**Disclaimer:** Individuals and/or companies listed below were initially developed in collaboration with the New England Interstate Water Pollution Control Commission (NEIWPCC) HAB Workgroup in 2016. In anticipation of cyanotoxin analyses required under the fourth Unregulated Contaminant Monitoring Rule (UCMR4), the listing was updated by MassDEP in 2018. Companies on this list have been identified as performing services related to cyanobacteria and cyanotoxin analysis, but should not be considered an endorsement by MassDEP or any state agency of their qualifications. Public Water Systems considering contracting with any individual or company should verify that they have the adequate training and are competent to perform the work for which they are being considered. Prices should be viewed as guidelines of what to expect for each lab, rather than final quotes. To request revisions or additions to this list, please email Kristin.Divris@state.ma.us Subject: CyanoServices Request

**Cyanobacteria and/or Cyanotoxins Contract Services List**
*(Alphabetical by organization)*

For a complete list of laboratories approved by the United State Environmental Protection Agency (US EPA) for UCMR4, please go to: [https://www.epa.gov/dwucmr/list-laboratories-approved-epa-fourth-unregulated-contaminant-monitoring-rule-ucmr-4](https://www.epa.gov/dwucmr/list-laboratories-approved-epa-fourth-unregulated-contaminant-monitoring-rule-ucmr-4)

**Academy of Natural Sciences – Phycology Section**
Patrick Center for Environmental Research
1900 Benjamin Franklin Parkway
Philadelphia, PA 19103
Tel: (215) 299-1080
Fax: (215) 299-1079
Email General: patrickcenter@ansp.org
Email Don Charles: dfc63@drexel.edu
Email Frank Acker (primary soft-algae taxonomist): fwa23@drexel.edu

**Services:** Identification of algae and algal measurements/biovolume, cell counts, chlorophyll

**Pricing:** (Can give estimate based on sample, and separate the phytoplankton and periphyton in terms of how they are processed)
- Semiquantitative count (relative abundance, five-point scale, rare to abundant) – $150-200
- Algal identification (cell count, biovolume) – $440-550
- Chlorophyll (fluorometer) – Call for cost
- Diatom count – $300

**Analytical Services, Inc.,** ([www.analyticalservices.com](http://www.analyticalservices.com))
130 Allen Brook Lane
Williston, VT 05495
Tel: 800-723-4432
Primary Contact: Paul Warden
Primary Email: pwarden@analyticalservices.com
Additional Contact: Megan Kane
Additional Email: mkane@analyticalservices.com

**Services**: Algae Enumeration & Identification (SM 10200, to group / genus only, w/o biovolumes). Pathogen and Indicator species monitoring, including Cryptosporidium/Giardia (EPA 1623.1), Enteric Viruses (EPA 1615), Clostridium perfringens, Campylobacter, Legionella, male-specific and somatic coliphage, Enterococci, Total Coliform and E. coli, etc. Microscopic Particulate Analysis (MPA) for Filter Plant Optimization (EPA 910-R-96-001).

**Pricing**: For pricing, please contact Paul Warden at 800.723.4432 x15 or pwarden@analyticalservices.com

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**Aquatic Analysts, (www.AAalgae.com)**
43 Telegraph Ln
Friday Harbor, WA 98250
Tel: (503) 869-5032
Primary Contact: Jim Sweet
Primary Email: jwsweet@aol.com

**Services**: Provide identification and enumeration of freshwater algae; biovolumes are included. Aquatic Analysts offer full counts of all algae species, and also counts of Toxic Algae only. Aquatic Analysts also provides a “Rush service” with results available in 24-48 hours, and a “Fast service” with a 2 week turnaround time.

**Pricing**:
- Standard fee is $150/sample (full counts, 1-4 month turnaround time)
  - Rush (24-48 hr TAT) fee is an additional $80/sample
  - Fast (2 week TAT) fee is an additional $45/sample
- Toxic Algae **only** fee is $80/sample
- Periphyton samples are $190/sample

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**Aquatic Services, Wayne Carmichael, Ph.D.**
42184 Tweedle Lane
Seaside, Oregon 97138
Tel: (503) 755-0711
Email: wayne.carmichael@wright.edu

**Services**: Retired, limits active lab work to Algal Identification/Enumeration.

**Pricing**:
- Algal Identification (genus/species when possible) – $100
- Enumeration/biovolume – $150

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**Beagle Bioproducts, Inc., (http://beaglebioproducts.com/)**
959 Schrock Rd
Columbus, OH 43229
Tel: 614-519-0154
Email Stephanie: stephanie.smith@beaglebioproducts.com

**Services**: Toxin testing (ELISA for service- based testing, can also do LC/MS for contracts), algal ID (generally not enumeration, but can do that for contracts).

