

Quotation for the Sorting and Identification of Benthic Macroinvertebrate Samples

Request for Quotation Number: DEP16309

Prepared By:

AllStar Ecology, LLC
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For:

State of West Virginia
Department of Environmental Protection
Division of Water and Waste Management

12/11/13 10:21:37AM
West Virginia Purchasing Division



ALLSTAR ECOLOGY
Natural Resource Specialists

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Abbreviations and Acronyms Used Hereafter

- EPT – Ephemeroptera, Plecoptera, Trichoptera (Mayflies, Stoneflies, Caddisflies)
- DEP/DWWM – Department of Environmental Protection’s Division of Waste Water Management
- QA/QC – Quality Assurance/Quality Control
- NABS – North American Benthological Society
- NPDES – National Pollution Discharge Elimination System
- SFS – Society for Freshwater Science
- WVDEP – West Virginia Department of Environmental Protection

WV Department of Administration, Purchasing Division
2019 Washington Street East
Charleston, WV 26505-0130

December 11, 2013

To Whom it May Concern:

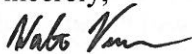
AllStar Ecology is pleased to submit a bid for West Virginia's Department of Environmental Protection Request for Quotation #DEP16309, for the sorting and identification of benthic macroinvertebrate samples gathered within the waters of West Virginia. The experience of our staff and partners in providing fine-resolution taxonomic data to a wide array of clients demonstrates that we are the perfect choice for your project's needs. Further, we are a West Virginia owned and operated company.

AllStar Ecology was founded in 2007 by graduates of West Virginia University's Davis College of Agriculture, Natural Resources, and Design. Since 2007, AllStar Ecology has grown to a staff of over 30, and has established an experienced bioassessment team specializing in benthic macroinvertebrate collection, sorting, and identification. Staff members associated with this project have extensive research experience in benthic macroinvertebrate ecology. Our SFS (formerly NABS) certified EPT genus-level taxonomist will be working with SFS certified genus-level Chironomidae, EPT, and General Arthropod taxonomists from EA Engineering, Science, and Technology to successfully identify and QA/QC all sorted specimens.

As a West Virginia based business founded by residents of West Virginia, we have over ten years of experience collecting, sorting, and identifying benthic macroinvertebrates samples from across the state. Further, we are very familiar with the details of the WVDEP Watershed Assessment Branch's Standard Operating Procedures as we have published five scientific, peer-reviewed journal articles focused on benthic macroinvertebrates in West Virginia, and conducted benthic macroinvertebrate collection, sorting, identification, and reporting for almost 100 NPDES biological monitoring locations.

With our experience in benthic macroinvertebrate sorting and taxonomy, as well as our attention to detail, we will meet all of the requirements and specifications stated within Request for Quotation # DEP16309. We are very excited to submit this bid and are thankful for the opportunity to do so. If you have any questions or comments please do not hesitate to contact me at 304.906.5536 or Walter@AllStarEcology.com.

Sincerely,



Walter Veselka
Senior Environmental Scientist/ Project Manager

Project Management

This project will be managed by Stream Assessment Specialist and SFS Certified Taxonomist Brian Carlson. Mr. Carlson has over six years of experience sorting and identifying benthic macroinvertebrate samples in West Virginia. Mr. Carlson will catalog all received samples and track all Chain-of-Custody forms from beginning of project until its completion. During the project, AllStar Ecology will coordinate with West Virginia's Department of Environmental Protection for timely pick-up of samples and delivery of results. AllStar Ecology will be responsible for all sorting of benthic samples and the identification of all non-Chironomidae specimens to genus. EA Engineering, Science, and Technology will be subcontracted to identify Chironomidae specimens to genus and conduct all necessary QA/QC on identified non-Chironomidae specimens.

AllStar Ecology regularly follows and meets the requirements of the QA/QC methods laid forth in the Request for Quotation # DEP16309 as well as those mandated within WVDEP Watershed Assessment Branch's 2013 Standard Operating Procedures (WVDEP 2013). Our staff have had extensive experience following these procedures in the field and in the laboratory for many years both professionally and while conducting research in a previous capacity on behalf of West Virginia University. AllStar Ecology has read and will follow all details associated with QA/QC expectations as outlined in Attachment A of Request for Quotation #DEP16309.

Receiving Un-Sorted Benthic Macroinvertebrate Samples

AllStar Ecology will pick up un-sorted benthic macroinvertebrate samples from the DEP/DWWM office in Charleston, West Virginia. AllStar Ecology understands that DEP will not ship samples due to size and quantity. AllStar Ecology also understands that Chain-of-Custody forms will be provided by DEP/DWWM. AllStar Ecology will be responsible for maintaining preservation of the samples and the Chain-of-Custody forms from the time samples are received until results of identification are accepted by DEP/DWWM (as outlined on Page 28 of DEP's Request for Quotation #16309).

