New Hampshire Volunteer Lake Assessment Program

Laboratory Analysis Data Sheet and Invoice

Lake	**STOCKER POND**	**Town**	**GRANTHAM**	**Invoice #:**	
Date	**8/9/2021 11:00:00 AM**	**Volunteers**	**D. SZCZESIUL**		2021-54

Station or Depth	pH	ANC mg/L $CaCO^3$	Total Phos ug/L	Chloride mg/L	Cond. uS/cm	Ecoli cts/ 100mL	Turbidity (NTU)	Color (CPU)	Sample ID
EPILIMNION 1 M	7.12	12.4	11	44.7	208.8		0.76	70	S2021-508
HYPOLIMNION 3 M	7.17		14	41.5	213.8		1.99		S2021-509
INLET	7.14		9	41.6	210.9	0	0.8		S2021-510
OUTLET	7.1		7	40.2	214.4	4	0.85		S2021-511
PROPERTY #1						1			S2021-513
Cost/Unit:	*	$8.00	$16.00	$5.00	*	$13.00	*	*	
Lab Cost:	$0.00	$8.00	$64.00	$20.00	$0.00	$39.00	$0.00	$0.00	

Chlorophyll-a: COMP/TUBE 4 M 0.87 **mg/m ^{3}** **Secchi disk:** 2.05 **M** **Secchi disk (scope):** 2.83 **M**

* No charge for pH, Turbidity, Conductivity or Apparent Color (for epilimnion) when submitted with Total Phosphorus and Chlorophyll-a

Payment in full is due within 30 days. Please make checks payable to LSPA and mail to:
Lake Sunapee Protective Association
PO Box 683
Sunapee NH 03782
Questions? Please call the lab at 526-3486 or the office at 763-2210

Chlorophyll-a Cost:	$13.00
Data Chart Subtotal:	$131.00
Total Lab Cost Due:	**$144.00**

Sampler Comment: S2021-512-Composite of 2, 3, amd 4 m. samples. S2021-508-1 loon. Reeds growing on east shore by northern peninsula - this is new.FDSdata::cloud,hazy|temp,warm|wind,breezy|surface,ripples|level,high|rain,N|rain24,N|rain48,N|rain72,Y|amount,"Sc

Lab Comment: S2021-508-Low organic matter. S2021-509-Bottle was labeled as 3 m. depth, but 4 m. depth was recorded on the FDS. Low sediment; medium organic matter. S2021-510-Low organic matter. S2021-511-Low sediment.

VLAP SAMPLE RECEIPT CHECKLIST

(TO BE COMPLETED BY LABORATORY STAFF ONLY AND THEN TO BE FILED WITH ORIGINAL FIELD DATA SHEET)