**Pricing**: 

• Microcystin, cylindrospermopsin, anatoxin, or saxitoxin ELISA – $125
• Algae identification (non-quantitative scan for presence/absence) – $75

Note: may also offer a heavily discounted regular testing program for drinking water facilities in 2016.

CyanoPros, (www.cyanopros.com)
Alan Wilson - Assistant Professor
Auburn University - Fisheries and Allied Aquacultures
203 Swingle Hall
Auburn, Alabama 36849
Tel: 703-292-5190
Email General: cyanopros@auburn.edu, alan.e.wilson@gmail.com

Services: Phytoplankton enumeration (abundance or biovolume), identifications, toxin testing (ELISA only, for microcystin, cylindrospermopsin, saxitoxin), and other water quality analyses.

Pricing:
• Microcystin ELISA in algae – $50
• Microcystin ELISA in water – $50
• Microcystin ELISA in fish – $125
• Cylindrospermopsin ELISA – $100
• Saxitoxin ELISA – $50
• Phytoplankton identification – $50
• Phytoplankton culturing – $100
• Phytoplankton enumeration – contact them
• Chlorophyll a – $25

EcoAnalysts, Inc., (www.ecoanalysts.com)
Main Office
1420 South Blaine St., Suite 14, Moscow, ID 83843
Tel: (208) 882-2588
Fax: (208) 883-4288
Email General: eco@ecoanalysts.com
Email Gary: glester@ecoanalysts.com

Services: phytoplankton counts, biovolume, and identification (including cyanobacteria), toxin analysis

Pricing:
• ELISA (Microcystin, Saxitoxin, Anatoxin A, Cylindrospermopsin) – $115-200, per analysis, depending on the number of samples in the batch
• Taxonomic analysis of cyanobacteria (taxa present, cell counts, cell densities, but no photographs or measurements/biovolume) – $90 per sample
• Taxonomic analysis of cyanobacteria (taxa present, cell counts, cell densities, and also biovolume measurements) – $135 per sample
  o Digital Images: $25 per taxon
• Full community taxonomic analysis (no biovolume) – $165-195
• Full community taxonomic analysis (with biovolume) – $250-290
Note: Three full-time algae taxonomists on staff can turn samples fairly quickly depending on the number received per batch.

EnviroScience Inc. ([www.enviroscienceinc.com](http://www.enviroscienceinc.com))
5070 Stow Rd.
Stow, OH 44224
Tel: (800) 940-4025 or (330) 688-0111
Fax: (330) 388-3858
Primary Contact: Jennifer Vydra
Primary Contact Email: [JVydra@enviroscienceinc.com](mailto:JVydra@enviroscienceinc.com)

Services:
- Potentially Toxic Cyanobacteria Screening
- Taxonomic Algal Identification
- Algal Enumeration with or without Biovolume
- Diatom count
- Chlorophyll-a
- ELISA testing for:
  - Microcystin
  - Cylindrospermopsin
  - Anatoxin-a
  - Saxitoxin
  - BMAA
- We also have a range of staff biologists that can consult on mitigation, restoration or management projects.

