

Quality Assurance Program Plan for the River Raisin Watershed's Adopt-A-Stream Program

Version 1.0
River Raisin Watershed Council

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A3 Distribution List

Michigan Department of Environmental Quality and any party upon request.

A4 Program Organization

A4.1

The River Raisin Watershed Council's Adopt-A-Stream program is overseen by a Director, with assistance from a Coordinator. Together these two, with the assistance of the Executive Director of the Watershed and the Executive Committee of the Watershed Council, organize a stream search the last Saturday of April and the last Saturday of September each year. The watershed relies on volunteers to staff the search teams.

A4.2

Twenty sites are searched on each event day. The Director and Coordinator organize ten teams for the search; two weeks prior to the search day the teams are assembled for training and orientation. Training has two components, classroom and field. In the classroom the director instructs the volunteers on how to fill out the forms, draw maps of the stream stretch, and discusses the various habitats and biology of stream invertebrates. The field portion is conducted by the director with assistance from the coordinator. Volunteers are taken to an appropriate stream stretch and put in waders, with nets, and taught how to move in water and how to sample habitat. On stream search day the director and coordinator will oversee the volunteers. Two weeks after stream search day the director and coordinator will organize a day devoted to identifying the invertebrates recovered on stream search day (Bug ID day).

A4.3

Dr. Jim Martin of Adrian College and the Director of the River Raisin Watershed Council's Adopt-A-Stream, will be responsible for maintaining the official, approved QA Program Plan.

A4.4

Dr. Martin will produce a report detailing the findings of the Stream Search day and subsequent macroinvertebrate identifications. He will submit this report to the Watershed Council's Executive Director who will then pass the report on to MiCorps.

A5 Program Definition/Background

A5.1

The River Raisin is a 1,000+ sq. mile watershed located in Southeastern Michigan. This portion of the state was among the first cleared and settled and has seen both intensive agriculture and industry since settlement times. Numerous water quality issues have been noted in the watershed since the inception of the Clean Water Act (Federal Water Pollution Control Act amendments of 1973 and 1977). Both the Michigan Department of Environmental Quality (MDEQ) and the Environmental Protection Agency (EPA) officials have noted problems with various portions of the watershed. There is an AOC at the mouth of the river because of Polychlorinated Biphenyls (PCBs) that were introduced as a by product of 20th century industrial activities. Additionally, the EPA has found the following beneficial use impairments:

- Restrictions on fish and wildlife consumption
- Eutrophication or undesirable algae
- Degradation of fish and wildlife populations
- Beach closings
- Degradation of aesthetics
- Bird or animal deformities or reproduction problems
- Degradation of benthos
- Restriction on dredging activities

Loss of fish and wildlife habitat

Earlier this spring the DEQ found that the levels of *Escherichia coli* found in the South Branch of the River Raisin routinely exceeded federal levels (Total Maximum Daily Load for *E. coli* for the South Branch River Raisin Lenawee County, MDEQ Feb 2008). There are three other *E. coli* TMDLs already approved for the River Raisin and tributaries. Clearly the watershed remains at risk from many sources. Our monitoring program is a response to these problems. The Adopt-A-Stream program can help MDEQ and other agencies target regions of the watershed when we encounter degraded benthos.

A5.2

Our stream search results have been and will continue to be available to the public. Further, findings of poor benthos will be related back to the DEQ and MiCorps. Of particular concern are situations where invertebrates were formerly diverse and sensitive, but more recently have been found to be degraded.

A6 Program Description

A6.1

Twice a year volunteer teams will search for macroinvertebrates at 20 sites across the watershed. These teams include a Stream Captain, who will oversee the collections, two Stream Collectors, who will enter the water and search all available habitats on a 300' stretch of the river, and at least one Stream Sorter, who will collect the samples from the Collectors and place the invertebrates in EtOH. Twice a year an identification day will follow, where the recovered animals from the search will be keyed to family level. The history of each site will be upgraded with the new findings and published.

A7 Data Quality Objectives

A7.1

For each of our 20 sites a list of all taxa encountered will be maintained. Each site and sample date will have the MiCorps Index generated, the total number of taxa, total number of insect taxa (determined to the family level), total number of Ephemeroptera, Plecoptera, Trichoptera, total number of sensitive families (as listed by the Huron River Watershed) and the total number of captures.

Trends will be identified through time. Sharp downward swings in any of the above measures will trigger a resample. Total number of captures should never be under 30 animals. As each site now has a taxonomic history, lack of particular functional groups (benthic clingers or emergent vegetation crawlers), particularly when they had been present in the past, will be looked upon with extreme suspicion.

A7.2

Taxonomic accumulation curves (typically at the family level, at least for the present) will be found for each of site. As an hour of sampling is unlikely to produce a complete census of all species in the field on the day of the sampling, it is useful to compare, through time, the taxonomic history of a site and the list of all encounters.

The following techniques will be reviewed during training and in retraining team leaders every three years: [1] collecting style (must be thorough and vigorous), [2] habitat diversity, (must include all habitats present and be thorough in each one), and [3] the transfer of collected macroinvertebrates from the net to the sample jars (thoroughness is critical).

In addition, the Program Director will seek opportunities to compare results with those from an external sampling group, such as MDEQ. Every attempt will be made to collect duplicate samples in such a situation.

Sample results that exceed these standards should be then noted as "outliers" and examined to determine if the results are likely due to sampling error or a true environmental variation. If sampling error is determined the MiCorps Index data point should be removed from the data record - though the taxa list will be retained, along with a notation that the sample was incomplete.

Volunteer teams that generate more than one outlier should be observed by the Program Expert at the next sampling event and be considered for retraining.