Lake Name: Stocker Pond **Town Name:** Grantham

Date/Time Samples Collected: 8/9/21 @ 11AM

Date/Time Samples Received: 8/9/21 @ 13:30

SAMPLE ISSUE/SAMPLE REJECTION CRITERIA	YES	NO	SAMPLES ACCEPTED OR REJECTED
1. HOLDING TIME			
Were samples returned to the lab within 24 hours? ***Sample Rejection Criteria:*** *If samples were returned between 24-48 hours after collection, note in the Log-in system and notify VLAP Coordinator. If returned after 48 hours, reject samples for analysis and notify VLAP Coordinator. If E. coli samples – reject after 24 hours.*	✓		***If "No"*** *then indicate how many hours since samples were taken: _____* ***Were samples rejected?*** *Yes ___ No ___*
Were samples "cooled" after collection? ***Sample Rejection Criteria:*** *If no attempt was made to "cool" samples for the period after collection and until brought into lab, note in Log-in system. If returned after 24 hours and not cooled the samples should be rejected for analysis.*	✓		***Temperature:*** ***Cooling Method:*** *ice___ cold pack___ refrigerated cooler___* *nothing___ other (specify):_____* ***Samples Rejected?*** *Yes ___ No __*
2. FIELD DATA SHEET			
Was the data sheet adequately & completely filled out?	✓		***Specify problems:***
Were at least two Secchi Disk readings taken via both methods?	✓		
Did monitors complete the Sampling Procedures Checklist?	✓		
3. COMPLETENESS OF SAMPLE SETS			
How many samples were collected? # large white bottles: 4 # TP bottles: 4 # plankton bottles:_____ # Chlorophyll bottles: 1 # E. coli bottles: 3 # Chloride bottles:_____			
Were complete sets of samples collected? *(1 TP sample for every big white bottle and 1 chlorophyll sample per deep station?)*	✓		***Specify problems:***
4. CONDITION OF SAMPLES			
Were the correct bottles used for sample collection? ***Sample Rejection Criteria:*** *Samples that were not collected in the proper bottles should be rejected for analysis.*	✓		***Were samples rejected?*** *Yes ___ No ___* ***Specify Samples rejected:***
large white bottle = pH, ANC, conductivity, turbidity, chloride	✓		
small brown bottle = TP	✓		
big brown bottle = chlorophyll-a	✓		
sterile small white bottle = E. coli	✓		
small white bottle = chloride			
Were bottles adequately & completely labeled? *(lake name, station, depth)*	✓		***Specify problems:***
Was the condition of samples acceptable? *(leakage?)*	✓		***Specify problems:***
5. SAMPLE VOLUME			
Do the bottles contain the appropriate volume of sample?	✓		
Big white bottles: up to the neck of the bottle?	✓		
TP bottles: up to the shoulder of the bottle?	✓		
6. SAMPLE CLARITY (Please complete back page of this form)			
7. SAMPLE PRESERVATION			
Is the pH of each TP sample 2 or less?	✓		***If "No", preserve samples immediately.***
8. CORRECTIVE ACTIONS			
Did monitors follow all proper sampling procedures?	✓		
If "no", were the monitors contacted about problems?			
Specify who and when contact was conducted:			
Specify how contact was conducted *(in-person, phone, email, mail):*			
Indicate monitor's response: will re-sample___ will improve future performance___ other *(specify):* _____			

Sample Contamination Log

Circle the appropriate letter:
L = Light M = Moderate H = High

Station Name	Color	Sediment	Organic Matter
Stocker Rd. epi. 1m.	L M H	L M H	(L) M H
Sample Comments:			
3m.	L M H	(L) M H	L (M) H
Sample Comments:			
Inlet	L M H	L M H	(L) M H
Sample Comments:			
Outlet	L M H	(L) M H	L M H
Sample Comments:			
	L M H	L M H	L M H
Sample Comments:			
	L M H	L M H	L M H
Sample Comments:			
	L M H	L M H	L M H
Sample Comments:			
	L M H	L M H	L M H
Sample Comments:			
	L M H	L M H	L M H
Sample Comments:			
	L M H	L M H	L M H
Sample Comments:			

NHDES-W-07-060

Volunteer Monitor Field Sampling Procedures Checklist
New Hampshire Volunteer Lake Assessment Program

RSA 487:31

(Form is to be Completed by the Volunteer and Filed with Original Field Data Sheet)

Lake Name: Stocker **Town:** Grantham

Date: 8/9/2021 **Time:** 1100

Volunteer Monitors: David Szczesiul, Tanny Gurin

SAMPLING TASK	DONE	COMMENTS
I. PREPARATION FOR SAMPLING		
1. Anchor with enough line to anchor at deep spot.	✓	
2. Life vests for everyone on the boat.	✓	
II. DEEP SPOT SAMPLING		
Locating the Deep Spot(s):		
1. Indicate method used to locate deep spot: *circle: triangulation, GPS, depth finder, depth measurement with Kemmerer bottle, other (specify):* _____	✓	Triangulation
2. Depth of deep spot recorded on data sheet.	✓	
Sample Collection:		
Deep spot samples (in general):		
1. White bottle rinsed with sample before filling.	✓	
2. White bottle filled to the neck .	✓	
3. Total phosphorus bottle was ***not rinsed.***	✓	
4. Total phosphorus bottle was filled to ***shoulder*** from white bottle.	✓	
5. White bottle was refilled or topped-off to the bottle's neck.	✓	
6. Samples collected at the appropriate depths: *Depths pre-determined by the DES biologist and recorded on data sheet* **OR** *Depths determined based upon temperature profile and thermal layering.*		
Bottom (Hypolimnion) samples:		
1. After anchoring, bottom sediments allowed to settle out before collecting deepest sample.	✓	
2. Hypolimnion) sample checked for sediment before filling bottles.		
Chlorophyll-a sample:		
1. Indicate method used to collect sample (*composite or integrated sampler*):		
2. Bucket rinsed with lake water and discarded.	✓	
Composite method:		
1. Kemmerer bottle lowered to appropriate depth.	✓	
2. Water collected at each meter from surface to appropriate depth and composited in a bucket. Ex.: 1, 2, 3, and 4 m samples for a 4 m composite.	✓	
3. Brown bottle rinsed with sample before filling.	✓	
4. Brown bottle filled to the neck with sample.	✓	
Integrated sampler method:		
1. Weighted end of tube & chain lowered to appropriate depth (depth markers on the water's surface with no slack in tube or chain).	✓	
2. End of tube crimped or closed tightly.	✓	
3. Weighted end hauled **up by chain only** (not tube).		