Pricing: Pricing dependent on volume and turn-around time, please call or email

Eurofins Eaton Analytical, LLC, ([www.eurofinsUS.com/Eaton](http://www.eurofinsUS.com/Eaton))
(MA Lab Certification ID# is M-IN035)
110 South Hill Street
South Bend, IN 46617
Tel: (574) 233-4777
Fax: (574) 233-8207
Primary Contact Name: Brian Remus
Primary Contact Email: [Brianremus@eurofinsUS.com](mailto:Brianremus@eurofinsUS.com)
Additional Contact: Nathan Trowbridge
Additional Contact Email: [Nathantrowbridge@eurofinsUS.com](mailto:Nathantrowbridge@eurofinsUS.com)

Services: Cyanotoxin analysis using approved EPA methods 544, 545, 546 for the following parameters:

<table>
<thead>
<tr>
<th>Parameter</th>
<th>CAS #</th>
<th>Reporting Limit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anatoxin-a</td>
<td>64285-06-9</td>
<td>0.02 µg/L</td>
</tr>
<tr>
<td>Cylindrospermopsin</td>
<td>143545-90-8</td>
<td>0.05 µg/L</td>
</tr>
<tr>
<td>Microcystin-LA</td>
<td>96180-79-9</td>
<td>0.1 µg/L</td>
</tr>
<tr>
<td>Micr. LF</td>
<td>154037-70-4</td>
<td>0.1 µg/L</td>
</tr>
<tr>
<td>--------------</td>
<td>-------------</td>
<td>----------</td>
</tr>
<tr>
<td>Micr. LR</td>
<td>101043-37-2</td>
<td>0.1 µg/L</td>
</tr>
<tr>
<td>Micr. LY</td>
<td>123304-10-9</td>
<td>0.1 µg/L</td>
</tr>
<tr>
<td>Micr. RR</td>
<td>111755-37-4</td>
<td>0.1 µg/L</td>
</tr>
<tr>
<td>Micr. YR</td>
<td>101064-48-6</td>
<td>0.1 µg/L</td>
</tr>
<tr>
<td>Nodularin</td>
<td>118399-22-7</td>
<td>0.1 µg/L</td>
</tr>
</tbody>
</table>

**Pricing:** $550 per sample. Price can be adjusted for larger consolidated collection events.

**GreenWater Laboratories/CyanoLab, [www.greenwaterlab.com], Andrew Chapman or Mark Aubel**

205 Zeagler Drive, Suite 302
Palatka, FL 32177
Tel: (386) 328-0882 or (877) 869-2542
Fax: (386) 328-9646
Email General: info@greenwaterlab.com
Email Mark Aubel: achapman@greenwaterlab.com
Email Andrew Chapman: andrewchapman@greenwaterlab.com

**Services:** Algal Identification/Enumeration, Toxin Testing.

**Pricing:**

- **Phycological Services**
  - Potentially Toxic Cyanobacteria Screen – $75
  - Qualitative Algal Identification – $100
  - Cyanobacteria ID & Enumeration – $150
  - Total Algal ID & Enumeration – $200
  - Algal ID, Enumeration & Biovolume – $325

- **Microcystins/Nodularin:**
  - ELISA – $100-125
  - LC-MS & UV Scan – $250-275
  - LC-MS/MS Suite (12 Variants & Nodularin) – $250-275
  - LC-MS/MS MMPB (oxidation, extraction & analysis for water) – $200-250

- **Cylindrospermopsin**
  - ELISA – $125-150
  - LC-MS/MS – $150-200

- **Anatoxin-a**
  - LC-MS/MS – $200-250

- **Saxitoxins**
  - ELISA – $125-150
  - LC-MS/MS Suite (C1/C2, GTX (1,2,3,4,5), dcGTX2/3, dcSTX, NEO, STX) – $250-300

- **BMAA (includes isomers AEG & DAB)**
  - LC-MS/MS – $250-300
• 4 toxin bundle: Microcystins (ELISA), Cylindrospermopsin (LC-MS/MS), Saxitoxin (ELISA), Anatoxin-a (LC-MS/MS) – $500

**MWH Laboratories**, [http://www.mwhlabs.com](http://www.mwhlabs.com)
750 Royal Oaks Drive #100
Monrovia, CA 91016
Tel: (800) 566-LABS
Fax: (626) 386-1101
Email General: mwhlabs@mwhglobal.com
**Services**: Lab and Test Kits
**Pricing**: Unknown

**MWRA**, [www.mwra.com](http://www.mwra.com)
Five (5) MA certified laboratory locations
190 Tafts Avenue
Winthrop, MA 02152
Tel: (617) 660-7901
Fax: (617) 660-7960
Primary Contact Name: Dr. Michael F. Delaney
Primary Contact Email: Mike.Delaney@mwra.com
**Services**: MWRA does not provide lab services to private businesses or homeowners. MWRA performs chlorophyll and phycocyanin testing for its own use and contracts out other tests when needed. MWRA may consider chlorophyll and phycocyanin testing for other public water systems, but it would be handled on a case by case basis and is dependent on the project and impact to internal MWRA work.
**Pricing**: N/A