Qualifications for the Sorting of Benthic Macroinvertebrate Samples

AllStar Ecology routinely reports benthic macroinvertebrate data following methodology detailed within WVDEP Watershed Assessment Branch's Standard Operating Procedures. AllStar Ecology has provided a bid on whole-sample sorting scenarios as an addition to the Pricing Page (Page 24). AllStar Ecology understands that sorting efficiency reporting is required on a minimum of 5 % of all submitted samples and that results from the QA/QC will be reported with each data submission. AllStar Ecology recognizes the importance of benthic macroinvertebrate sorting as a step in data integrity, therefore only qualified personnel with prior sorting experience will be performing such duties. Mr. Carlson has over six years of sorting experience in West Virginia. Finally, AllStar Ecology understands the labeling requirements for all sorted benthic macroinvertebrate sub-samples.

Qualifications for the Identification of Benthic Macroinvertebrates

AllStar Ecology staff have a complete understanding of the identification procedures detailed in WVDEP Watershed Assessment Branch’s Standard Operating Procedures. AllStar Ecology staff members, at a minimum have Bachelor degrees in Environmental Science or Wildlife & Fisheries Resources. The lead biologist, Brian Carlson, has a Master’s degree in Fisheries Resources from West Virginia University with a concentration in benthic macroinvertebrate ecology (Page 9). Mr. Carlson obtained his certification in the identification of EPT Genera of Eastern North America from the Society for Freshwater Science (SFS) (Page 10).

Chironomidae specimens will be identified to genus by SFS Certified Chironomidae Taxonomists Marty Sneen and Conrad Zack of EA Engineering, Science, and Technology. Combined they have a total of 32 years of experience in benthic macroinvertebrate identification (Pages 11 – 21). In addition, Mr. Sneen or Mr. Zack will perform QA/QC on at least 5 % of samples identified by Mr. Carlson throughout the duration of the project as they are also EPT and General Arthropod certified taxonomists.

Mr. Carlson has identified over 1,000 benthic macroinvertebrate samples to the genus and family level over the past five years. In addition, Mr. Sneen and Mr. Zack have identified over well over 1,000 benthic macroinvertebrate samples to the genus level over the previous five years. Mr. Carlson, Mr. Sneen, and Mr. Zack have performed bioassessment identification work for the private sector, non-profit organizations, as well as federal and state funded projects.

AllStar Ecology has extensive experience identifying non-Chironomidae specimens to genus from collections gathered throughout West Virginia, while EA Engineering, Science, and Technology have extensive experience identifying Chironomidae and other invertebrate genera from across the Northeast and Southeast. Combined, taxonomists on this project have over 35 years of experience in the lab identifying benthic macroinvertebrates.

Table 1. Overview of credentials for taxonomists assigned to this project.

Name	Education	Years of Experience	SFS Certifications
Brian Carlson	M.S. Wildlife & Fisheries Resources	6	EPT Genera Eastern North America
Marty Sneen	B.S. Environmental Science	22	General Arthropods, EPT, & Chironomidae
Conrad Zack	M.S. Biology	10	General Arthropods, EPT, & Chironomidae

Table 2. Summary of benthic macroinvertebrate projects Mr. Carlson has lead in the past 5 years.

Purpose of ID	Master's Thesis	NPDES Reporting	Non-Profit Organization Research
Number of Samples	500+	250+	250+
Number of Reports Generated	10	45	5
Duration	2011 - 2013	2009 - Current	2009 - Current

Resumes and copies of SFS Certifications of taxonomists assigned to this project are attached as appendices to this document.

Quality Assurance/ Quality Control Protocol

AllStar Ecology strictly follows the QA/QC protocol for sorting efficiency and identification accuracy as detailed within DEP Watershed Assessment Branch's Standard Operating Procedures. AllStar Ecology will calculate Percent Sorting Efficiency (PSE) as outlined on page 226 of the 2013 Standard Operating Procedures to evaluate sorting efficiency on no less than 5 % of the samples received throughout the duration of the project. A $PSE \geq 90 \%$ will be considered passing for all sorting efforts. In order to evaluate benthic macroinvertebrate identification accuracy, AllStar Ecology and EA Engineering, Science, and Technology will calculate Percent Difference in Enumeration (PDE) as outlined on page 238 of the 2013 Standard Operating Procedures. A $PDE \leq 10 \%$ will be considered passing for all identification work. PDE will be calculated on no less than 5 % of all samples identified throughout the duration of the project. A record will be maintained which will include details such as the name of all samples sorted, a catalog of quality control checks performed, and a summary of any corrective actions taken to resolve sorting or identification conflicts. Taxonomists also understand that no less than 2.5 % of samples will be subject to QA/QC analysis by DEP/DWWM biologists and/or another contract laboratory.

