



## Call for 2009 Volunteer Monitoring Laboratory Analysis Support Applications

### Background:

The Montana Department of Environmental Quality's (DEQ) Watershed Protection Section has a limited amount of funding under the federal CWA Section 319 to assist local volunteer monitoring groups with analytical laboratory services. These groups include, but are not limited to, watershed groups, 319 grantees, conservation districts, water quality districts, 501(c)(3)s, and schools.

### Objective:

DEQ support for local groups will focus on surface water sampling to monitor the effectiveness of project implementation, trend monitoring, and TMDL follow-up to refine sources and targets. Each group will have a DEQ-approved Sampling and Analysis Plan (SAP) prior to submitting samples to the contracted lab. The samples will be based on the parameters defined in the volunteer monitoring suite (attached). Funding is only available for the fixed parameters listed in the attached suite and must go through the DEQ contracted lab.

### Schedule:

Applications will be accepted all year and complete applications will be awarded on a first come-first serve basis. With approximately \$15,000 available, each group will have a maximum amount of \$2,000 for laboratory analyses for up to a one-year period. Applications will be accepted immediately, beginning on June 1, 2009 with a request of applications. Successful applicants will be immediately notified. **Funding awarded under this call must be spent before June 30, 2010.**

### Application Criteria

The project applicant can be a local watershed group, 319 grantee, conservation district, water quality district, 501(c)(3), school, county extension service, county, etc. Applicants must have a DEQ-approved SAP before submitting samples to the contract laboratory.

Applicants are required to submit water quality monitoring data to DEQ using the most current upload process. Direction concerning the upload process can be accessed at the Bureau's Data Management's web pages:

<http://www.deq.mt.gov/wqinfo/datamgmt/index.asp> or by contacting the Bureau's Data Management Section [Water Quality Metric Database Manager](#) (contact information is available at: <http://svc.mt.gov/deq/staffdir.asp#ppa>).

To be clear and concise, DEQ will consider COMPLETE applications for the following surface water quality monitoring efforts based on a first come, first funded basis for the following purposes:

- Effectiveness monitoring of project implementation
- Water quality trend monitoring
- TMDL follow-up: refine sources, targets, etc.
- Groups with a long-term monitoring strategy and commitment
- Groups with a SAP in place

Complete applications are those that meet all the criteria described in this “Call for Applications” and provide all the information called for in the attached application form.

Groups with currently approved SAPs will be considered for this funding. The DEQ encourages applicants that demonstrate a monitoring strategy and display a long-term interest in continuing and/or expanding a monitoring program in their local area.

DEQ will provide funding up to \$2,000 for lab analyses. After the \$2,000 limit is reached, the state rate will be made available for those groups that provide their own funding. Be sure to include specific parameters and costs in the budget section of the application form. \*Please refer to the monitoring suite below for a list of approved parameters and costs.

Each recipient will be required to submit a final report, which summarizes the activities and outcomes supported by the grant. The final report should include information on: the purpose of the monitoring effort; the findings of the monitoring; the number of people participating; issues/concerns from participant feedback; etc. Final reports should contain images that display volunteer participation. Successful applicants will be required to complete the project per the approved SAP and submit the final report within normal DEQ contract terms.

**For more information on the Volunteer Monitoring Lab Assistance application process, please contact:**

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**\*Volunteer Monitoring Suite**

