MAD Scientist & ASSOCIATES LLC

- Ecological Surveys
- Wetland Services
- Risk Assessment

June 16, 2010

Jeff Reynolds
Ohio EPA, Division of Surface Water
Standards & Technical Support Section
50 West Town Street, Suite 700
P.O. Box 1049
Columbus, Ohio 43216-1049

Subject: Ohio EPA Qualified Data Collector Level 3 Study Plan Blacklick Creek, OH

Please find enclosed a QDC Level 3 Project Study Plan (PSP) titled "***2010 Blacklick Creek Electrofishing and Habitat Surveys***." This PSP is being submitted for renewal of Mark Dilley's Level 3 QDC status for Fish and Habitat Evaluation (QHEI) studies. The collected data will be compiled into a report for use by the Blacklick Creek watershed group and will be entered into Ohio EPA's Credible Data Online Application.

If you have any questions regarding this plan, please call me at (614) 818-9156 (office) or (614) 531-9156 (mobile). You can also e-mail questions or comments to mark@madscientistassociates.net. Thank you for your consideration of this plan.

Best Regards,

Mark A. Dilley

Mark A. Dilley
Professional Wetland Scientist
mark@madscientistassociates.net

QDC #212

enclosures

OHIO EPA - DSW
2010 JUN 21 AM 8:58

Level 3 Project Study Plan

2010 Blacklick Creek Electrofishing & Water Chemistry Surveys

(1) Study Objectives: The objective of the proposed study is to evaluate the current health of stream habitat along a section of Blacklick Creek that was determined to be in non-attainment of its designated use criteria by the Ohio EPA in 2000. Stream health will be determined by surveying the fish community and assessing habitat. The health of the fish community will be assessed using Ohio EPA's Index of Biotic Integrity (IBI), Modified Index of Well-Being (MIwb), and habitat quality will be documented using Ohio EPA's Qualitative Habitat Evaluation Index (QHEI). A report of the results will be provided to Friends of Blacklick Creek to assist them with their on-going monitoring of the watershed and guide them in their implementation of their watershed management plan.

(2) Non-point/Point Sources: The health of Blacklick Creek was assessed in 2000 by the Ohio EPA and was determined to be in full attainment of its warmwater habitat (WWH) status in most areas. Approximately four miles was determined to be in partial attainment and 6.6 miles was in non-attainment. The primary source of pollution in Blacklick Creek, leading to partial and non-attainment status, was determined to be the failure of home sewage treatment systems and manure spills from Hendren Farms in the creek's headwaters at Rivermile 26.0 (near Central College Road; N40 °5.783, W82°46.752; see Figures 1 and 2) The proposed study plan will therefore target the headwaters of Blacklick Creek and will sample an area that was determined to be in non-attainment in 2000.

(3) Parameters Covered: Fish sampling will be performed following protocols described in Ohio EPA's (1987, with updates) *Biological Criteria for the Protection of Aquatic Life, Volume III*. Fish specimens will be identified to species level, weighed, counted, and examined for deformities, erosions, lesions and tumors (DELT anomalies). Data will be recorded on Ohio EPA Fish Data Sheets or an equivalent form. Quantitative fish sampling will occur at each study location, using wading methods. Stream habitat quality including substrate, instream cover, channel morphology, riparian development, pool/glide features, and riffle/run features will be assessed along a 200 meter section of stream at each sampling point.

No macroinvertebrate sampling is planned, since no one on the study team currently holds this QDC certification.

(4) Methods: The Qualitative Headwater Evaluation Index (QHEI) will be used to assess the stream habitat health. A 200-meter section of stream that best represents the average stream conditions will be selected for the QHEI. Fish community sampling will be conducted by electrofishing, using wading techniques described in *Ohio EPA's Biological Criteria for the Protection of Aquatic Life, Volume III* (1987, updated Sept. 30, 1989; Nov. 8, 2006; and Aug. 26, 2008) and a Sportyak tow-behind unit. This unit includes a 1750-watt generator, producing 125 or 250 volts of pulsed DC output. In stream sections to small to float the Sportyak, a long-line system with 100 meters of cable will be used. Captured fish will be deposited to a live well for containment until they can be sorted and counted.