As outlined on pages 45-46 of the Request for Quotation #DEP16309, staff will retain voucher specimens and maintain a reference collection to be solely associated with this project. Specimens which are removed from the voucher collection in order to develop the reference collection will be documented on the paper and electronic reporting forms. Reference collections will be curated based on taxonomic and/or phylogenetic order. Reference taxa will also be delivered to DEP/DWWM at the end of the contract period or earlier if desired. Voucher collections will also be maintained and submitted to DEP/DWWM at the end of the contract period. All specimens identified will be returned to DEP/DWWM including slide mounted Chironomidae specimens. Proper labeling procedures for vials and slides will be followed throughout the project's duration.

Testimony in a Legal Setting

AllStar Ecology is familiar with the fact that legal action can be pursued due to benthic macroinvertebrate results. Having experience in NPDES biological monitoring, our staff are prepared to provide legal expertise and testimony, if needed.

List of Taxonomic Reference Material

The following is a working list of taxonomic keys staff involved in this project are familiar with and/or regularly use in the identification of benthic macroinvertebrates. Staff understand and are very familiar with the separation of *Hydropsyche* from *Ceratopsyche* according to Merritt,

Cummins, and Berg (2008). Staff also understand that Oligochaeta, Turbellaria, Hirudinea are to be identified at the Family level. In addition Nematoda, Hydroida, and Bryozoa are to be identified to the respectively stated taxonomic level given.

- Bode, R.W. 1983. Larvae of North American *Eukiefferiella* and *Tventenia* (Diptera:Chironomidae) *Bulletin of the New York State Museum*. 452:1-40
- Epler, J.H. 1995. Identification Manual for the Larval Chironomidae (Diptera) of Florida. Revised Edition. Florida Department of Environmental Protection, Division of Water Facilities, Tallahassee, Florida. Available on-line at:
<http://publicfiles.dep.state.fl.us/dear/labs/biology/biokeys/midges.pdf>
- Epler, J.H. 2001. Identification Manual for the Larval Chironomidae (Diptera) of North and South Carolina. North Carolina Department of Environmental and Natural Resources, Division of Water Quality, Raleigh, North Carolina., Available on-line at:
http://www.esb.enr.state.nc.us/BAUwww/Chiron_manual/intro.pdf
- McAlpine, J.F. (Ed.) 1989. Manual of Nearctic Diptera. Vols. 1-3. Research Branch Agriculture Canada. Monograph No. 32
- Merritt, R.W., K.W. Cummins, and M.B. Berg (eds.) 2008. An Introduction to the Aquatic Insects of North America. 4th Edition/revised edition. Kendall/Hunt Publishing Company, Dubuque, Iowa.
- Peckarsky, B.L., P.R. Fraissinet, M.A. Penton, and D.J. Conklin, Jr. 1990. Freshwater Macroinvertebrates of Northeastern North America. Cornell University Press, Ithaca, New York.
- Simpson, K.W., R.W. Bode, and P. Albu. 1982. Keys for the genus *Cricotopus* adapted from "Revision der Gattung *Cricotpus* vand der Wulp und ihrer Verwandten (Diptera, Chironomidae)" by M. Hirvenoha. Bull. 450. New York State Museum, Albany, NY.
- Stewart, K.W. and B.P. Stark. 1988. Nymphs of North American Stonefly Genera (Plecoptera). Entomological Society of America.
- Wiggins, G.B. 1996. Larvae of the North American Caddisfly Genera (Trichoptera). 2nd edition. University of Toronto Press, Toronto, Canada.

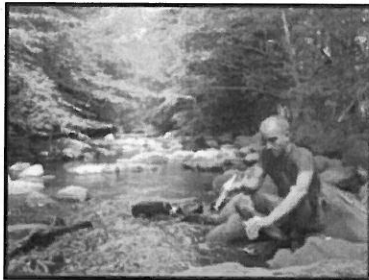


Literature Cited

WVDEP. 2013. Watershed Assessment Branch 2013 Standard Operating Procedures. West Virginia Department of Environmental Protection, Division of Water and Waste Management, Watershed Assessment Branch. 601 57th Street S.E. Charleston, WV 25304.

Brian R. Carlson

- *Environmental Scientist / Stream Assessment Specialist*



Brian Carlson is an Environmental Scientist for AllStar Ecology specializing in stream ecosystems. Mr. Carlson is a genus level macroinvertebrate certified taxonomist through the Society for Freshwater Science. He has used his expertise in benthic macroinvertebrate sampling and taxonomy to help complete biological assessment reports for the US Environmental Protection Agency and Office of Surface Mining as well as watershed nonprofit groups. He has experience collecting, analyzing, and reporting environmental data to state and federal agencies such as the Department of Interior and the West Virginia

Department of Environmental Protection. Fieldwork experience also includes conducting water chemistry and bacteria monitoring, stream habitat assessments, and fish assemblage surveys throughout West Virginia. Mr. Carlson has had extensive experience with genus level identification, having identified 1,000+ benthic macroinvertebrate samples within the previous five years for non-profit organizations, the private sector, as well as federal and state funded projects.

