Duplicates ?	Total # of bottles to fill	Military Time: Hours:Min	~ distance from mid-channel ~ distance from bank
BOD5 and/or BOD20, TSS, NO2+NO3-N	1.6 L (1/2 gal) white, polyethylene	Chilled on ice to 4 degrees C.		1	14:00	ft
TKN, NH3-N, TP	250 mL, brown polyethylene	(pre-acidified), 0.5 mL of 9N H <sub>2</sub> SO <sub>4</sub> to pH <2, chilled on ice to 4 deg C.		1	:	ft
Ortho-P	50 mL clear polyethylene	Field filtered through 0.45 um filter; chilled on ice to 4 degrees C.		1	:	ft
Chlor A	1L brown polyethylene	Chilled on ice to 4 degrees C.		1	:	ft
TOC	2-40 mL glass vials	(pre-acidified), 0.5 mL of 9N H <sub>2</sub> SO <sub>4</sub> to pH <2, chilled on ice to 4 deg C.		2	:	ft

NOTES: \*Label sample bottles with black permanent marker before they get wet. Each bottle label must include the following: Waterbody name, station ID, sample date, sample time, initials of samplers, and the parameters to be analyzed. If lab duplicates are taken, designate one bottle as "SAMPLE" and the other as "DUP". Do not take duplicates from the same bucket of water.

ASHUELOT RIVER TMDL SAMPLING FIELD WORKSHEET

Sample Team # 2 DATE: 8/28/02

Sample Team Member Names: George Bartel & Jeff Fass STATION ID: AA-BRA

**Field Measurements** (Most are bucket samples taken within the top 6 inches of water except at impoundments - see note below)  
 Approximate Average Depth of River: 2 1/2 ft. Approximate Average Width of River: 25 ft.

Sample Type: Calibration, Bucket or Instream (I), Replicate or Duplicate	Depth of Sample from surface	distance from mid- channel	distance from bank River Right	Time of Sample Collection / Measurements Taken		Temperature (degrees C)	Meter Serial # <u>025337</u> Dissolved Oxygen	Meter Serial # Specific Conductance	Meter Serial # pH (read 6.0 std once during your round)
				Bucket	Instream				
Calibration									
Bucket	0.5 ft		8 ft	13:58		22.3 C	77.4 %sat		
Calibration						19.8 C	77.2 %sat		
REPLICATE									
I (6" from surface)	0.5 ft								
I (25% from surface)	ft								
I (mid/ 50% depth)	ft								
I (1 ft. from bottom)	ft								
Calibration									
DUPLICATE									

Other Comments / Observations  
 Weather: % Cloud Cover: 0-33%, 34-66%, 67-100% (choose one range) 0-33 %  
 Water Color (clear, straw, tea-colored, etc): tea colored  
 Substrate Type (sandy, cobbles, muck, etc): gravel  
 Odor: None

Aquatic Plant Growth: 0-33%, 34-66%, 67-100% Shaded (choose one range) 50 %  
 Macrophytes (rooted plants): 24-66% %Coverage  
 Phytoplankton (free floating): 24-66% %Coverage  
 Periphyton (attached algae): 24-66% %Coverage

**NOTE :** Most field measurements are taken by bucket from a bridge, by extension pole from shore or by wading in-stream, and are representative of the top 1 foot of the water column. At certain impoundments however, DO/Temp and depth measurements will be taken in-stream, in four places in the water column: top 6 inches, at 25% depth from surface, at mid-depth and ~ 1 foot from the bottom.

ASHUELOT RIVER TMDL SAMPLING FIELD WORKSHEET

Sample Team # 3

DATE: 8-28-02

Sample Team Member Names: Myth Jones, Sarah S. S.

STATION ID: 2-8ba

TIME OF SAMPLE COLLECTION MILITARY TIME \_\_\_\_\_ : \_\_\_\_\_ (HOUR : MINUTE)

LABORATORY SAMPLES (Samples brought back to lab in bottles)					
Parameter	Bottle Type	Sample Preservation	Duplicates Replicates	Total # of bottles to fill	
BOD5 and/or BOD20, TSS, NO2+NO3-N	1.6 L (1/2 gal) white, polyethylene	Chilled on ice to 4 degrees C.	Dup	2	
TKN, NH3-N, TP	250 mL, brown polyethylene	(pre-acidified), 0.5 mL of 9N H <sub>2</sub> SO <sub>4</sub> to pH <2, chilled on ice to 4 deg C.	Dup	2	
Chlor A	1L brown polyethylene	Chilled on ice to 4 degrees C.	Dup	2	
TOC	2-40 mL glass vials	(pre-acidified), 0.5 mL of 9N H <sub>2</sub> SO <sub>4</sub> to pH <2, chilled on ice to 4 deg C.	Dup	4	
Nitrate/Nitrite	40 ml clear polyethylene with yellow cap	Chilled on ice to 4 degrees C.	Dup	2	
Ortho-P	50 mL clear polyethylene	Field filtered through 0.45 um filter; chilled on ice to 4 degrees C.	Dup	2	

NOTES: Label sample bottles with black permanent marker before they get wet. Each bottle label must include the following sample identification information: Waterbody name, station ID, sample date, sample time, initials of samplers, and the parameters to be analyzed. For lab duplicates, write "DUP" above the sample identification information on the bottle. Do not take duplicates from the same bucket of water (Duplicates are a second sample of water taken at the same sample location). For lab Replicates, write "REP" above the sample identification information on the bottle. Replicates ARE taken from the same sample bucket as the regular sample. Samples for Ortho-P (filtered in the field) are to be done last, after all other sample bottles have been filled.



ASHUELOT RIVER TMDL SAMPLING FIELD WORKSHEET

Sample Team # 3

DATE: 8/28/02

Sample Team Member Names: Platt, Kerns, Sued, Suel

from AM  
from station

STATION ID: Z-8-8

from station

**FIELD MEASUREMENTS** (Most are bucket samples taken within the top 6 inches of water except at impoundments - see note below)  
 APPROXIMATE DEPTH OF RIVER WHERE SAMPLE IS TAKEN 1.5 ft APPROXIMATE AVERAGE WIDTH OF RIVER: 75 ft

Sample Type: Calibration Sample (bucket) or Impoundment (I), Replicate or Duplicate	Depth of Sample from surface	Distance from river right bank	Time of Sample Collection / Measurements Taken		Temperature (degrees C)	Dissolved Oxygen		pH Meter Serial #	Specific Conductance Meter Serial #
			Bucket Sample Taken	Field Measure- ment Taken		%sat mg/L	post-sample storage chamber (+/- 5 %sat) %sat		
Calibration	ft	ft	-----	-----	-----	-----	-----	-----	-----
SAMPLE (bucket)	ft	<u>15</u> ft	-----	-----	C	-----	-----	-----	-----
			<u>12:39</u>	<u>12:49</u>	<u>20.9</u> C	<u>97.1</u> %sat	<u>94.6</u> %sat	<u>02EG594 AF</u>	(acceptance range of 200 standard is 180-200 uS/cm)
1 (6" from surface)	0.5 ft	ft			C				
1 (25% from surface)	ft	ft			C				
1 (mid/ 50% depth)	ft	ft			C				
1 (1 ft from bottom)	ft	ft			C				
Calibration	-----	-----	-----	-----	-----	-----	-----	-----	-----
REPLICATE	-----	-----	-----	-----	C	-----	-----	-----	-----