15 Research Drive
Amherst, MA 01002
Tel: (413) 256-0202
Fax: (413) 256-1092
Email General: info@neeinc.com
**Services**: Environmental site assessment, resource identification, planning, permitting, mitigation, restoration, and monitoring
**Pricing**: Unknown

**New Hampshire Department of Environmental Services Laboratory**, [www.des.nh.gov](http://www.des.nh.gov)
29 Hazen Dr.
P.O. Box 95
Concord, NH 03302
Tel: (603) 271-3445
Fax: (603) 271-2997

**Services:** Cyanobacteria identification, cell concentration

**Pricing:** Services/pricing are for New Hampshire residents only. External samples would be considered on a case by case basis.

**Northeast Laboratories, Inc.** ([www.nelabsct.com](http://www.nelabsct.com))

129 Mill Street
Berlin, CT 06037

Tel: (860) 828-9787 (Ext. 103 for Alan Johnson) or Toll free in state: (800) 826-0105 and out of state: (800) 654-1230
Fax: (860) 829-1050
Email General: [nelabsct@aol.com](mailto:nelabsct@aol.com)
Email Alan Johnson: [alan@nelabsct.com](mailto:alan@nelabsct.com)

**Services:** Algae/Cyanobacteria Cell Counts & Identification (to genus, not to species), cyanotoxins (Microcystins, Nodularin, Cylindrospermopsin – ELISA, and Abraxis screening dip sticks, potentially also looking at LC-MS for Microcystins)

**Pricing:** Depends significantly on turnaround time (if things need to be rushed).
- Cell Counts (including identification) – $45-80
- Semi-quantitative screening (Abraxis) – $50
- ELISA – $75-80
- Chlorophyll a – $60

**Phycotech, Inc.,** ([http://www.phycotech.com](http://www.phycotech.com))

620 Broad Street, Suite 100
St. Joseph, MI 49085

Tel: (269) 983-3654
Fax: (866) 728-5579/(269) 983-3653
Email General: [info@phycotech.com](mailto:info@phycotech.com)

**Services:** Phytoplankton counts (to species, Natural Units/mL and Cells/mL) including toxin and taste/odor cyanobacteria, with full archival slides if requested. Will have a fast response semi-automated solution available starting June 1, 2016.

**Pricing:**
- **Phytoplankton Analyses**
  - Species count w/ biovolume calculations – $359
  - Species count w/o biovolume calculations – $260
  - Genus count w/ biovolume calculations – $239
  - Genus count w/o biovolume calculations – $170
  - Division count – $163
  - Relative count to species – $260
  - Relative count to genus – $170
- **Phytoplankton Analysis Targeted for Algal Blooms**
  - Rapid Assay: Qualitative Species (when possible) Assay weighted for Biovolume, with 3 HPMA slides – $183
- Rapid Assay: Qualitative Species (when possible) Assay weighted for Biovolume, without HPMA slides – $122
- Toxic/Bloom Scan, One Species – $130
- Chlorophyll-A – $99

Division of State Laboratories and Medical Examiner
50 Orms Street
Providence, RI 02904
401-222-5600
Email: evan.philo@health.ri.gov, henry.leibovitz@health.ri.gov
**Services:** Algal Identification/Enumeration, toxin testing.
**Pricing:**
- Algal ID & Enumeration – $50/sample.
- Microcystin/Nodularin Screen by ELISA – $50/freshwater sample; $100/brackish water sample.
- Myrcocystins (10), Nodularin, cylindrospermopsin (1) and anatoxin (1) by LC-MS/MS – $200/sample.