Education

M.S. (2013): Wildlife and Fisheries Resources, West Virginia University, Morgantown, WV

B.S. (2009): Natural Resource Management, The Ohio State University, Columbus, OH.

Experience

Environmental Scientist - AllStar Ecology, LLC	2012- current
Biology Teaching Assistant, West Virginia University	2011- 2013
Graduate Research Assistant, West Virginia University	2011- 2013
Americorps/Office of Surface Mining VISTA, Friends of Deckers Creek	2009- 2011
Event Staff – Ohio Student Union, The Ohio State University	2007- 2009
Naturalist – Glen Helen Outdoor Education Center	2008

Professional Development

Society for Freshwater Science

The American Fisheries Society

Certified Taxonomist – EPT Genera Eastern North America – Society for Freshwater Science

American Heart Association CPR and First Aid Training

Ohio Qualitative Habitat Evaluation Index (QHEI) and Headwater Habitat Evaluation Index (HHEI) Training Course

Member - Students Exhibiting Leadership in the Workplace - Ohio State Student Union

TAXONOMIC CERTIFICATION

This five year certification is awarded to


BRIAN CARLSON

In recognition of excellence for specimen identification to Genus for

Eastern

Ephemeroptera, Plecoptera & Trichoptera

SOCIETY FOR FRESHWATER SCIENCE



Dr. Murray Colbo

March, 2018
Date of Expiry

a site-specific multimetric index for a project on the James River, Virginia. Subsequently, the conclusions were fully accepted by EPA which ultimately meant the client was not required to install a groundwater treatment facility. In 1995, 1999, and 2000, analyzed the macroinvertebrate community as part of a synoptic survey of over 45 mi of the Pigeon River, North Carolina using North Carolina Department of Environmental Management methodologies to demonstrate improvements in water quality due to upgrades to an upstream paper mill.

Taxonomic Consultation—Responsible for the identification of macroinvertebrates for nearly all EA benthic related projects. In the past five years, Mr. Sneen has identified approximately 900 macroinvertebrate samples to genus/species level. He has identified macroinvertebrates for projects throughout the U. S.; including Alabama, Alaska, California, Colorado, Delaware, Florida, Idaho, Illinois, Indiana, Kansas, Kentucky, Louisiana, Maine, Maryland, Michigan, Minnesota, Missouri, Nebraska, New Jersey, New York, North Carolina, North Dakota, Ohio, Oregon, Pennsylvania, Rhode Island, South Dakota, Tennessee, Texas, Virginia, Washington, Washington (D.C.), West Virginia, Wisconsin, and Wyoming. Typically identifies aquatic macroinvertebrates to the species level for several groups including Chironomidae. Has twice completed Ohio EPA's taxonomic certification exam with 100% accuracy, most recently in 2011. Since 2000, has been responsible for the identification and chironomid deformity analysis of approximately 100 samples each year collected from the Chicago Area Waterway System. Participated in pilot studies for the National Water Quality Assessment Program. This included identifying benthic invertebrates from the Yakima River and upper Columbia River drainages in Washington; South Platte River drainage of Colorado and Nebraska; and the Upper Illinois River drainage in Illinois, Indiana, and Wisconsin. Maintains a company voucher collection containing specimens from across the United States. Experienced with the identification of freshwater zooplankton and fish. Occasionally serves as crew leader on basic fish community surveys.

Habitat Evaluation—Has conducted several habitat evaluations where the data were designed to be used for establishing baseline and/or restoration objectives. Since 2010, has assisted with the evaluation of stream and headwater habitat at multiple locations in support of a new hydroelectric development on the Ohio River, along the associated transmission corridor, and dredge spoil area. Assisted with the study scope development and field evaluation of habitat over 60 mi of the Osage River, Missouri below a hydroelectric dam. Seven stable demonstration releases ranging from 385 to 14,000 cfs were used to evaluate flow management objectives for instream habitat associated with young-of-year and adult fish, fish spawning, mussels, and benthic macroinvertebrates. The results of the study were used to assist the utility and agencies in the development of a flow management plan. Designed, conducted, and negotiated a consensus-based habitat study to establish minimum flow requirements below a small hydroelectric facility with a 1.4-mi power canal. Four stations in the bypassed reach of the stream were sampled for benthos. These data were combined with stream discharge data collected under four different flow regimes (25, 50, 75, and 125 cfs) as well as fish data collected under established base flows. Based on presence and abundance, key fish and benthic taxa were selected together with the agencies and their habitat requirements were jointly evaluated against the five different flow regimes. This study resulted in a 75 cfs minimum flow being established for the bypassed reach. Assisted with mapping and establishing baseline habitat classifications as part of an instream flow incremental methodology study to examine the effects of peaking operations on over 27 mi of the Menominee River in Michigan/Wisconsin. Experienced in using a variety of state and federal habitat evaluation indices including those from Illinois, Maryland, Missouri, North Carolina, Ohio, Oregon, U.S. Forest Service, EPA, and Wisconsin. Uses habitat evaluation routinely in conjunction with benthic macroinvertebrate and fish community studies.