Calibration	DUPLICATE	Other Comments / Observations
-----	-----	-----
-----	<u>12:54</u> <u>13:17</u>	<u>94.6</u> %sat <u>93.7</u> %sat
Aquatic Plant Growth: <u>0-33%</u> , <u>34-66%</u> , <u>67-100%</u> Coverage (choose one range)		
Macrophytes (rooted plants): <u>0-33%</u> %Coverage		
Phytoplankton (free floating): <u>0-33%</u> %Coverage		
Periphyton (attached algae): <u>0-33%</u> %Coverage		
Vegetated Canopy: <u>0-33%</u> , <u>34-67%</u> , <u>67-100%</u> Shaded (choose one range) <u>0-33</u> %		

Weather: % Cloud Cover: 0-33%, 34-66%, 67-100% (choose one range) 0-33 %  
 Water Color (clear, straw, tea-colored, etc): clear  
 Substrate Type (sandy, cobbles, muck, etc): sandy  
 Odor: none

**NOTE :** Most field measurements are taken by bucket from a bridge, by extension pole from shore or by wading in-stream, and are representative of the top 1 foot of the water column. At impoundments, in addition to the regular bucket sample taken from the top 6" of the water column, DO and Temp readings are taken instream (using the meter) at 4 depths in the water column: top 6 inches, at 25% depth from surface, at mid-depth and ~ 1 foot from the bottom.

ASHUELOT RIVER TMDL SAMPLING FIELD WORKSHEET

Sample Team # 3

DATE: 8-28-02

Sample Team Member Names: John Jones, Sarah Seidel *from AM sheet*

STATION ID: 147-Asx *from AM sheet*

**FIELD MEASUREMENTS** (Most are bucket samples taken within the top 6 inches of water except at impoundments - see note below)  
 APPROXIMATE DEPTH OF RIVER WHERE SAMPLE IS TAKEN 2 ft APPROXIMATE AVERAGE WIDTH OF RIVER: 85 ft

Sample Type: Calibration Sample (bucket) or Impoundment (I), Replicate or Duplicate	Depth of Sample from surface	Distance from river right bank	Time of Sample Collection / Measurements Taken		DO/Temp Meter Serial #	Dissolved Oxygen	post-sample storage chamber (% sat)	pH Meter Serial #	Specific Conductance Meter Serial #
			Bucket Sample Taken	Field Measure ment Taken					
Calibration	ft	ft	-----	-----	<u>02E0594 AF</u>	mg/L	%sat	(acceptance range of slope is 92-100%)	(acceptance range of 200 standard is 180-200 uS/cm)
<b>SAMPLE (bucket)</b>	ft	ft	-----	-----	Sample Site Elevation <u>500 ft</u> %Calibration Value <u>98 %</u>	mg/L	%sat		

1 (6" from surface)	0.5 ft	10 ft	11:45	12:13	20.8 C	99.5 %sat	8.91 mg/L	97.3 %sat	
1 (25% from surface)	ft	ft	:	:	C	%sat	mg/L	%sat	
1 (mid/ 50% depth)	ft	ft	:	:	C	%sat	mg/L	%sat	
1 (1 ft from bottom)	ft	ft	:	:	C	%sat	mg/L	%sat	

Calibration	-----	-----	-----	-----	-----	98 %sat	-----	mg/L	%sat
<b>REPLICATE</b>	-----	-----	11:45	12:17	20.9 C	99.8 %sat	8.91 mg/L	100.5 %sat	

Calibration	-----	-----	-----	-----	-----	98 %sat	-----	mg/L	%sat
<b>DUPLICATE</b>	-----	-----	-----	-----	-----	%sat	-----	mg/L	%sat
Aquatic Plant Growth:	0-33%, 34-66%, 67-100%	%Coverage	Other Comments / Observations						
Macrophytes (rooted plants):	0-33	%Coverage	Weather: % Cloud Cover, 0-33%, 34-66%, 67-100% (choose one range) <u>0-33</u> %						
Phytoplankton (free floating):	0-33	%Coverage	Water Color (clear, straw, tea-colored, etc): <u>LSR</u>						
Periphyton (attached algae):	0-33	%Coverage	Substrate Type (sandy, cobbles, muck, etc): <u>Sand &amp; Cobble</u>						
Vegetated Canopy:	0-33%, 34-67%, 67-100%	Shaded (choose one range) <u>0-33</u> %	Odor: <u>None</u>						

**NOTE:** Most field measurements are taken by bucket from a bridge, by extension pole from shore or by wading in-stream, and are representative of the top 1 foot of the water column. At impoundments, in addition to the regular bucket sample taken from the top 6" of the water column, DO and Temp readings are taken instream (using the meter) at 4 depths in the water column: top 6 inches, at 25% depth from surface, at mid-depth and ~ 1 foot from the bottom.

ASHUELOT RIVER TMDL SAMPLING FIELD WORKSHEET

Sample Team # 3

DATE: 8/28/02

Sample Team Member Names: David Reed + Matt Jones

STATION ID: 19A - Ash

TIME OF SAMPLE COLLECTION MILITARY TIME 13:52  
(HOUR : MINUTE)

LABORATORY SAMPLES (Samples brought back to lab in bottles)				
Parameter	Bottle Type *	Sample Preservation	Duplicates Replicates	Total # of bottles to fill **
BOD5 and/or BOD20, TSS, NO2+NO3-N	1.6 L (1/2 gal) white, polyethylene	Chilled on ice to 4 degrees C.		1
TKN, NH3-N, TP	250 mL, brown polyethylene	(pre-acidified), 0.5 mL of 9N H2SO4 to pH <2, chilled on ice to 4 deg C.		1
Chlor A	1 L brown polyethylene	Chilled on ice to 4 degrees C.		1
TOC	2-40 mL glass vials	(pre-acidified), 0.5 mL of 9N H2SO4 to pH <2, chilled on ice to 4 deg C.		2
Nitrate/Nitrite	40 ml clear polyethylene with yellow cap	Chilled on ice to 4 degrees C.		1
Ortho-P	50 mL clear polyethylene	Field filtered through 0.45 um filter; chilled on ice to 4 degrees C.		1

NOTES: \* Label sample bottles with black permanent marker before they get wet. Each bottle label must include the following sample identification information: Waterbody name, station ID, sample date, sample time, initials of samplers, and the parameters to be analyzed. For lab duplicates, write "DUP" above the sample identification information on the bottle. Do not take duplicates from the same bucket of water (Duplicates are a second sample of water taken at the same sample location). For lab Replicates, write "REP" above the sample identification information on the bottle. Replicates ARE taken from the same sample bucket as the regular sample. Samples for Ortho-P (filtered in the field) are to be done last, after all other sample bottles have been filled.