(5) Sampling Locations: Three (3) stream segments are to be sampled under this PSP. All are located near the headwaters of Blacklick Creek in an area determined to be in non-attainment of its designated aquatic life use (WWH) in 2000. Specific location information is detailed in Table 1 and in the Figure 1.

Table 1. Blacklick Creek stream sampling locations for QDC Level 3 sample plan.

Stream River Mile	Lat/Long	General location	USGS 7.5 Minute Quadrangle
27.1	N40°06'40", W82°46'22"	Walnut St.	New Albany
24.7	N40°04'47", W82°47'05"	SR 161	New Albany
22.4	N40°03'09", W82°48'11"	Morse Rd.	New Albany

(6) Schedule: Sampling (on event per site) will be conducted during normal flow events, between June 15 and October 15, 2010, to provide an indication of the water quality conditions that are generally present in the stream. Normal conditions will be determined based on stream gauging data from station number 03228500 located on Big Walnut Creek at Central College, OH (Lat 40°06'13", Long 82°53'03"). Based on USGS methods, conditions will be considered normal when the percentile is between 25 and 75.

(7) QA/QC: Quality assurance and quality control of sampling and analysis methods for habitat and fish will follow *Ohio EPA's Biological Criteria for the Protection of Aquatic Life, Volume II* (1987, with updates) and *Volume III* (1987, with updates) and the QHEI Manual (Ohio EPA, 2006).

Subsamples of difficult-to-identify fish species will be brought back to the laboratory for verification, and if necessary, sent to The Ohio State University Museum of Biological Diversity for verification by the Curator and/or Associate Curator of Fish. Voucher specimens will be collected as described in Section 14 and preserved following methods outlined in *Ohio EPA's Biological Criteria for the Protection of Aquatic Life* (1987, with updates). Photographic vouchers will be taken to clearly show features that permit definitive identification of the species depicted.

(8) Work Products: Following completion of sampling and analysis, a report will be prepared that discusses the stream habitat and QHEI scores, fish IBI and MIwb data, and an assessment of whether the sampled stream segment meets its aquatic life use category based on the IBI/MIwb results. This report will be provided to Friends of Blacklick Creek to assist them in developing a watershed management plan. By the end of the 2010 calendar year, QHEI data will be submitted electronically to Ohio EPA through the Credible Data Online Application (http://www.epa.ohio.gov/dsw/volunteermonitoring/submission_of_data.aspx). Location data will be entered in a decimal degree format for lat/long or by selecting sample locations in a Google mapping format. As the online system is not currently equipped to accept Level 3 fish data, these results will be submitted in hard copy form to Ohio EPA for review (also by the end of the 2010 calendar year).

(9) Qualified Data Collectors: The following scientists from MAD Scientist & Associates will be involved in the outlined study:

- Mark Dilley, Lead Project Manager, QDC 3 for Fish and Habitat (mark@madscientistassociates.net) QDC #212
- Kashmira Asnani
- David Strong
- Jennie Morgan, Ph.D. (QDC 3 for Water Chemistry) QDC #159

Company Address and Phone Number:

MAD Scientist & Associates, LLC
253 N. State Street, Suite 101
Westerville, OH 43081
Phone: (614) 818-9156

Kashmira, David, and Jennie may be present to assist with these field efforts, but will not provide identification of fish species or evaluation of habitat. If participating, they will be supervised by Mark Dilley.

(10) Documentation: A copy of the original Level 3 QDC certification for Mark Dilley is included with this submission as Attachment A.

(11) Contract Laboratory: Any fish that cannot be positively identified in the field or MAD Scientist & Associates laboratory will be sent to The Ohio State University Museum of Biological Diversity for verification by the Curator and/or Associate Curator of Fish:

Dr. Ted Cavender, Curator/Mr. Mark Kibbey, Associate Curator
OSU Museum of Biological Diversity
1315 Kinnear Road
Columbus, OH 43212
(614) 292-7873

(12) Scientific Collector's Permit: Mark Dilley holds Scientific Collector's Permit (Wild Animal Permit No. 11-123) for collection of fish and invertebrates in Ohio. A copy is provided as Attachment B.