Selected Publications and Presentations

Sneen, M.E. and J. Matkowski. 2012. Ohio River Ecological Research Program: Compilation of Existing Data on Freshwater Mussel Presence near Eight Ohio River Power Plants. EPRI, Palo Alto, California. 1025014.

Sneen, M.E., K.S. Cummings, T. Minarik, and J. Wasik. 2009. The Discovery of the Exotic, Mottled Fingernail Clam, *Eupera cubensis* (Prime, 1865) (Bivalvia: Sphaeriidae) in the Chicago Sanitary and Ship Canal (Great Lakes Drainage), Cook County, Illinois. JGLR, 35 (2009) 627-629.

Sneen, M.E. and G.L. Seegert. 2000. Square pegs and round holes: Streams that break biocriteria molds. 48th Annual Meeting of the North American Benthological Society, Keystone, Colorado.

Professional Profile
Martin E. Sneen

Sneen, M.E. and J.H. Van Hassel. 1998. Benthic community recovery in SE Ohio streams affected by the release of iron-contaminated mine water. 46th Annual Meeting of the North American Benthological Society. Charlottetown, Prince Edward Island, Canada.

Lyons, J., P.A. Cochran, and M.E. Sneen. 1997. Taxonomic status and distribution of Wisconsin and Minnesota populations of the lamprey *Ichthyomyzon c.f. gagei*. *American Midland Naturalist*, 138:69-76.

Cochran, P.A. and M.E. Sneen. 1995. Effect of preservation on urogenital papilla length in the east brook lamprey, *Lampetra aepyptera*. *Southeast Fishes Council Proceedings*, No. 31

Cochran, P.A., M.E. Sneen, and A.P. Gripentrog. 1993. Notes on the biology of the American brook lamprey (*Lampetra appendix*) in Wisconsin. *Wisconsin Academy of Sciences, Arts, and Letters*. 81:39-46.

Cochran, P.A., A.A. Leisten, and M.E. Sneen. 1992. Cases of predation and parasitism on lampreys in Wisconsin. *Journal of Freshwater Ecology*. 7:435-436.

Sneen, M.E. and P.A. Cochran. 1990. A comparison of urogenital papilla lengths in northern and southern populations of southern brook lamprey (*Ichthyomyzon gagei*). 70th Annual Meeting of the American Society of Ichthyologists and Herpetologists. Charleston, South Carolina.

Sneen, M.E., T.M. Dillahunt, and J.R. Phythyon. 1989. Variation in antibiotic sensitivity of normal flora of the human gastrointestinal tract isolated from travelers in a developing country. 16th Annual Undergraduate Research Symposium. St. Mary's College, Winona, Minnesota.

TAXONOMIC CERTIFICATION

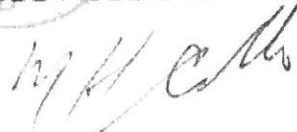
This five year certification is awarded to

MARTIN EDWARD SNEEN

In recognition of excellence for specimen identification to Genus for

*Eastern
General Arthropods*

SOCIETY FOR FRESHWATER SCIENCE



Dr. Murray Colbo

March, 2018
Date of Expiry

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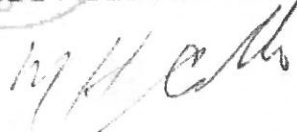
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Chironomidae*

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Conrad S. Zack

Scientist and Benthic Invertebrate Specialist

Mr. Zack is a biologist that has applied his background in aquatic ecology and conservation to perform various professional level studies for over 10 years, with 8 of those years at EA. His areas of expertise include benthic invertebrate and adult and larval fish sampling techniques, adult and larval fish identification, benthic macroinvertebrate identification, impingement/entrainment field work, and various laboratory techniques, including using water quality equipment.

Currently, Mr. Zack is attending graduate school to obtain a Master of Science degree in Biology. His research was conducted at the North Temperate Lakes Long-Term Ecological Research Site in northern Wisconsin, and examines the role of lake physicochemical characteristics and landscape position as predictors of chironomid community structure. As part of this project, Mr. Zack has expanded his taxonomic expertise to include chironomid pupal exuviae, in addition to continuing to hone his traditional benthic macroinvertebrate identification skills.

Mr. Zack's current responsibilities include the identification/processing of benthos samples. In a limited role, he also assists running the day-to-day operations of the laboratory in the Deerfield office, as well as laboratory organization, quality control, and identification of larval fish and adult fish from various projects.

Professional Experience

Benthic Macroinvertebrate Taxonomy—Identified aquatic macroinvertebrates from Illinois, Indiana, Ohio, Wisconsin, and other states from the Northeastern and Southeastern United States. Usually, aquatic macroinvertebrates are identified to the species level for several groups, including Chironomidae. In the past five years, Mr. Zack has identified approximately 500 macroinvertebrate samples to genus/species level. Maintains project specific voucher collections and keeps up-to-date on current taxonomic literature and identification techniques.