ASHUELOT RIVER TMDL SAMPLING FIELD WORKSHEET

Sample Team # 3

DATE: 8/28/02

Sample Team Member Names: Bobaloda, Matt Jones

STATION ID: 19AAd

**FIELD MEASUREMENTS** (Most are bucket samples taken within the top 6 inches of water except at impoundments - see note below)  
 APPROXIMATE DEPTH OF RIVER WHERE SAMPLE IS TAKEN ft APPROXIMATE AVERAGE WIDTH OF RIVER: 40 ft

Sample Type: Calibration Sample (bucket) or Impoundment (I), Replicate or Duplicate	Depth of Sample from surface	Distance from river right bank	Time of Sample Collection / Measurements Taken  Military Time Hours:Min	DO/Temp Meter Serial #  <u>0260514 AF</u>	pH Meter Serial #  (acceptance range of slope is 92- 100%)	Specific Conductance Meter Serial #  (acceptance range of 200 standard is 180- 200 uS/cm)

Calibration	Temperature (degrees C)	Dissolved Oxygen post-sample storage chamber 1 +/- 5 %sat	SLP	pH	Specific Conductance
<b>SAMPLE (bucket)</b>	<u>1.0</u> ft	<u>2.0</u> ft	<u>13:52</u>	<u>14:00</u>	<u>100.0</u> %sat
I (6" from surface)					
I (25% from surface)					
I (mid/ 50% depth)					
I (1 ft from bottom)					

Calibration

REPLICATE					
-----------	--	--	--	--	--

Calibration

DUPLICATE					
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Aquatic Plant Growth: 0-33%, 34-66%, 67-100% Coverage: (choose one range)  
 Macrophytes (rooted plants): 33-66% %Coverage  
 Phytoplankton (free floating): 0-33% %Coverage  
 Periphyton (attached algae): 0-33% %Coverage

Vegetated Canopy: 0-33%, 34-67%, 67-100% Shaded (choose one range) 0-33% %  
 NOTE: \* Most field measurements are taken by bucket from a bridge, by extension pole from shore or by wading in-stream, and are representative of the top 1 foot of the water column. At impoundments, in addition to the regular bucket sample taken from the top 6" of the water column, DO and Temp readings are taken instream (using the meter) at 4 depths in the water column: top 6 inches, at 25% depth from surface, at mid-depth and ~ 1 foot from the bottom.

Other Comments / Observations  
 Weather: % Cloud Cover; 0-33%, 34-66%, 67-100% (choose one range) 0-33% %  
 Water Color (clear, straw, tea-colored, etc): clear  
 Substrate Type (sandy, cobbles, muck, etc): slightly  
 Odor: NO

Sampling Field Worksheet

Project: Ashuelot TMDL Date: 8-28-02  
 Name of Samplers: Steve Sand, Matt Jones  
 Waterbody Name: Ashuelot Station ID: 19A-A58  
 Weather: Sunny

**Field Measurements** (Most are bucket samples taken within the top 6 inches of water except at impoundments - see note below)

Bucket (B) or Instream (I)	Depth of Sample from surface (feet)	~ distance from mid-channel (ft)	~ distance from bank (ft)	Military Time - Hours:Min		Temperature (degrees C)	DO (mg/L)	Conductivity (uS/cm)	pH
				Bucket sample collected	Field measurements taken				
D	1'	0	20 ft	13:62	14:00	23.0	9.57	11.5	

**Approximate Average Depth of River (feet):** \_\_\_\_\_

**Approximate width of river (feet):** \_\_\_\_\_

Is DUPLICATE to be run? (If yes, record duplicate of last set of field measurements in this row.)

Parameters	Bottle Type	Preservation	Duplicates?	Total # of bottles to fill.	Military Time - Hours:Min	~ distance from mid-channel (ft)	~ distance from bank (ft)
BOD5 and/or BOD20, TSS, NO2+NO3-N	1.6 L (1/2 gal) white, polyethylene	Chilled on ice to 4 deg C.		1		0	28
TKN, NH3-N, TP	250 mL, brown polyethylene	H2SO4 to pH <2, chilled on ice to 4 deg C.		1		0	28
Ortho-P	50 mL clear polyethylene	Field filtered through 0.45 um filter; chilled on ice to 4 deg C.		1		0	28
Chlor A	1L brown polyethylene	Chilled on ice to 4 deg C.		1		0	28
TOC	2-40 mL glass vials	H2SO4 to pH <2, chilled on ice to 4 deg C.		2		0	28

**Aquatic Plant Growth:** % Coverage 33-66  
 Macrophytes (rooted plants): 2-33  
 Phytoplankton (free floating): 2-33  
 Periphyton (attached algae): 2-33  
 Canopy (Well Shaded, Moderately Shaded, Mostly Open): mostly open

**Other Comments / Observations**  
 Color (clear, tea-colored, etc): clear  
 Substrate (ie, sandy, cobbles, muck, etc.): sandy  
 Odor: none

Notes: Label sample bottles with black permanent marker before they get wet. Each bottle label must include the following: Waterbody name, station ID, sample date, sample time, initials of samplers, and the parameters to be analyzed. If duplicates are taken, designate one bottle as "D1" and the other as "D2". Do not take duplicates from the same bucket of water. For calibration of the DO meter, use an elevation of 300 ft for the Cocheco River and 500 ft for the Ashuelot River. Most field measurements are taken of the top 6 inches by bucket. At certain impoundments, however, DO/Temp and depth measurements will also be taken in-stream, at 25% depth from surface, at mid-depth and ~ 1 foot from the bottom.

ASHUELOT RIVER TMDL SAMPLING FIELD WORKSHEET

Sample Team # 3

DATE: 8/20/02

Sample Team Member Names: Scott Jordan - Matt Jones

STATION ID: 19 - Ash

TIME OF SAMPLE COLLECTION MILITARY TIME 13 : 40  
( HOUR : MINUTE)

LABORATORY SAMPLES (Samples brought back to lab in bottles)				
Parameter	Bottle Type	Sample Preservation	Duplicates Replicates	Total # of bottles to fill *
BOD5 and/or BOD20, TSS, NO2+NO3-N	1.6 L (1/2 gal) white, polyethylene	Chilled on ice to 4 degrees C.		1
TKN, NH3-N, TP	250 mL, brown polyethylene	(pre-acidified), 0.5 mL of 9N H <sub>2</sub> SO <sub>4</sub> to pH <2, chilled on ice to 4 deg C.		1
Chlor A	1L brown polyethylene	Chilled on ice to 4 degrees C.		1
TOC	2-40 mL glass vials	(pre-acidified), 0.5 mL of 9N H <sub>2</sub> SO <sub>4</sub> to pH <2, chilled on ice to 4 deg C.		2
Nitrate/Nitrite	40 ml clear polyethylene with yellow cap	Chilled on ice to 4 degrees C.		1
Ortho-P	50 mL clear polyethylene	Field filtered through 0.45 um filter; chilled on ice to 4 degrees C.		1

**NOTES:** Label sample bottles with black permanent marker before they get wet. Each bottle label must include the following sample identification information: Waterbody name, station ID, sample date, sample time, initials of samplers, and the parameters to be analyzed. For lab duplicates, write "DUP" above the sample identification information on the bottle. Do not take duplicates from the same bucket of water (Duplicates are a second sample of water taken at the same sample location). For lab Replicates, write "REP" above the sample identification information on the bottle. Replicates ARE taken from the same sample bucket as the regular sample. Samples for Ortho-P (filtered in the field) are to be done last, after all other sample bottles have been filled.