SAMPLING TASK	DONE	COMMENTS
4. Weighted end placed in bucket. Crimped end lifted above head and un-crimped *(open end of tube should always be higher than water level in tube).*		
5. Brown bottle rinsed with sample before filled.		
6. Brown bottle filled to the neck with sample.		
Transparency		
1. Non-viewscope readings taken on the **shady** side of boat.	✓	
2. Viewscope readings taken on the **sunny** side of the boat.	✓	
3. Disk lowered until it just disappears.	✓	
4. Disk pulled up until white portion just appears.	✓	
5. Chain marked at water level and depth recorded to tenth of meter.	✓	
6. One reading taken by at least two monitors.	✓	
III. TRIBUTARY SAMPLING		
1. Sample not collected if tributary is not flowing or is too shallow to avoid bottom disturbance and noted on data sheet.		
2. Sample collected slightly upstream if sediment disturbed.		
3. Tributary flow noted and recorded on field data sheet.		
3. White bottle was rinsed with sample by scooping into stream flow, discarded downstream, and then bottle refilled.		
4. Total phosphorus bottle was ***not rinsed*** with sample.		
5. Total phosphorus bottle was filled to ***shoulder*** from white bottle.		
6. White bottle was refilled and topped-off to the bottle's neck.		
IV. BACTERIA SAMPLING		
1. Sterile bottle used for collection.	✓	
2. Cap was removed just prior to sample collection.	✓	
3. Care was taken to avoid touching the neck, inside the bottle, or cap.	✓	
4. Lake water: sample taken at approx. knee depth.		
5. Flowing stream: sample taken midway b/w top & bottom of water, in upstream direction.		
6. Mouth of bottle pointed towards water surface, submerged completely, and then used to scoop water in an upward "U-shaped" motion away from the person taking the sample.	✓	
7. Bottle was ***not rinsed*** with sample to avoid contamination.	✓	
8. Bottle was filled completely allowing some air space at top of bottle.	✓	
9. Efforts made to avoid getting sediment and debris in sample.	✓	
V. SAMPLE LABELING		
1. Bottles properly labeled with waterproof pen: *lake name, station, date, time, depth (for deep spot).*	✓	
VI. FIELD DATA SHEET		
All sections of the data sheet were properly filled out.	✓	
One field data sheet per deep spot submitted.	✓	

Signature (monitors): [signature]

NHDES-W-07-022

2021 Lake Sampling Field Data Sheet
New Hampshire Volunteer Lake Assessment Program

RSA 487:31

Lake Name: Stocker **Town:** Grantham

Field Monitors: David Szczesiul, Tanny Gurin **Date Sampled:** 8/9/2021

Time Sampled: 1100°

Bottom Depth at Deep Spot: 5.0 m

WEATHER CONDITIONS *(Circle one for each):*

Cloud Cover	Air Temperature	Wind Conditions	Water Surface	Lake Level
Clear	<40° cold	Calm	Calm	(High)
(Hazy)	41°-60° cool	(Breezy)	(Ripples)	Normal
Partly cloudy	(61°-80° warm)	Strong	Small waves	Low
Overcast	>80° hot	Gusty	Moderate waves	
			White Caps	

PRECIPITATION CONDITIONS *(Check off all that apply):*

Rain while sampling: ____ Rain previous 24 hrs.:____ Rain previous 48 hrs.:____ Rain previous 72 hrs.:✓

Indicate how much rain: scant **OR** No rain for past _____ days

SAMPLING REMINDERS

1. Bring your VLAP Field Manual for reference, and a clipboard to secure field data sheets.
2. Complete the Field Sampling Procedures Checklist.
3. Notify the lab when you plan to return samples. (VLAP: 271-2658, sara.steiner@des.nh.gov; or DES JCLC des-jclc@des.nh.gov; or CSC Lab: 526-3486, teriko.macconnell@colby-sawyer.edu)

VOLUNTEER TRAINING QUALIFICATIONS:

Did one monitor who sampled today attend the VLAP Refresher Workshop this spring? YES (NO)

If "NO": Did at least one monitor who sampled today already sample with the DES Biologist during the annual visit? (YES) NO

If "NO": Were you trained by another experienced volunteer this season? YES (NO)

If "YES", please list name of volunteer who trained you: Woolson

If you answered "NO" to the above three questions, please briefly describe your training:

DEEP SPOT SAMPLES *(One Large White and One Small Brown Bottle (with acid) at each depth, collected with Kemmerer bottle):*

2021 Sample Depths (meters): 4m, ~~3m~~, ~~2m~~ 1m. chl-a at 3m in 2020

For reference **2020** Sample Depths (meters): 1, 4, _____

CHLOROPHYLL-A SAMPLE *(One Large Brown Bottle, does not contain acid): Check the method used and record sample depths*

☑ **COMPOSITE** Sample Depths: 4m, 3m, 2m, _____, _____, _____ meters (record sample depths)

(Start at mid-point of the middle layer (stratified lakes w/ 3 layers) or 2/3 total depth (un-stratified lakes or lakes with two layers) and collect a sample at each meter up to 1 meter and composite in bucket.) VLAP indicates your sample depths at:

☐ **INTEGRATED TUBE** Sample Depth: surface to _____ meters VLAP indicates your sample depth at:

(Start at water's surface and lower tube to the mid-point of the middle layer or 2/3 total depth and collect a column of water to deposit in bucket.)

SECCHI DISK TRANSPARENCY *(conduct at least two readings and take the average)*

Without Viewscope (required)

*Please take reading on **SHADY** side of boat.*

2 m	_____ m	Disk visible on bottom?
2.1 m	_____ m	____yes ✓ no
_____ m	_____ m	

Average: 3.05 m

With Viewscope (required)

*Please take reading on **SUNNY** side of boat.*

~~2~~ 3 m	_____ m	Disk visible on bottom?
2.95 m	_____ m	____yes ____no
2.7 m	_____ m	

Average: 2.83 m

TRIBUTARY SAMPLES COLLECTED *One large white **and** one small brown (contains acid) at each station. **Optional:** one small white (E. coli). List the station name, stream flow and conditions at time of sampling. Check off appropriate column for samples collected.*

Station Name	Stream Flow Conditions and Observations (Dry, Stagnant, Low, Moderate, High)	Large White Bottle (pH, turb., cond., chloride)	Sm. Brown Bottle (phosphorus)	Sm. White Bottle (*E. coli*)

NEW SAMPLING LOCATION:

Did you sample at a new location this sampling event? (Circle one) **YES** **(NO)**

If "Yes", provide a map with the station location accurately marked and complete a station identification form for each new sampling station and submit with samples.

Print or submit a Station Identification Form from the NH On-line Forms System at https://onlineforms.nh.gov/app/#/formversion/c5a185dc-99f9-4d66-98e9-1a6229a52341

If you do not have a station identification form, please provide the following information:

Station Name: _____

Type of Station *(specify in-lake, culvert, tributary)*: _____

Station Location: *(Please provide one of the following):*

1. **Latitude/Longitude Coordinates:** GPS coordinates: _____ °N Lat _____ °W Long

   Specify make and model of GPS: _____

2. **Include a map indicating the approximate location of station and station name.**

FIELD OBSERVATIONS *(Please note any watershed observations, areas of erosion and sedimentation, recent storms/droughts, algal blooms, suspicious looking plants, wildlife observed, sampling problems, equipment problems, and areas of concern):*

1 loon

reeds growing on east shore by northern peninsula - this is new

☐ Please check and leave phone # if VLAP Coordinator should note immediately.

NHDES-W-07-015

Dissolved Oxygen & Temperature Profile
Field Data Sheet
New Hampshire Volunteer Lake Assessment Program

RSA 487:31

Lake Name: Stocker Town: Grantham

Date: 8/9/21 Biologist/Volunteer Monitors: DSzczesiul, T Gur

Meter Number: Meter Calibration Time: Meter Calibration Value:

Bottom Depth (m): 5 m. DO Profile Start Depth (1/2 meter off bottom):

Depth (m)	Temperature (°C)	Dissolved Oxygen (mg/l)	% Saturation
5	17.1 C		
4	18.6 C		
3	20. C		
2	21.4 C		
1	24.2 C		
surface	25.4 C		

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