Fisheries Assessment—Conducted bioassessment of lakes, rivers, and small streams throughout the Midwest and New Mexico. Experienced with various techniques for sampling adult fish, including boat-mounted, raft-mounted, and backpack electrofishing, gillnetting, and seining. Assisted in the collection of adult fish from the Kankakee River, Lower Des Plaines River, Mississippi River, Upper Illinois Waterways, Ohio River, Rio Grande, San Juan River, Pecos River, and Rio Chama. Participated in field spawning and fertilization of salmon for stocking. Proficient in fish tagging techniques and tagged over 10,000 trout for a monitoring study. Skilled in 316(b) surveys; served as crew leader for multiple entrainment and impingement studies for various power plants throughout the upper Midwest. Familiar with numerous sampling gears for ichthyoplankton, including plankton net tows, stationary pumps, and mobile pumps. Crew leader for surveys at six power plants using time-based impingement sampling techniques; four power plants using volume-based entrainment; and two power plants using plankton net tows to collect ichthyoplankton samples.

Fish Taxonomy—Identified adult and juvenile fish from Illinois, Indiana, Iowa, Kentucky, New Mexico, Ohio, West Virginia, and Wisconsin. Identified larval fish from Illinois, Indiana, Ohio, and Wisconsin. Assisted in

Qualifications

Education

M.S.; Biology; Loyola University-Chicago; In Progress
B.S.; University of New Mexico; Biology; 2003

Registrations/Certifications

SFS Certified Taxonomist - General, EPT, & Chironomidae; 2013-2018
OSHA 40-Hour Hazardous Waste Operations Safety Training; 2007
U.S. Coast Guard America's Boating Course; 2007

Specialized Training

Benthic Macroinvertebrate Identification; 2008 – Present
Larval Midge Identification Class; 2008
Aquatic Beetles Identification Class; 2008
Larval Fish Identification Class; 2006

Professional Affiliations/Appointments

Society for Freshwater Science (formerly NABS); 2008 – Present

Experience

Years with EA: 8 Total Years: 10

maintaining a comprehensive, museum size voucher collection of adult, juvenile, and larval North American freshwater fishes. Keeps up-to-date on current taxonomic literature and identification techniques.

Water Quality—Experienced in the maintenance, calibration, and operation of electronic field water quality meters and multi-parameter, data logging, water quality monitors, such as Hydrolabs and YSIs. Expert in performing Winkler tests to verify and calibrate water quality meters.

Laboratory Studies—Sorted and/or identified adult, juvenile, and larval fish and numerous shellfish species for various projects while continuously maintaining quality control levels of 90 percent and above. Currently serves as one of EA Deerfield's quality assurance/quality control officers, who perform entrainment sample re-sorting to ensure that project-specific quality control levels are met. In his current position as Benthic Invertebrate Specialist, assists in a limited role in running the day-to-day operations of the lab, including tracking supplies, maintaining an organized work environment, keeping the laboratory standard operating procedures up-to-date, and training new personnel on larval fish and benthic sample sorting. Scrapes, splits, and sorts benthic samples, as well as mounts midges for identification. Benthic macroinvertebrate identification.

Selected Publications and Presentations

Zack, C.S. 2004. Compilation of information of fishes collected in the upper Rio Grande and lower Rio Chama, New Mexico. Final Report. Prepared for New Mexico Department of Game and Fish (Contract 04-516-0000-0067). Santa Fe, New Mexico. 87 pp.

Zack, C.S., B.T. Milne, and W.C. Dunn. 2003. Southern oscillation index as an indicator of encounters between humans and black bears in New Mexico. *Wildlife Society Bulletin*. 31(2):517-520.

TAXONOMIC CERTIFICATION

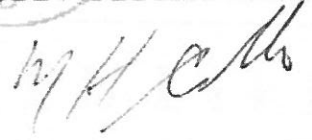
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SOCIETY FOR FRESHWATER SCIENCE



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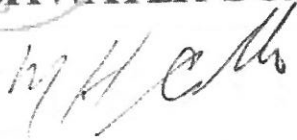
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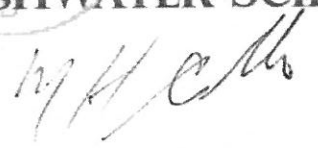
CONRAD ZACK

In recognition of excellence for specimen identification to Genus for

Eastern

General Arthropods

SOCIETY FOR FRESHWATER SCIENCE



Dr. Murray Colbo

March, 2018

Date of Expiry

DEP16309
 BID SHEET

Item No.	Quantity	Description	Unit Price	Amount
1	500	Per sample un-sorted, identified to Genus level: 200-organism subsample	\$238.00	\$119,000.00
2	4	Per each "sample pick-up/delivery" not "per sample" (Assume 100 samples per pickup)	\$300.00	\$1,200.00
3	5 hr	Cost/hour for professional staff representation of data in legal/administrative setting	\$90.00	\$450.00

* In the event that the entire sample requires sorting cost is \$750 per sample

TOTAL = \$120,650

Contractor: AllStar Ecology, LLC

Signature: 

Date: December 10, 2013

Quantities listed on the bid schedule are for bid evaluation purposes only and are not a guarantee of quantities to be ordered over the life of the contract. Actual quantities ordered may be more or less than those stated on this schedule.