(13) Digital Photograph Catalog: A digital photograph catalog of all sampling locations will be maintained for ten (10) years and will include photographs of the specific sampling locations, adjacent riparian zones, and general land use in the immediate vicinity of the sampling locations.

Printed Name/Signature: MARK A. DILLEY Mark A. Dilley Date: 6/16/10

(14) Voucher Specimen Statement: MAD Scientist & Associates will maintain a fish voucher collection that includes two specimens or appropriate photo-vouchers of each fish species collected during the course of biological sampling from the specified study locations. If a fish species is found at multiple sites within this study, one voucher collection will be created to represent that species within the suite of study sites covered within this plan. A separate collection for each individual study site/event will not be maintained.

Printed Name/Signature: Mark A. Dilley Date: 6/16/10
MARK A. DILLEY

(15) I have not been convicted of or plead guilty to a violation of section 2911.21 of the Revised Code (Criminal Trespass) or a substantially similar municipal ordinance within the previous five years.

Printed Name/Signature: Mark A. Dilley Date: 6/16/10
MARK A. DILLEY

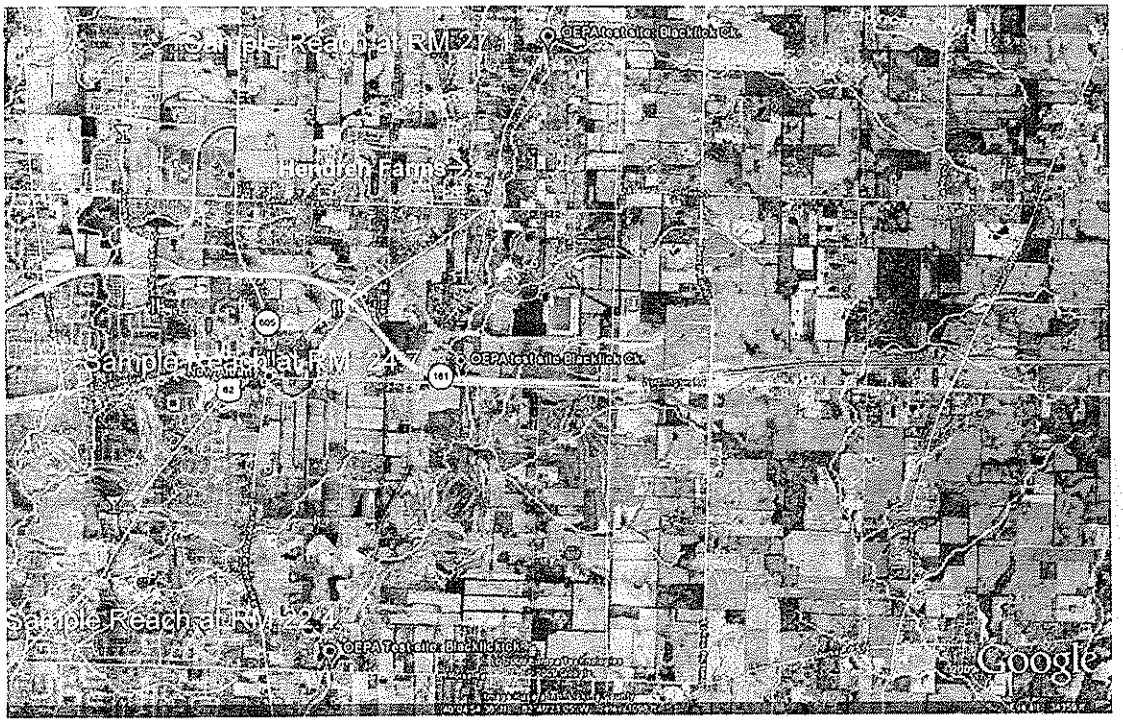

Figure 1. Sample Locations (and Hendren Farms Location)