ASHUELOT RIVER TMDL SAMPLING FIELD WORKSHEET

Sample Team # 3 DATE: 8/28/02

Sample Team Member Names: Scott Snyder Matt Jones STATION ID: 19 - Arch

from AM sheets

**FIELD MEASUREMENTS** (Most are bucket samples taken within the top 6 inches of water except at impoundments - see note below)  
 APPROXIMATE DEPTH OF RIVER WHERE SAMPLE IS TAKEN 1.5 ft APPROXIMATE AVERAGE WIDTH OF RIVER: 20 ft

Sample Type: Calibration Sample (bucket) or Impoundment (I), Replicate or Duplicate	Depth of Sample from surface	Distance from river right bank	Time of Sample Collection / Measurements Taken		DO/Temp Meter Serial #  Sample Site Elevation 500 ft %Calibration Value 98 %	pH Meter Serial #  (acceptance range of slope is 92- 100%)	Specific Conductance Meter Serial #  (acceptance range of 200 standard is 180- 200 uS/cm)
			Bucket Sample Taken	Military Time Hours:Min			
Calibration					02E0594 AF		
<b>SAMPLE (bucket)</b>	ft	8 ft	13:40	13:49			
I (6" from surface)	0.5 ft						
I (25% from surface)	ft						
I (mid/ 50% depth)	ft						
I (1 ft from bottom)	ft						
Calibration							
<b>REPLICATE</b>							
Calibration							
<b>DUPLICATE</b>							
Aquatic Plant Growth:	0-33%, 34-66%, 67-100% Coverage (choose one range)						
Macrophytes (rooted plants):	0-33 % Coverage						
Phytoplankton (free floating):	0-33 % Coverage						
Periphyton (attached algae):	0-33 % Coverage						
Regulated Canopy:	0-33%, 34-67%, 67-100% Shaded (choose one range) <u>34-67 %</u>						
Other Comments / Observations	Weather: % Cloud Cover; 0-33%, 34-66%, 67-100% (choose one range) <u>0-33 %</u> Water Color (clear, straw, tea-colored, etc): <u>clear</u> Substrate Type (sandy, cobbles, muck, etc): <u>granite</u> Odor: <u>none</u>						

**NOTE:** \* Most field measurements are taken by bucket from a bridge, by extension pole from shore or by wading in-stream, and are representative of the top 1 foot of the water column. At impoundments, in addition to the regular bucket sample taken from the top 6" of the water column, DO and Temp readings are taken instream (using the meter) at 4 depths in the water column: top 6 inches, at 25% depth from surface, at mid-depth and ~ 1 foot from the bottom.





# ASHUELOT RIVER TMDL SAMPLING FIELD WORKSHEET

Sample Team # The Cunningham / Paul Asatch (wfs)

DATE: 092002

Sample Team Member Names: from A

STATION ID: 15-Ash

**FIELD MEASUREMENTS** (Most are bucket samples taken within the top 6 inches of water except at impoundments - see note below)  
 APPROXIMATE DEPTH OF RIVER WHERE SAMPLE IS TAKEN 5.5 ft APPROXIMATE AVERAGE WIDTH OF RIVER: 120 ft

Sample Type: Calibration Sample (bucket) or Impoundment (I), Replicate or Duplicate	Depth of Sample from surface	Distance from river right bank	Time of Sample Collection / Measurements Taken  Military Time Hours:Min	DO/Temp Meter Serial #  <u>0250529</u>  Sample Site Elevation <u>500</u> ft  %Calibration Value <u>98</u> %	pH Meter Serial #  (acceptance range of slope is 92- 100%)	Specific Conductance Meter Serial #  (acceptance range of 200 - standard is 180- 200 uS/cm)
---	---------------------------------------	---	--	---	--	--

Calibration	Temperature (degrees C)	Dissolved Oxygen	post-sample storage chamber (+/- 5 %sat)	SLP	pH	Specific Conductance
<b>SAMPLE (bucket)</b> DEPTH <u>5.5</u>						
1 (6" from surface)	21.3 C	76.0 %sat	6.7 mg/L			
1 (25% from surface)	20.7 C	74.0 %sat	6.6 mg/L			
1 (mid/ 50% depth)	20.5 C	74.0 %sat	6.6 mg/L			
1 (1 ft from bottom)	20.3 C	79.0 %sat	7.1 mg/L			

Calibration

**REPLICATE**

Calibration

**DUPLICATE**

Aquatic Plant Growth: 0-33%, 34-66%, 67-100% Coverage (choose one range)  
0-33% %Coverage

Macrophytes (rooted plants): 0-33% %Coverage  
0-33% %Coverage

Phytoplankton (free floating): 0-33% %Coverage  
0-33% %Coverage

Periphyton (attached algae): 0-33% %Coverage  
0-33% %Coverage

Other Comments / Observations: WATER WITH 0-5% PLANKTON

Weather: % Cloud Cover, 0-33%, 34-66%, 67-100% (choose one range) 34 (67-100) %  
 Water Color (clear, straw, tea-colored, etc): CLEAR 44+17 CLEAR  
 Substrate Type (sandy, cobbles, muck, etc): COBBLES, GRAVEL, SAND, CRUSHED  
 Odor: None SILENT, MUCK, SIDES OF CHANNEL

Vegetated Canopy: 0-33%, 34-67%, 67-100% Shaded (choose one range) 0-33 %

**NOTE:** Most field measurements are taken by bucket from a bridge, by extension pole from shore or by wading in-stream, and are representative of the top 1 foot of the water column. At impoundments, in addition to the regular bucket sample taken from the top 6" of the water column, DO and Temp readings are taken instream (using the meter) at 4 depths in the water column: top 6 inches, at mid-depth and ~1 foot from the bottom.

ASHUELOT RIVER TMDL SAMPLING FIELD WORKSHEET

Sample Team # 4 DATE: 08-28-02

Sample Team Member Names: See columnar label, Paul Proszack STATION ID: 166-Ash

**FIELD MEASUREMENTS (Most are bucket samples taken within the top 6 inches of water except at impoundments - see note below)**  
 APPROXIMATE DEPTH OF RIVER WHERE SAMPLE IS TAKEN 4.0 ft APPROXIMATE AVERAGE WIDTH OF RIVER: 60.0 ft

Sample Type: Calibration Sample (bucket) or Impoundment (I), Replicate or Duplicate	Depth of Sample from surface	Distance from river right bank	Time of Sample Collection / Measurements Taken		DO/Temp Meter Serial #  0260594 Sample Site Elevation <u>500 ft</u> % Calibration Value <u>98 %</u>	pH Meter Serial #  (acceptance range of slope is 92- 100%)	Specific Conductance Meter Serial #  (acceptance range of 200 standard is 180- 200 uS/cm)
			Bucket Sample Taken	Field Measure- ment Taken			
Calibration	ft	20.0 ft	12:46				
<b>SAMPLE (bucket)</b>							
1 (6" from surface)	0.5 ft	20.0 ft	12:47		81.0 %sat	71.1 mg/L	21.9 78.0 6.8
1 (25% from surface)	1.0 ft	20.0 ft	12:49		77.0 %sat	6.9 mg/L	21.2 77.0 6.8
1 (mid/ 50% depth)	2.0 ft	20.0 ft	12:51		76.0 %sat	6.8 mg/L	20.2 76.0 6.8
1 (1 ft from bottom)	3.0 ft	20.0 ft	12:53		72.0 %sat	6.5 mg/L	20.4 75.0 5.9
Bottom 4.0'							
Calibration					98 %sat	mg/L	
<b>REPLICATE</b>					%sat	mg/L	
Calibration					98 %sat	mg/L	
<b>DUPLICATE</b>					%sat	mg/L	
Aquatic Plant Growth: <u>0-33%, 34-66%, 67-100% Coverage (choose one range)</u> Macrophytes (rooted plants): <u>0-33% %Coverage</u> Phytoplankton (free floating): <u>0-33% %Coverage</u> Periphyton (attached algae): <u>0-33% %Coverage</u> Vegetated Camps: <u>0-33%, 34-67%, 67-100% Shaded (choose one range)</u> %							
Other Comments / Observations Weather: % Cloud Cover; 0-33%, 34-66%, 67-100% (choose one range) <u>67-100</u> % Water Color (clear, straw, tea-colored, etc): <u>clear</u> TEA ( <u>not</u> STATE PLUSS) Substrate Type (sandy, cobbles, muck, etc): <u>sandy silt</u> Odor: <u>no</u>							

**NOTE :** Most field measurements are taken by bucket from a bridge, by extension pole from shore or by wading in-stream, and are representative of the top 1 foot of the water column. At impoundments, in addition to the regular bucket sample taken from the top 6" of the water column, DO and Temp readings are taken instream (using the meter) at 4 depths in the water column: top 6 inches, at mid-depth and ~ 1 foot from the bottom.