RFQ No. DEP16309

STATE OF WEST VIRGINIA
Purchasing Division

PURCHASING AFFIDAVIT

MANDATE: Under W. Va. Code §5A-3-10a, no contract or renewal of any contract may be awarded by the state or any of its political subdivisions to any vendor or prospective vendor when the vendor or prospective vendor or a related party to the vendor or prospective vendor is a debtor and: (1) the debt owed is an amount greater than one thousand dollars in the aggregate; or (2) the debtor is in employer default.

EXCEPTION: The prohibition listed above does not apply where a vendor has contested any tax administered pursuant to chapter eleven of the W. Va. Code, workers' compensation premium, permit fee or environmental fee or assessment and the matter has not become final or where the vendor has entered into a payment plan or agreement and the vendor is not in default of any of the provisions of such plan or agreement.

DEFINITIONS:

"Debt" means any assessment, premium, penalty, fine, tax or other amount of money owed to the state or any of its political subdivisions because of a judgment, fine, permit violation, license assessment, defaulted workers' compensation premium, penalty or other assessment presently delinquent or due and required to be paid to the state or any of its political subdivisions, including any interest or additional penalties accrued thereon.

"Employer default" means having an outstanding balance or liability to the old fund or to the uninsured employers' fund or being in policy default, as defined in W. Va. Code § 23-2c-2, failure to maintain mandatory workers' compensation coverage, or failure to fully meet its obligations as a workers' compensation self-insured employer. An employer is not in employer default if it has entered into a repayment agreement with the Insurance Commissioner and remains in compliance with the obligations under the repayment agreement.

"Related party" means a party, whether an individual, corporation, partnership, association, limited liability company or any other form or business association or other entity whatsoever, related to any vendor by blood, marriage, ownership or contract through which the party has a relationship of ownership or other interest with the vendor so that the party will actually or by effect receive or control a portion of the benefit, profit or other consideration from performance of a vendor contract with the party receiving an amount that meets or exceeds five percent of the total contract amount.

AFFIRMATION: By signing this form, the vendor's authorized signer affirms and acknowledges under penalty of law for false swearing (W. Va. Code §61-5-3) that neither vendor nor any related party owe a debt as defined above and that neither vendor nor any related party are in employer default as defined above, unless the debt or employer default is permitted under the exception above.

WITNESS THE FOLLOWING SIGNATURE:

Vendor's Name: Walter Veselka

Authorized Signature: *Walter Veselka* Date: December 10, 2013

State of West Virginia

County of Preston, to-wit:

Taken, subscribed, and sworn to before me this 10th day of December, 2013.

My Commission expires July 11, 2022.

AFFIX SEAL HERE

NOTARY PUBLIC *Sarah Veselka*
Purchasing Affidavit (Revised 07/01/2012)



VENDOR PREFERENCE CERTIFICATE

Certification and application* is hereby made for Preference in accordance with West Virginia Code, §5A-3-37. (Does not apply to construction contracts). West Virginia Code, §5A-3-37, provides an opportunity for qualifying vendors to request (at the time of bid) preference for their residency status. Such preference is an evaluation method only and will be applied only to the cost bid in accordance with the West Virginia Code. This certificate for application is to be used to request such preference. The Purchasing Division will make the determination of the Resident Vendor Preference, if applicable.