**SOLitude Lake Management** ([www.solitudelakemanagment.com](http://www.solitudelakemanagment.com))
590 Lake Street
Shrewsbury, MA 01545
Tel: (508) 885-0101 or (888) 480-5253 (LAKE)
Fax: (774) 745-0277
Email: Keith Gazaille, Regional Director: KGazaille@solitudelake.com
**Services:** Herbicide treatments, mechanical harvesting, mechanical hydro-raking, bottom barrier installation, diver assisted suction harvesting (DASH), diver hand-pulling, water quality and sediment sampling, vegetation mapping, bathymetric mapping; and:
- phytoplankton ID and enumeration
- in-source nutrient inactivation (alum)
- algaecide treatments (copper sulfate, Pak 27, GreenClean, etc.)
- Sonic Solutions design and installation
**Pricing:** Contact above

**SUNY-ESF, Dr. Greg Boyer, Professor of Biochemistry**
Syracuse, NY 13210
Tel: (315) 470-6825
Email Greg Boyer: glboyer@esf.edu
**Services:** Capable of analyzing for many cyanobacteria toxins: Microcystins and nodularins -80 congeners; Paralytic shellfish toxins 56 congeners; anatoxin-a (6 congeners), anatoxin a(S) 1 variant and cylindrospermopsin (3 congeners). Can also analyze chlorophyll, phycocyanin, and can identify species/genus for samples. Results from analyses are generally available within three to four weeks by telephone or email.
**Pricing:** Rush orders (within 10 days) include a surcharge of $50-200 per sample, and advance arrangements must be made.
- Basic handling charge (includes data processing, sample filtration and preparation of extract, reports, voucher sample storage for 1 year and all labor) – $110
- Microcystin analysis by PPIA (activity based enzyme assay) – $40
- Microcystin analysis by ELISA (antibody based structure assay) – $90
- Microcystin analysis by LC-MS/MS (HPLC analysis with tandem MS detection) – $90
- Microcystin analysis by LCMS (HPLC with UV and mass selective detection) – $40
- Tissue microcysts by MMPB (Bound microcysts in tissue by oxidation Anatoxin-a by HPLC-LCMS $25 (HPLC with mass selective detection) – $call
- Anatoxin-a by HPLC-FD (James et al HPLC via fluorescence detection) – $call
- Cylindrospermopsin by HPLC-PDA-MS (HPLC assay w/ uv and MS detection) – $25
- Cylindrospermopsin by ELISA (antibody based structure assay) – $90
- Beta methyl amino alanine by LC-MS (HPLC with mass selective detection) – $50
  - Bound BMAA as above (Determination of protein bound BMAA) – $90
- Anatoxin-a(s) by ACEI (activity based enzyme inhibition assay) – $call

Note: Greg cautioned that the lab is often manpower short – just because something is on the price sheet does not mean that the lab is actively running any given assay at any given time.

UConn Center for Environmental Science and Engineering (http://www.cese.uconn.edu/analyt_serv.html)
3107 Horsebarn Hill Road; U-4210
Storrs, CT 06269
Phone: (860) 486-2668
Email: christopher.perkins@uconn.edu

Services: Toxin analysis (ELISA and UPL/MS/MS)

Pricing:
- UPLC/MS/MS for microcystins (-RR, -YR, -LR, and -LA) and anatoxin-a in water – $139 for CT state agencies and municipalities, otherwise $182
  - Analysis for these compounds in filters – $151 for CT state agencies and municipalities, otherwise $199
- Total microcystin in water – $81 for CT state agencies and municipalities, otherwise $107

Vermont Department of Health Laboratory (http://healthvermont.gov/enviro/ph_lab/PublicHealthLaboratory.aspx)
PO Box 1125
Burlington, VT 05402-1125
Phone: (800) 660-9997 or (802) 338-4724
Fax: (802) 338-4706
E-Mail: Kirk.Kimball@vermont.gov

Services: toxin analysis

Pricing: Services and pricing listed are for Vermont residents only. External samples would be considered on a case by case basis.
- Microcystin and Cylindrospermopsin by ELISA – $20.00
- Anatoxin-a by LC/MS/MS – $20.00

Water Resource Services Inc., Dr. Kenneth J. Wagner, Ph.D., CLM
144 Crane Hill Road
Wilbraham, MA 01095
Tel: (413) 219-8071
Email: kjwagner@charter.net

**Services:** Identification and count to genus level, many other lake management services.

**Pricing:** Unknown

*Note: Ken has a limit on how many clients he can serve, as this is only one of many lake management services he offers.*