ASHUELOT RIVER TMDL SAMPLING FIELD WORKSHEET

Sample Team # 4

DATE: 8/28/02

Sample Team Member Names: Dan Pizzock & Joe Cunningham

STATION ID: 20A - Ash

TIME OF SAMPLE COLLECTION MILITARY TIME \_\_\_\_\_ : \_\_\_\_\_ ( HOUR : MINUTE )

LABORATORY SAMPLES (Samples brought back to lab in bottles)				
Parameter	Bottle Type	Sample Preservation	Duplicates Replicates	Total # of bottles to fill
BOD5 and/or BOD20, TSS, NO2+NO3-N	1.6 L (1/2 gal) white, polyethylene	Chilled on ice to 4 degrees C.		
TKN, NH3-N, TP	250 mL, brown polyethylene	(pre-acidified), 0.5 mL of 9N H <sub>2</sub> SO <sub>4</sub> to pH <2, chilled on ice to 4 deg C.		
Chlor A	1L brown polyethylene	Chilled on ice to 4 degrees C.		
TOC	2-40 mL glass vials	(pre-acidified), 0.5 mL of 9N H <sub>2</sub> SO <sub>4</sub> to pH <2, chilled on ice to 4 deg C.		
Nitrate/Nitrite	40 ml clear polyethylene with yellow cap	Chilled on ice to 4 degrees C.		
Ortho-P	50 mL clear polyethylene	Field filtered through 0.45 um filter; chilled on ice to 4 degrees C.		

NOTES: Label sample bottles with black permanent marker before they get wet. Each bottle label must include the following sample identification information: Waterbody name, station ID, sample date, sample time, initials of samplers, and the parameters to be analyzed. For lab duplicates, write "DUP" above the sample identification information on the bottle. Do not take duplicates from the same bucket of water (Duplicates are a second sample of water taken at the same sample location). For lab Replicates, write "REP" above the sample identification information on the bottle. Replicates ARE taken from the same sample bucket as the regular sample. Samples for Ortho-P (filtered in the field) are to be done last, after all other sample bottles have been filled.

ASHUELOT RIVER TMDL SAMPLING FIELD WORKSHEET

Sample Team # 4 DATE: 8/22/02

Sample Team Member Names: The Cummings + Paul Pirazek STATION ID: 20A - Ark

**FIELD MEASUREMENTS** (Most are bucket samples taken within the top 6 inches of water except at impoundments - see note below)  
 APPROXIMATE DEPTH OF RIVER WHERE SAMPLE IS TAKEN 2.0 ft APPROXIMATE AVERAGE WIDTH OF RIVER: 70.0 ft

Sample Type: Calibration Sample (bucket) or Impoundment (I), Replicate or Duplicate	Depth of Sample from surface	Distance from river right bank	Time of Sample Collection / Measurements Taken		DO/Temp Meter Serial # <u>02E0594</u>	pH Meter Serial #	Specific Conductance Meter Serial #  (acceptance range of 200 standard is 180- 290 uS/cm)
			Military Time Hours:Min	Field Measure- ment Taken			
Calibration	0.5 ft	50 ft	14:02	14:06	Sample Site Elevation <u>500 ft</u> %Calibration Value <u>98 %</u>	(acceptance range of slope is 92-100%)	

SAMPLE (bucket)	Temperature (degrees C)	Dissolved Oxygen		post-sample storage chamber (+/- 5 %sat)	SLP	pH	Specific Conductance
		98 %sat	mg/L				
	C	98 %sat	mg/L	104 %sat			
	21.4 C	91.0 %sat	8.1 mg/L	104 %sat			

1 (6" from surface)	ft	ft	:	:	%sat	mg/L	%sat
1 (25% from surface)	ft	ft	:	:	%sat	mg/L	%sat
1 (mid/ 50% depth)	ft	ft	:	:	%sat	mg/L	%sat
1 (1 ft from bottom)	ft	ft	:	:	%sat	mg/L	%sat

Calibration	Temperature	Dissolved Oxygen	post-sample storage chamber	SLP	pH	Specific Conductance
REPLICATE	C	98 %sat	mg/L	%sat		
	C	%sat	mg/L	%sat		

Calibration	Temperature	Dissolved Oxygen	post-sample storage chamber	SLP	pH	Specific Conductance
DUPLICATE	C	98 %sat	mg/L	%sat		
	C	%sat	mg/L	%sat		

Aquatic Plant Growth: 0-33%, 34-66%, 67-100% Coverage (choose one range)  
 Macrophytes (rooted plants): 34-66% Coverage  
 Phytoplankton (free floating): 0-33% Coverage  
 Periphyton (attached algae): 67-100% Coverage

Other Comments / Observations: non-gas. fish present  
 Weather: % Cloud Cover: 0-33%, 34-66%, 67-100% (choose one range) 0-33% %  
 Water Color (clear, straw, tea-colored, etc): clear  
 Substrate Type (sandy, cobbles, muck, etc): gravel, sand, cobble  
 Odor: NONE

Vegetation canopy: 0-33%, 34-67%, 67-100% Shaded (choose one range) 34-66% %  
**NOTE:** Most field measurements are taken by bucket from a bridge, by extension pole from shore or by wading in-stream, and are representative of the top 1 foot of the water column. At impoundments, in addition to the regular bucket sample taken from the top 6" of the water column, DO and Temp readings are taken instream (using the meter) at 4 depths in the water column: top 6 inches, at 25% depth from surface, at mid-depth and ~ 1 foot from the bottom.

ASHUELOT RIVER TMDL SAMPLING FIELD WORKSHEET

Sample Team # 4 DATE: 8/22/02

Sample Team Member Names: The Conspicuous Fall Brook STATION ID: 160 - A-1

TIME OF SAMPLE COLLECTION MILITARY TIME : ( HOUR : MINUTE )

LABORATORY SAMPLES (Samples brought back to lab in bottles)				
Parameter	Bottle Type	Sample Preservation	Duplicates Replicates	Total # of bottles to fill
BOD5 and/or BOD20, TSS, NO2+NO3-N	1.6 L (1/2 gal) white, polyethylene	Chilled on ice to 4 degrees C.		
TKN, NH3-N, TP	250 mL, brown polyethylene	(pre-acidified), 0.5 mL of 9N H <sub>2</sub> SO <sub>4</sub> to pH <2, chilled on ice to 4 deg C.		
Chlor A	1L brown polyethylene	Chilled on ice to 4 degrees C.		
TOC	2-40 mL glass vials	(pre-acidified), 0.5 mL of 9N H <sub>2</sub> SO <sub>4</sub> to pH <2, chilled on ice to 4 deg C.		
Nitrate/Nitrite	40 ml clear polyethylene with yellow cap	Chilled on ice to 4 degrees C.		
Ortho-P	50 mL clear polyethylene	Field filtered through 0.45 um filter; chilled on ice to 4 degrees C.		