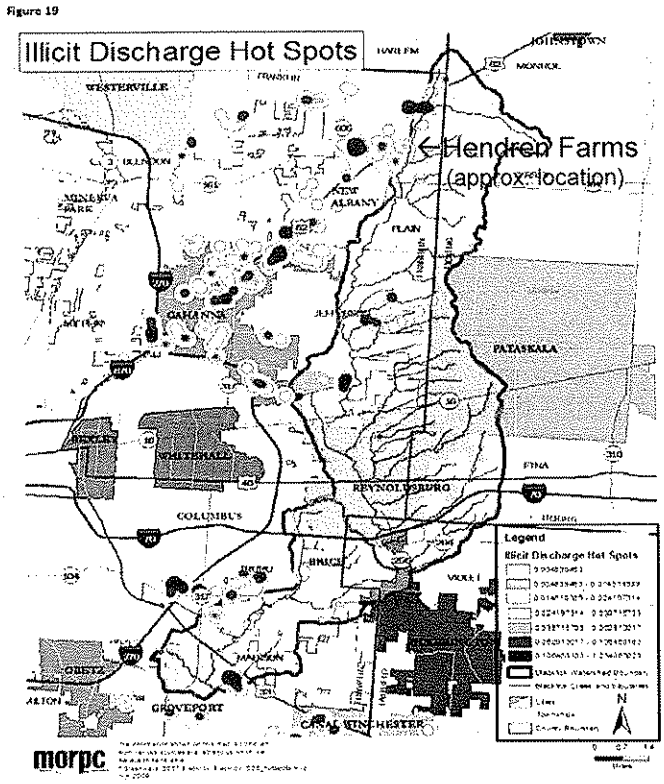

Figure 2. Non-point Sources (Home Septic Systems & Hendren Farms)

Attachment A: Level 3 QDC Certificate

OhioEPA

State of Ohio Environmental Protection Agency

STREET ADDRESS:

Lazarus Government Center
50 W. Town St., Suite 700
Columbus, Ohio 43215

TELE (614) 644-3020 FAX: (614) 644-3184
www.epa.state.oh.us

MAILING ADDRESS:

P.O. Box 1049
Columbus, OH 43216-1049

OHIO E.P.A.
AUG 11 2008
ENTERED DIRECTOR'S JOURNAL

Effective Date: August 11, 2008
Expiration Date: August 10, 2010

CERTIFIED MAIL

I certify this to be a true and accurate copy of the official documents as filed in the records of the Ohio Environmental Protection Agency.

By: _____ Date: 8/11/08

Mark Dilley
MAD Scientist & Associates
1084 East College Avenue
Westerville, Ohio 43081

Re: Qualified Data Collector Approval, Surface Water Volunteer Monitoring Program

Dear Mark:

The Division of Surface Water Volunteer Monitoring (Credible Data) Program has reviewed your Qualified Data Collector (QDC) application. Pursuant to Ohio Revised Code (ORC) 6111.53 and Ohio Administrative Code (OAC) 3745-4-03, you are approved as a QDC for the following level and specialty:

QDC Level: 3
QDC Specialty: Fish Community Biology & Stream Habitat Assessment
QDC number: **212**

Please use this QDC number on all correspondence, study plans, etc. submitted to Ohio EPA.

As noted at the top of this letter, this status is effective as of the date of this letter and expires two years from that date. You may now submit study plans to the Volunteer Monitoring Program.

A renewal application must be submitted in accordance with OAC 3745-4-03(C). As provided in this rule, renewal of status is contingent upon active participation in the Volunteer Monitoring Program at the designated level and specialty. Lack of such participation will prevent you from renewing your status, but you may re-apply for initial QDC status.

As a reminder, your status is contingent upon the absence of any trespassing violation (within the previous five years) by you or any person sampling under your supervision. Always obtain land owner permission prior to sampling.

Additionally, collection (and retention) of aquatic biological samples (this includes fish, macroinvertebrates, mollusks, and shells) requires a collector's permit from the Ohio Department of Natural Resources/Division of Wildlife. Obtain this permit prior to collection of any biological samples.