- 1. Application is made for 2.5% resident vendor preference for the reason checked: Bidder is an individual resident vendor and has resided continuously in West Virginia for four (4) years immediately preceding the date of this certification; or, Bidder is a partnership, association or corporation resident vendor and has maintained its headquarters or principal place of business continuously in West Virginia for four (4) years immediately preceding the date of this certification; or 80% of the ownership interest of Bidder is held by another individual, partnership, association or corporation resident vendor who has maintained its headquarters or principal place of business continuously in West Virginia for four (4) years immediately preceding the date of this certification; or, Bidder is a nonresident vendor which has an affiliate or subsidiary which employs a minimum of one hundred state residents and which has maintained its headquarters or principal place of business within West Virginia continuously for the four (4) years immediately preceding the date of this certification; or,
2. Application is made for 2.5% resident vendor preference for the reason checked: Bidder is a resident vendor who certifies that, during the life of the contract, on average at least 75% of the employees working on the project being bid are residents of West Virginia who have resided in the state continuously for the two years immediately preceding submission of this bid; or,
3. Application is made for 2.5% resident vendor preference for the reason checked: Bidder is a nonresident vendor employing a minimum of one hundred state residents or is a nonresident vendor with an affiliate or subsidiary which maintains its headquarters or principal place of business within West Virginia employing a minimum of one hundred state residents who certifies that, during the life of the contract, on average at least 75% of the employees or Bidder's affiliate's or subsidiary's employees are residents of West Virginia who have resided in the state continuously for the two years immediately preceding submission of this bid; or,
4. Application is made for 5% resident vendor preference for the reason checked: Bidder meets either the requirement of both subdivisions (1) and (2) or subdivision (1) and (3) as stated above; or,
5. Application is made for 3.5% resident vendor preference who is a veteran for the reason checked: Bidder is an individual resident vendor who is a veteran of the United States armed forces, the reserves or the National Guard and has resided in West Virginia continuously for the four years immediately preceding the date on which the bid is submitted; or,
6. Application is made for 3.5% resident vendor preference who is a veteran for the reason checked: Bidder is a resident vendor who is a veteran of the United States armed forces, the reserves or the National Guard, if, for purposes of producing or distributing the commodities or completing the project which is the subject of the vendor's bid and continuously over the entire term of the project, on average at least seventy-five percent of the vendor's employees are residents of West Virginia who have resided in the state continuously for the two immediately preceding years.
7. Application is made for preference as a non-resident small, women- and minority-owned business, in accordance with West Virginia Code §5A-3-59 and West Virginia Code of State Rules. Bidder has been or expects to be approved prior to contract award by the Purchasing Division as a certified small, women- and minority-owned business.

Bidder understands if the Secretary of Revenue determines that a Bidder receiving preference has failed to continue to meet the requirements for such preference, the Secretary may order the Director of Purchasing to: (a) reject the bid; or (b) assess a penalty against such Bidder in an amount not to exceed 5% of the bid amount and that such penalty will be paid to the contracting agency or deducted from any unpaid balance on the contract or purchase order.

By submission of this certificate, Bidder agrees to disclose any reasonably requested information to the Purchasing Division and authorizes the Department of Revenue to disclose to the Director of Purchasing appropriate information verifying that Bidder has paid the required business taxes, provided that such information does not contain the amounts of taxes paid nor any other information deemed by the Tax Commissioner to be confidential.

Under penalty of law for false swearing (West Virginia Code, §61-5-3), Bidder hereby certifies that this certificate is true and accurate in all respects; and that if a contract is issued to Bidder and if anything contained within this certificate changes during the term of the contract, Bidder will notify the Purchasing Division in writing immediately.

Bidder: Walter Veselka

Signed: [Signature]

Date: December 11, 2013

Title: Senior Environmental Scientist/ Project Manager

CERTIFICATION AND SIGNATURE PAGE

By signing below, I certify that I have reviewed this Solicitation in its entirety; understand the requirements, terms and conditions, and other information contained herein; that I am submitting this bid or proposal for review and consideration; that I am authorized by the bidder to execute this bid or any documents related thereto on bidder's behalf; that I am authorized to bind the bidder in a contractual relationship; and that to the best of my knowledge, the bidder has properly registered with any State agency that may require registration.

AllStar Ecology, LLC

(Company)



(Authorized Signature)

Walter Veselka, Senior Environmental Scientist/ Project Manager

(Representative Name, Title)

304-906-5536

866-213-2666

(Phone Number)

(Fax Number)

December 10, 2013

(Date)

ADDENDUM ACKNOWLEDGEMENT FORM
SOLICITATION NO.: DEP16309

Instructions: Please acknowledge receipt of all addenda issued with this solicitation by completing this addendum acknowledgment form. Check the box next to each addendum received and sign below. Failure to acknowledge addenda may result in bid disqualification.

Acknowledgment: I hereby acknowledge receipt of the following addenda and have made the necessary revisions to my proposal, plans and/or specification, etc.

Addendum Numbers Received:

(Check the box next to each addendum received)

- | | |
|---|--|
| <input type="checkbox"/> Addendum No. 1 | <input type="checkbox"/> Addendum No. 6 |
| <input type="checkbox"/> Addendum No. 2 | <input type="checkbox"/> Addendum No. 7 |
| <input type="checkbox"/> Addendum No. 3 | <input type="checkbox"/> Addendum No. 8 |
| <input type="checkbox"/> Addendum No. 4 | <input type="checkbox"/> Addendum No. 9 |
| <input type="checkbox"/> Addendum No. 5 | <input type="checkbox"/> Addendum No. 10 |

I understand that failure to confirm the receipt of addenda may be cause for rejection of this bid. I further understand that any verbal representation made or assumed to be made during any oral discussion held between Vendor's representatives and any state personnel is not binding. Only the information issued in writing and added to the specifications by an official addendum is binding.

AllStar Ecology, LLC

Company



Authorized Signature

December 10, 2013

Date

NOTE: This addendum acknowledgment should be submitted with the bid to expedite document processing.