**NOTES:** Label sample bottles with black permanent marker before they get wet. Each bottle label must include the following sample identification information: Waterbody name, station ID, sample date, sample time, initials of samplers, and the parameters to be analyzed. For lab duplicates, write "DUP" above the sample identification information on the bottle. Do **not** take duplicates from the same bucket of water (Duplicates are a second sample of water taken at the same sample location). For lab Replicates, write "REP" above the sample identification information on the bottle. Replicates **ARE** taken from the same sample bucket as the regular sample. Samples for Ortho-P (filtered in the field) are to be done last, after all other sample bottles have been filled.

ASHUELOT RIVER TMDL SAMPLING FIELD WORKSHEET

Sample Team # 4 DATE: 8/28/02

Sample Team Member Names: Paul Pirozick & Joe Cunningham STATION ID: 16D--Ack

**FIELD MEASUREMENTS** (Most are bucket samples taken within the top 6 inches of water except at impoundments - see note below)  
 APPROXIMATE DEPTH OF RIVER WHERE SAMPLE IS TAKEN Boyle ft APPROXIMATE AVERAGE WIDTH OF RIVER: 60.0 ft

Sample Type: Calibration Sample (bucket) or Impoundment (I), Replicate or Duplicate	Depth of Sample from surface	Distance from river right bank	Time of Sample Collection / Measurements Taken		DO/Temp Meter Serial #	pH Meter Serial #	Specific Conductance Meter Serial #
			Military Time Hours:Min	Field Measure- ment Taken			
					<u>5639</u>		
					<u>0250594</u>		
					Sample Site Elevation <u>500 ft</u>		(acceptance range of 200 standard is 180-200 uS/cm)
					%Calibration Value <u>98 %</u>		(acceptance range of slope is 92-100%)

Calibration SAMPLE (bucket)	ft	ft	Bucket Sample Taken	Field Measure- ment Taken	Temperature (degrees C)	Dissolved Oxygen		post-sample storage chamber (+/- 5 %sat)	SLP	pH	Specific Conductance
						%sat	mg/L				
						98 %sat					
							mg/L				

I (6" from surface)	0.5 ft			13:20	20.9 C	80 %sat	7.1 mg/L	%sat			
I (25% from surface)	1.5 ft			13:22	20.5 C	76 %sat	6.8 mg/L	%sat			
I (mid/ 50% depth)	3.0 ft			13:24	20.3 C	74 %sat	6.7 mg/L	%sat			
I (1 ft from bottom)	5.0 ft			13:26	20.1 C	72 %sat	6.5 mg/L	%sat			

Calibration	ft	ft	Bucket Sample Taken	Field Measure- ment Taken	Temperature (degrees C)	%sat	mg/L	%sat	mg/L	%sat
REPLICATE										

Calibration	ft	ft	Bucket Sample Taken	Field Measure- ment Taken	Temperature (degrees C)	%sat	mg/L	%sat	mg/L	%sat
DUPLICATE										

Aquatic Plant Growth: 0-33%, 34-66%, 67-100% Coverage (choose one range)  
 Macrophytes (rooted plants): 0-33% Coverage  
 Phytoplankton (free floating): 0-33% Coverage  
 Periphyton (attached algae): 0-33% Coverage

Vegetated Campy: 0-33%, 34-67%, 67-100% Shaded (choose one range) 0-33% %  
 Other Comments / Observations Blagoviti, LemBovs, present  
 Weather: % Cloud Cover, 0-33%, 34-66%, 67-100% (choose one range) 34-66 %  
 Water Color (clear, straw, tea-colored, etc): Clear (upstream from NWTE)  
 Substrate Type (sandy, cobbles, muck, etc): Blay, silt sand  
 Odor: NONE

NOTE: Most field measurements are taken by bucket from a bridge, by extension pole from shore or by wading in-stream, and are representative of the top 1 foot of the water column. At impoundments, in addition to the regular bucket sample taken from the top 6" of the water column, DO and Temp readings are taken instream (using the meter) at 4 depths in the water column: top 6 inches, at 25% depth from surface, at mid-depth and ~ 1 foot from the bottom.

ASHUELOT RIVER TMDL SAMPLING FIELD WORKSHEET

Sample Team # 4 DATE: 8/28/03

Sample Team Member Names: Paul Pitzerick + Joe Cunningham STATION ID: 21-Ask

**FIELD MEASUREMENTS** (Most are bucket samples taken within the top 6 inches of water except at impoundments - see note below)  
 APPROXIMATE DEPTH OF RIVER WHERE SAMPLE IS TAKEN: 2.0 ft APPROXIMATE AVERAGE WIDTH OF RIVER: 60.0 ft

Sample Type: Calibration Sample (bucket) or Impoundment* (I), Replicate or Duplicate	Depth of Sample from surface	Distance from river right bank	Time of Sample Collection / Measurements Taken		DO/Temp Meter Serial # <u>0250594</u>	pH Meter Serial # (acceptance range of slope is 92- 100%)	Specific Conductance Meter Serial # (acceptance range of 200 standard is 180- 200 uS/cm)
			Military Time Hours:Min	Field Measurem ent Taken			
Calibration					Sample Site Elevation <u>500 ft</u> %Calibration Value <u>98 %</u>		
<b>SAMPLE (bucket)</b>	ft <u>30</u>		Bucket Sample Taken	Temperature (degrees C) <u>23.3</u>	Dissolved Oxygen post-sample storage chamber (+/- 5 %sat) <u>6.90 mg/L</u>	SLP	pH
I (6" from surface)	0.5 ft				98 %sat		
I (25% from surface)	ft				101 %sat		
I (mid/ 50% depth)	ft						
I (1 ft from bottom)	ft						
Calibration							
<b>REPLICATE</b>							
Calibration							
<b>DUPLICATE</b>							

Other Comments / Observations High turbidity; 4 mg/L turbidity?  
 Weather: % Cloud Cover: 0-33%, 34-66%, 67-100% (choose one range) Clear  
 Water Color (clear, straw, tea-colored, etc): Clear  
 Substrate Type (sandy, cobbles, muck, etc): GRAVEL, SAND, SILT  
 Odor: NONE

Vegetated Channel: 0-33%, 34-67%, 67-100% Shaded (choose one range) 34-66 %  
 NOTE: \* Most field measurements are taken by bucket from a bridge, by extension pole from shore or by wading in-stream, and are representative of the top 1 foot of the water column. At impoundments, in addition to the regular bucket sample taken from the top 6" of the water column, DO and Temp readings are taken instream (using the meter) at 4 depths in the water column: top 6 inches, at 25% depth from surface, at mid-depth and ~ 1 foot from the bottom.