You are hereby notified that this action of the Director is final and may be appealed to the Environmental Review Appeals Commission pursuant to Section 3745.04 of the Ohio Revised Code. The appeal must be in writing and set forth the action complained of and the grounds upon which the appeal is based. The appeal must be filed with the Commission within thirty (30) days after notice of the Director's action. The appeal must be accompanied by a filing fee of seventy dollars ($70.00) which the Commission, in its discretion, may reduce if by affidavit you demonstrate that payment of the full amount of the fee would cause extreme hardship. Notice of the filing of the appeal must be filed with the Director within three (3) days of filing with the Commission. Ohio EPA requests that a copy of the appeal be served upon the Ohio Attorney General's Office, Environmental Enforcement Section. An appeal may be filed with the Commission at the following address: 309 South Fourth Street, Room 222, Columbus, Ohio 43215.

Sincerely,

Chris Korleski
Director

Attachment B: Wild Animal Permit

DIVISION OF WILDLIFE

Ohio Department of Natural Resources

Division of Wildlife Headquarters
2045 Morse Road, Bldg. G
Columbus, Ohio 43229-6693
1-800 WILDLIFE

WILD ANIMAL PERMIT: 11-123

SCIENTIFIC COLLECTION

David M Graham
Chief, Division of Wildlife

DATE ISSUED
4/8/2009

Others authorized on permit
NO

MARK A. DILLEY
1084 E. COLLEGE AVE.
WESTERVILLE, OH 43081-2560

SOCIAL SECURITY NUMBER: XXX-XX-1427

is hereby granted permission to take, possess, and transport at any time and in any manner specimens of wild animals, subject to the conditions and restrictions listed below or any documents accompanying this permit.

This permit, unless revoked earlier by the Chief, Division of Wildlife, is effective from: 3/31/2008 to: 3/15/2011

This permit must be carried while collecting wild animals and be exhibited to any person on demand.

THIS PERMIT IS RESTRICTED TO THE FOLLOWING:

1. Permittee may collect fish, larval salamanders and aquatic macro-invertabrates for survey and inventory purposes. Endangered species are to be release at site of capture. Other specimens to be released unless needed as voucher specimens.
2. Permittee must consult with Wildlife's Stream Conservation and Environmental Assessment Unit (SCEA) prior to conducting any wild animal work associated with compliance requirements of the Clean Water Act (CWA) Section 401 and/or 404. Contact the unit at 614/265-6308 (Bob Fletcher) or 614/265-6631 (Becky Jenkins).
3. Twenty-four hours prior to collecting activities, must make contact with the local wildlife officer or nearest wildlife district office to advise location(s) and duration of sampling. All voucher specimens are to be deposited at the OSU, Museum of Biological Diversity or the Cleveland Museum of Natural History.
4. Collection is prohibited in the Big Darby, Little Darby, Killbuck, Chagrin River and Fish Creek (Williams County) without explicit written permission from the Division of Wildlife.
5. Permittee must provide an annual report of collecting activities to the Division of Wildlife. Report shall provide species, quanity and locations of collection.

Locations of Collecting

STATEWIDE

Equipment and method used in collection:

SEINES, DIPNETS, HAND PICKING, BASKING TRAPS, ELECTROFISHING, ARTIFICAL SUBSTRATES

Name and number of each species to be collected:

MAY COLLECT FISH, LARVAL SALAMANDERS AND AQUATIC MACRO-INVERTEBRATES FOR SURVEY AND INVENTORY PURPOSES. NO MUSSELS OR SPORTFISH OVER SIX INCHES MAY BE RETAINED. COLLECTION OF TURTLES FOR EDUCATIONAL PURPOSES.

RESTRICTIVE DOCUMENTS ACCOMPANYING THIS PERMIT? NO

This permit is not valid for collecting migratory birds, their nests, or eggs unless a current permit from the U.S. Fish and Wildlife Service has been obtained.

NO ENDANGERED SPECIES MAY BE TAKEN WITHOUT WRITTEN PERMISSION FROM THE CHIEF

ATTACHMENT

This attachment to Scientific Collecting Permit # 11-123 authorizes the following persons to conduct the activities listed on the permit, within the conditions and restrictions set forth. Each person must carry and exhibit upon request. a copy of the permit and this attachment when conducting any of the listed activities. The person named on the permit assumes full responsibility for the actions of the persons on this list and for completing and submitting all required reports.

Name	SSN or Driver License
JOHN DAVID STRONG	XXX-XX-0453
KASHMIRA ASNANI	XXX-XX-3127