Parameter	Preferred Method	Alternate Method	Req. Report Limit ug/L	Lab MDL Study Result (2009)	Lab Routine Reporting Limit or PQL	Reporting Approach <sup>2</sup>	Holding Time Days	Bottle	Preservative	Price
<b>Water Sample - Common Ions and Physical Parameters</b>										
Total Suspended Solids (TSS)	EPA 160.2	A2540 D	4000	1000	1000	Standard	7	1000 ml HDPE	≤6°C	10.00
Total Dissolved Solids (TDS)	EPA 160.1	A2540 C	4000	5000	10000		7			10.00
Alkalinity (Bicarb., Carb.)	EPA 310.2/A2320 B	A2320 B	1000	2500	5000		14			10.00
Sulfate	EPA 300.0	A4110 B	50	190	500		28			10.00
Chloride	EPA 300.0		50	250	500		28			10.00
Dissolved Organic Carbon (DOC)	A 5310 B	5310C		1420	2000	Standard	28	125ml Glass	Filt. 0.45 um, H <sub>2</sub> SO <sub>4</sub> , ≤6°C	55.00
Sulfide	A 4500-S2 D			16	50	Standard	7	250 ml HDPE	Zinc Acetate + NaOH to pH >9, ≤6°C	40.00
<b>Water Sample - Nutrients</b>										
Total Persulfate Nitrogen (TPN)	A 4500-N C	A4500-N B	50				30	250ml HDPE	≤6°C	TBD
Dissolved Orthophosphate as P	EPA 365.1	A4500-P F	1	0.5	1	Standard	2	125ml HDPE	Filt. 0.45 um, ≤6°C	18.00
Total Phosphorus as P	EPA 365.1	A4500-P F	5	0.5	1	Standard	28	500ml HDPE	H <sub>2</sub> SO <sub>4</sub> , ≤6°C	20.00
Nitrate-Nitrite as N	EPA 353.2	A4500-NO3 F	10	5	10	Standard				10.00
Total Ammonia as N	EPA 350.1	A4500-NH3 B,C,D,E,or G	50	8	20	Standard				15.00
<b>Water Sample - Dissolved Metals (0.45 um filtered)</b>										
Aluminum	EPA 200.7	EPA 200.8	30	2	4	Standard	180	250 ml HDPE	HNO <sub>3</sub>	8.50
Cadmium	EPA 200.8		0.08	0.04	0.08	Standard				8.50
Chromium	EPA 200.8	EPA 200.7	1	0.25	0.5	Standard				8.50
Copper	EPA 200.8	EPA 200.7	1	0.25	0.5	Standard				8.50
Iron	EPA 200.7	EPA 200.8	50	25	50	Standard				8.50
Lead	EPA 200.8		0.5	0.05	0.1	Standard				8.50
Silver	EPA 200.8	EPA 200.7	0.5	0.25	0.5	Standard				8.50
Zinc	EPA 200.7	EPA 200.8	10	2.5	5	Standard				8.50
Antimony	EPA 200.8		3	0.05	0.1	Standard				8.50
Barium	EPA 200.7	EPA 200.8	5	0.15	0.3	Standard				8.50
Beryllium	EPA 200.7	EPA 200.8	1	0.1	0.2	Standard				8.50
Boron	EPA 200.7	EPA 200.8	10	2.5	5	Standard				8.50
Manganese	EPA 200.7	EPA 200.8	5	0.25	0.5	Standard				8.50
Nickel	EPA 200.7	EPA 200.8	10	0.25	0.5	Standard				8.50
Thallium	EPA 200.8		0.2	0.02	0.5	MDL Report				8.50
Uranium, Natural	EPA 200.8		30	0.25	0.5	Standard				8.50
Chromium VI	EPA 218.6	A 3500-Cr E	10	0.5	1	Standard				28
<b>Water Sample - Total Recoverable Metals</b>										
Total Recoverable Metals Digestion	EPA 200.2		N/A				180	500 ml HDPE	HNO <sub>3</sub>	20.00
Arsenic	EPA 200.8		3	0.25	0.5	Standard				8.50
Cadmium	EPA 200.8		0.08	0.04	0.08	Standard				8.50
Calcium	EPA 200.7		1000	10	20	Standard				8.50
Chromium	EPA 200.8	EPA 200.7	1	0.25	0.5	Standard				8.50
Copper	EPA 200.8	EPA 200.7	1	0.25	0.5	Standard				8.50
Iron	EPA 200.7	EPA 200.8	50	25	50	Standard				8.50
Lead	EPA 200.8		0.5	0.05	0.1	Standard				8.50
Magnesium	EPA 200.7		1000	2.5	5	Standard				8.50
Potassium	EPA 200.7		1000	10	20	Standard				8.50
Selenium	EPA 200.8		1	0.25	0.5	Standard				8.50
Silver	EPA 200.8	EPA 200.7/200.9	0.5	0.25	0.5	Standard				8.50
Sodium	EPA 200.7		1000	25	50	Standard				8.50
Zinc	EPA 200.7	EPA 200.8	10	2.5	5	Standard				8.50
Antimony	EPA 200.8		3	0.05	0.1	Standard				8.50
Barium	EPA 200.7	EPA 200.8	5	0.15	0.3	Standard				8.50
Beryllium	EPA 200.7	EPA 200.8	1	0.1	0.2	Standard				8.50
Boron	EPA 200.7	EPA 200.8	10	2.5	5	Standard	8.50			
Manganese	EPA 200.7	EPA 200.8	5	0.25	0.5	Standard	8.50			
Nickel	EPA 200.7	EPA 200.8	10	0.25	0.5	Standard	8.50			
Thallium	EPA 200.8		0.2	0.02	0.5	MDL Report	8.50			
Uranium, Natural	EPA 200.8		30	0.25	0.5	Standard	8.50			
<b>Water Sample - Total</b>										
Mercury	EPA 245.1		0.05	0.0142	0.2	MDL Report	28	HDPE, Glass	HNO <sub>3</sub>	30.00
Mercury, Ultra low level <sup>1</sup>	EPA 245.7		0.005				28	100mL Glass	0.5 ml 12N HCl	
Mercury, Ultra low level	EPA 1631		0.005	0.00012	0.0005	Standard	90	100mL Glass	0.5 ml 12N HCl	67.50
<b>Water Sample - Organics</b>										
Total Extractable Petroleum Hydrocarbons (TEPH)	EPA 8015 m		1000	250	500	Standard	14	2 x 1L Amber	HCl, ≤6°C	60.00
Total Volatile Hydrocarbons (TVH)	EPA 8015 m		10	50	100		7	3 x 40mL VOA	HCl, ≤6°C	60.00
<b>Water Sample - Calculated Results</b>										
Total Hardness as CaCO <sub>3</sub>	A2340 B (Calc)	EPA 130.1	1000	35.5	71	Standard				11.00
Sodium Absorbance Ratio (SAR)	Calc									0.00