16d. Ash

DEPTH = 63 FT

08-28-02

WIDTH ~ 60.0 FT

CALIBRATE TO 98% ✓

DIST. FROM RIVER RIGHT 50.0 FT

DEPTH (ft)	TIME	TEMP (°C)	DO %	DO mg/l
0.5	13:20	20.9	50	7.1
<del>1.50</del> 1.25	13:22	20.5	76	6.8
3.0	13:24	20.2	74	6.7
5.0	13:26	20.1	72	6.5

POST.

112

HIGH CLOUDS

ROOTED VEG - 0-33%

WATER CLOUD COVER

34-66%

FLOATING VEG - 0-33%

WATER COLOR

CLEAR (U.S. FOWLING)

PERIPHYTON - 0-33%

SUBSTRATE : CLAY, SILT, SAND

CANOPY COVER - 0-33%

ODOR: NONE

- PATTY BLUEGILL, LMBASS PRESENT

20d. Ash

08-28-02

14:02 (BUCKET)

DEPTH ~ 2.0'

WIDTH ~ 70.0'

CALIBRATE TO 98% ✓

DIST FROM RIVER RIGHT ~ 50.0'

TIME	TEMP °C	DO (%)	DO (mg/l)	POST %
14:06	21.4	99.1 91.4	91.0 8.1	104

ROOTED VEG - 33-66%

HIGH CLOUDS  
CLOUD COVER - 0-33%

FLOATING VEG - 0-33%

WATER COLOR - CLEAR

PERIPHYTON - 33-100

SUBSTRATE - GRAVEL, SAND, COBBLE

CANOPY - 33-66%

ODOR - NONE

NONGAME FISH PRESENT



ZI-Ash

08-28-02

14:20 bucket  
sam

DEPTH ~ 2.0'

WIDTH ~ 60.0 ft

CALIBRATE TO 98%

DIST FROM RIVER RIGHT ~ 30.0'

<u>TIME</u>	<u>TEMP (C)</u>	<u>DO (%)</u>	<u>DO (mg/l)</u>
14:26	23.3	81	6.90

POST

101

HIGH CLOUDS

ROOTED VEG - 0-33%

CLOUD COVER - 0-33%

FLOATING VEG - 0-33%

WATER COLOR - CLEAR

PERIPHYTON - 0-33%

SUBSTRATE - GRAVEL, SAND, SILT

CANOPY - 34-66%

OTHER - NONE

NONGAME FISH PRESENT: LM BASS?

## 2002 TMDL Flow by Velocity Meter Field Worksheet

Revision Number: 1  
 Effective Date: June 25, 2002

Project: TMDL  
 Waterbody Name: Ashtabula R.  
 Station ID: 17-Ash  
 Station Description: On the back this worksheet, give a description and draw a site sketch.  
 By (Staff Names): DW, KE  
 Meter Serial #: \_\_\_\_\_  
 Total River Width (ft-in): \_\_\_\_\_

Date: 8/28  
 Time begin (Military): 1535  
 Time end (Military): \_\_\_\_\_

Distance Readings		Depth (ft)	Velocity (V) Readings (ft/sec)			Comments
Tape (ft)	Bank (ft)		FOR DEPTHS ≤ 2 FT	FOR DEPTHS > 2 FT		
			V @ 60% depth from surface	V @ 20% depth from surface	V @ 80% depth from surface	
2.0	2	0	>>>>>>>>	>>>>>>>>	>>>>>>>>	
2.8		0.20	0.00			
<del>3.6</del>		0.67	>>>>>>>>	>>>>>>>>	>>>>>>>>	
<del>4.4</del>		0.90	0.01			
<del>5.2</del>		1.03	>>>>>>>>	>>>>>>>>	>>>>>>>>	
<del>6.0</del>		1.10	0.09			
6.8		1.14	>>>>>>>>	>>>>>>>>	>>>>>>>>	
7.6		1.23	0.11			
8.4		1.31	>>>>>>>>	>>>>>>>>	>>>>>>>>	
9.2		1.40	0.09			
10.0		1.48	>>>>>>>>	>>>>>>>>	>>>>>>>>	
10.8		1.55	0.06			
11.6		1.61	>>>>>>>>	>>>>>>>>	>>>>>>>>	
12.4		1.67	0.06			
13.2		1.76	>>>>>>>>	>>>>>>>>	>>>>>>>>	
14.0		1.79	0.06			
14.8		1.81	>>>>>>>>	>>>>>>>>	>>>>>>>>	
15.6		1.82	0.05			
16.4		1.84	>>>>>>>>	>>>>>>>>	>>>>>>>>	
17.2		1.81	0.03			
18.0		1.81	>>>>>>>>	>>>>>>>>	>>>>>>>>	

16.4		1.83	>>>>>>>>	>>>>>>>>	>>>>>>>>	Run 1 duplicate reading for each set of 10 readings (duplicate the last set of readings recorded on this page)
17.2		1.82	0.03			
18.0		1.83	>>>>>>>>	>>>>>>>>	>>>>>>>>	

## 2002 TMDL Flow by Velocity Meter Field Worksheet

Revision Number: 1  
 Effective Date: June 25, 2002

Project: TMDL  
 Waterbody Name: Ashuelot R  
 Station ID: 17-Ash  
 Station Description: On the bank this worksheet, give a description and draw a site sketch.  
 By (Staff Names): DN, KF  
 Meter Serial #: \_\_\_\_\_  
 Total River Width (ft-in): \_\_\_\_\_

Date: 8/28  
 Time begin (Military): 1525  
 Time end (Military): \_\_\_\_\_

Distance Readings		Depth (ft)	Velocity (V) Readings (ft/sec)			Comments
Tape (ft)	Bank (ft)		FOR DEPTHS ≤ 2 FT	FOR DEPTHS > 2 FT		
			V @ 60% depth from surface	V @ 20% depth from surface	V @ 80% depth from surface	
			>>>>>>>>	>>>>>>>>	>>>>>>>>	
18.8		1.84	0.09			
19.6		1.85	>>>>>>>>	>>>>>>>>	>>>>>>>>	
20.4		1.75	0.05			
21.2		1.61	>>>>>>>>	>>>>>>>>	>>>>>>>>	
22.0		1.53	0.06			
22.8		1.42	>>>>>>>>	>>>>>>>>	>>>>>>>>	
23.6		1.39	0.08			
24.4		1.35	>>>>>>>>	>>>>>>>>	>>>>>>>>	
25.2		1.31	0.06			
26.0		1.31	>>>>>>>>	>>>>>>>>	>>>>>>>>	
26.8		1.29	0.05			
27.6		1.27	>>>>>>>>	>>>>>>>>	>>>>>>>>	
28.4		1.20	0.04			
29.2		1.19	>>>>>>>>	>>>>>>>>	>>>>>>>>	
30.0		1.07	0.02			
30.8		1.03	>>>>>>>>	>>>>>>>>	>>>>>>>>	
31.6		.97	0.02			
32.4		.91	>>>>>>>>	>>>>>>>>	>>>>>>>>	
33.2		.96	0.01			
34.0		.97	>>>>>>>>	>>>>>>>>	>>>>>>>>	

32.4		.94	>>>>>>>>	>>>>>>>>	>>>>>>>>	Run 1 duplicate reading for each set of 10 readings (duplicate the last set of readings recorded on this page)
33.2		.96	0.01			
34.0		.98	>>>>>>>>	>>>>>>>>	>>>>>>>>	

2002 TMDL Flow by Velocity Meter Field Worksheet

Revision Number: 1  
 Effective Date: June 25, 2002

Project: TMDL  
 Waterbody Name: Ashuelot R  
 Station ID: 17. Ash  
 Station Description: On the back this worksheet, give a description and draw a site sketch.  
 By (Staff Names): DJ, KE  
 Meter Serial #: \_\_\_\_\_  
 Total River Width (ft-in): \_\_\_\_\_

Date: 8/28  
 Time begin (Military): 1525  
 Time end (Military): \_\_\_\_\_

Distance Readings		Depth (ft)	Velocity (V) Readings (ft/sec)			Comments
Tape (ft)	Bank (ft)		FOR DEPTHS ≤ 2 FT	FOR DEPTHS > 2 FT		
			V @ 60% depth from surface	V @ 20% depth from surface	V @ 80% depth from surface	
			>>>>>>>>	>>>>>>>>	>>>>>>>>	
34.8		.92	0.00			
35.6		.85	>>>>>>>>	>>>>>>>>	>>>>>>>>	
36.4		.67	0.00			
37.2		.50	>>>>>>>>	>>>>>>>>	>>>>>>>>	
38.0		.30	0.00			
38.8		.15	>>>>>>>>	>>>>>>>>	>>>>>>>>	
39.2		0 - End	>>>>>>>>	>>>>>>>>	>>>>>>>>	
			>>>>>>>>	>>>>>>>>	>>>>>>>>	
			>>>>>>>>	>>>>>>>>	>>>>>>>>	
			>>>>>>>>	>>>>>>>>	>>>>>>>>	
			>>>>>>>>	>>>>>>>>	>>>>>>>>	
			>>>>>>>>	>>>>>>>>	>>>>>>>>	
			>>>>>>>>	>>>>>>>>	>>>>>>>>	
			>>>>>>>>	>>>>>>>>	>>>>>>>>	
			>>>>>>>>	>>>>>>>>	>>>>>>>>	

			>>>>>>>>	>>>>>>>>	>>>>>>>>	Run 1 duplicate reading for each set of 10 readings (duplicate the last set of readings recorded on this page)
			>>>>>>>>	>>>>>>>>	>>>>>>>>	
			>>>>>>>>	>>>>>>>>	>>>>>>>>	

2002 TMDL Flow by Velocity Meter Field Worksheet

Revision Number: 1  
 Effective Date: June 25, 2002

Project: Amur River TMDL  
 Waterbody Name: Amur River  
 Station ID: 21-454  
 Station Description: On the back this worksheet, give a description and draw a site sketch.  
 By (Staff Names): Dan Neils (meter) Ken Edwards (Recorder)  
 Meter Serial #: \_\_\_\_\_  
 Total River Width (ft-in): \_\_\_\_\_

Date: 8/28/02  
 Time begin (Military): 9:35A  
 Time end (Military): 10:17

Distance Readings		Depth (ft)	Velocity (V) Readings (ft/sec)			Comments
Tape (ft)	Bank (ft)		FOR DEPTHS ≤ 2 FT	FOR DEPTHS > 2 FT		
			V @ 60% depth from surface	V @ 20% depth from surface	V @ 80% depth from surface	
2			>>>>>>>>	>>>>>>>>	>>>>>>>>	
2.75		0.05	0			
3.5		.15	>>>>>>>>	>>>>>>>>	>>>>>>>>	
4.25		.2	0.01			
5.00		.25	>>>>>>>>	>>>>>>>>	>>>>>>>>	
5.75		.30	0.01			
6.50		.42	>>>>>>>>	>>>>>>>>	>>>>>>>>	
7.25		.51	0.00			
8.00		.60	>>>>>>>>	>>>>>>>>	>>>>>>>>	
8.75		.7	0.01			
9.50		.78	>>>>>>>>	>>>>>>>>	>>>>>>>>	
10.25		.90	0.02			
11.00		.91	>>>>>>>>	>>>>>>>>	>>>>>>>>	
11.75		.99	.03			
12.50		1.02	>>>>>>>>	>>>>>>>>	>>>>>>>>	
13.25		1.08	0.03			
14.00		1.02	>>>>>>>>	>>>>>>>>	>>>>>>>>	
14.75		1.20	0.04			
15.50		1.25	>>>>>>>>	>>>>>>>>	>>>>>>>>	
16.25		1.32	0.03			Greater depth = 1 FT in 2002
17.00		1.40	>>>>>>>>	>>>>>>>>	>>>>>>>>	

15.50		1.25	>>>>>>>>	>>>>>>>>	>>>>>>>>	Run 1 duplicate reading for each set of 10 readings (duplicate the last set of readings recorded on this page)
16.25		1.33	.02			
17.00		1.4	>>>>>>>>	>>>>>>>>	>>>>>>>>	

The "0.0" since each reading is 5 ft  
 204-004  
 Page 1 of 3 THIS SET IS FOR  
 Summary & Detail Tables (use 1/400)

2002 TMDL Flow by Velocity Meter Field Worksheet

Revision Number: 1  
 Effective Date: June 25, 2002

Project: Aspinwall  
 Waterbody Name: \_\_\_\_\_  
 Station ID: 21-154  
 Station Description: On the back this worksheet, give a description and draw a site sketch.  
 By (Staff Names): \_\_\_\_\_  
 Meter Serial #: \_\_\_\_\_  
 Total River Width (ft-in): \_\_\_\_\_

Date: 8/28/02  
 Time begin (Military): \_\_\_\_\_  
 Time end (Military): \_\_\_\_\_

Distance Readings		Depth (ft)	Velocity (V) Readings (ft/sec)			Comments
Tape (ft)	Bank (ft)		FOR DEPTHS ≤ 2 FT	FOR DEPTHS > 2 FT		
			V @ 60% depth from surface	V @ 20% depth from surface	V @ 80% depth from surface	
<del>17.75</del>			>>>>>>>>	>>>>>>>>	>>>>>>>>	
17.75		1.45	0.02			
18.5		1.5	>>>>>>>>	>>>>>>>>	>>>>>>>>	
19.25		1.53	0.00			
20.00		1.65	>>>>>>>>	>>>>>>>>	>>>>>>>>	
20.75		1.72	0.00			
21.5		1.77	>>>>>>>>	>>>>>>>>	>>>>>>>>	
22.25		1.85	0.00			
23		1.79	>>>>>>>>	>>>>>>>>	>>>>>>>>	
23.75		1.75	0.01			
24.5		1.66	>>>>>>>>	>>>>>>>>	>>>>>>>>	
25.25		1.64	0.01			
26.0		1.53	>>>>>>>>	>>>>>>>>	>>>>>>>>	
26.75		1.50	0.02			
27.5		1.24	>>>>>>>>	>>>>>>>>	>>>>>>>>	
28.25		1.42	0.03			
29.00		1.38	>>>>>>>>	>>>>>>>>	>>>>>>>>	
29.75		1.26	0.01			
30.50		1.19	>>>>>>>>	>>>>>>>>	>>>>>>>>	
31.25		1.2	0.03			
32.00		1.1	>>>>>>>>	>>>>>>>>	>>>>>>>>	

30.50		1.20	>>>>>>>>	>>>>>>>>	>>>>>>>>	Run 1 duplicate readings for each set of 10 readings (duplicate the last set of readings recorded on this page)
31.25		1.2	0.03			
32.00		1.09	>>>>>>>>	>>>>>>>>	>>>>>>>>	