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Parameter	Preferred Method	Alternate Method	Req. Report Limit				Holding Time Days	Bottle	Preservative	Price
<b>Sediment Sample - Total Recoverable Metals</b>										
<i>Total Recoverable Metals Digestion</i>	EPA 200.2		N/A				180	500ml HDPE Widemouth		20.00
Arsenic	EPA 200.8	EPA 200.9	1	0.25	0.5	Standard			8.50	
Cadmium	EPA 200.8	EPA 200.9	0.2	0.05	0.1	Standard			8.50	
Chromium	EPA 200.8	EPA 200.7	9	0.25	0.5	Standard			8.50	
Copper	EPA 200.8	EPA 200.7	15	0.25	0.5	Standard			8.50	
Iron	EPA 200.7	EPA 200.8	10,000	25	50	Standard			8.50	
Lead	EPA 200.8	EPA 200.9	5	0.05	0.1	Standard			8.50	
Zinc	EPA 200.7	EPA 200.8	20	2.5	5	Standard			8.50	
Mercury	EPA 7471B		0.05	0.01	0.02	Standard			28	8.50
<b>Substrate Sample - Chlorophyll-a</b>										
Chlorophyll-a (benthic) <sup>4</sup>	A 10200 H						2l(pH≥7) or ASAP(pH<7)	Filter	Freeze <sup>3</sup>	50.00
Ash Free Dry Weight (AFDW)	A 10300 C (S)									35.00
<b>Water Sample - Chlorophyll-a</b>										
Chlorophyll-a (phytoplankton) <sup>4</sup>	A 10200 H						2l(pH≥7) or ASAP(pH<7)	Filter	Freeze <sup>3</sup>	50.00
<sup>1</sup> For Ultra low-level mercury by methods 245.7 & 1631, both a trip blank and field blank are required for each set of samples. Both the trip blank and field blank will be analyzed and charged at \$67.50 each. <sup>2</sup> Reporting approach can be: Standard (if Reporting Limit or PQL meet or exceed Required Report Limit), MDL Report (reporting results to MDL, unqualified), or "J" value Report (reporting results between Reporting Limit or PQL and MDL with "J" qualifiers) <sup>3</sup> Freeze samples only if filtered or hoop samples. Samples requiring filtration shall not be frozen until filtered. <sup>4</sup> The analysis of chlorophyll-a may require the compositing of several filters or hoop collections. Refer to SOP WQPBWQM-011v4 for details of preparation and analysis. (URL below) <a href="http://deq.mt.gov/wqinfo/QAProgram/SOP%20WQPBWQM-011v4_final.pdf">http://deq.mt.gov/wqinfo/QAProgram/SOP%20WQPBWQM-011v4_final.pdf</a>										