The Program Director (Dr. J. Martin) will make the final identification for each sample. Dr. Martin attended the MiCorps training session offered in summer 2007 and will attend the training in 2008.

A7.3

Sites will be sampled by different team leaders at least once every three years in each season (we collect twice a year, so two events out of six). This will be done to examine the effects of bias in individual collection styles. Taxonomic diversity (using each of the measures outlined in A7.1, functional groups (clingers, sprawlers, ect.), and total sample size will compared. Sharp swings in taxonomic diversity or total captures in either a downward or upward direction will be carefully considered and evaluated by the Program Director.

A7.4

Completeness is an important goal of our sample effort. It requires attention to the quality of sampling through time. Data completeness can be assessed through several methods; sample sizes smaller than 30 individuals with poor taxonomic diversity and lacking functional groups associated with particular habitat types, particularly when the history of the site reports a better faunal assemblage, are likely indicative of poor sample effort, and, thus, the lack of completeness.

A7.5

Study sites are selected to represent the full variety of stream habitat types available locally, emphasizing the inclusion of riffle habitat. All available habitats within the study site will be sampled and documented to ensure a thorough sampling of all of the organisms inhabiting the site. Resulting data from the monitoring program will be used to represent the ecological conditions of the contributing subwatershed. All major subwatersheds in the River Raisin watershed are sampled at least once, and many at two or three different points. Additional subwatershed sites will be added as resources and volunteers allow.

A7.6

To ensure data comparability, all volunteers in the watershed will follow the same sampling and site selection methods and use the same units of reporting. Program directors and trainers will learn the standard MiCorps monitoring methods at annual trainings by MiCorps staff and will train their volunteers to follow those methods to ensure comparability of results among all MiCorps programs. To the extent possible, the monitoring of all study sites will be completed on a single day.

For each sampling event that is not completed on a single day, monitoring by volunteers will be completed within the same two week period. If a site is temporarily inaccessible, such as due to prolonged high water, the monitoring time may be extended for two additional weeks. If the issue concerning inaccessibility is continued beyond the extended dates, then no monitoring data will be collected during that time and there will be a gap in the data. If a team is unable to monitor their site during the specified time, the Stream Captain will contact the Program Manager as soon as possible and no later than the end of the first week in the sampling window in order for the Manager to arrange for another to complete the monitoring. If no team is available, the Program Manager and other volunteers will sample the site.

A8 Special Training/Certifications

A8.1

The program Director holds a Ph.D. in the field of Entomology from Texas A&M University. As a student there he took a two semester sequence in Insect Systematics and Biology (covering Exopterygotes and Endopterygotes respectively). He also has taken graduate courses in Insect Behavior, Landscape Ecology, Immature Insects, Wildlife Systems Analysis, Zoogeography, Principles of Insect Systematics, Dynamics of Populations, Insect Physiology and Statistical Methods in Ecology, receiving an 'A' in all of those. He also had the graduate level, two semester sequence in Statistical Methods in Research. As an undergraduate at Southern Illinois University he took upper division (400 level) courses in Aquatic Insects and Freshwater Invertebrates, receiving an 'A' in these. Dr. Martin is also an Associate Professor of Biology at Adrian College where he teaches courses in Entomology (BIOL 364) and Aquatic Ecology (BIOL 309) among many others.

Dr. Martin participated in the MiCorps training program offered summer 2007 at Central Michigan University and will attend training this year on June 21. He will train the stream search volunteers, with the help of the Stream Coordinator. The Stream Coordinator is typically a M.S. level graduate student at University of Michigan from the School of Natural Resources and Environment or undergraduate student from Adrian College and has taken Entomology and other pertinent Biology coursework. The stream coordinator will also attend MiCorps training if at all possible.

A8.2

Two weeks before stream search a training day will be held. Typically these will meet at Adrian College (Dr. Martin's home institution). Training, as described in section A4.2, has two components, lecture and field. Volunteers will be trained on how to fill out the MiCorps field data sheets. They will be given an overview of riverine aquatic invertebrates. They will be taught about the variety of habitats they should sample. Then they will be taken to a stretch of river and actually put in the water to sample, with the Director and Coordinator overseeing. Appropriate comments and corrections will be made at the stream site to emphasize appropriate safety and searching technique.

A8.3

The Adopt-A-Stream Director and Coordinator will monitor the training. They will put experienced volunteers with the less experienced on the search day.

A8.4

A list of all trained volunteers will be maintained by the Coordinator. All Captains must renew their training on an every-other year basis.

B1 Study Design and methods

B1.1

The Adopt-A-Stream program samples 20 sites across the Raisin. All major subwatersheds are sampled. The mainstem is sampled to above Manchester (stream mile ~130). Teams of volunteers that include Captain, Collectors, and Sorters are dispatched to two sites on stream search day. The collectors will be trained and/or experienced invertebrate collectors. They will go into the river (if the water level is at a safe level) wearing waders with safety belts. They will use their nets to scour the stream bottom, searching riffle, runs, and pools using a D-Frame kicknet. They will investigate every habitat type on their 300 foot stretch, including leaf pack and emergent vegetation, submerged vegetation, roots, and depositional areas. They will flip cobble and stones from the river bottom, looking for invertebrates that cling to this habitat. If the water level is too high for wading to be safe (according to the RRWC Inclement Weather Cancellation Protocol), searchers will search from the bank with their nets. In the event of an unsafe water level, the Director will return to the site in question and resample as soon as water levels allow.

The Stream Captain will record the number of locations sampled within the monitored reach in each habitat type and note the locations sampled on a site map. The trained collectors will transfer the material from the net into white pans. The sorters will pick out samples of all different types of macroinvertebrates from the pans and place them into jars of 70% EtOH for later identification. During the collection, the Collector will provide information to the Stream Captain in response to questions on the data sheet that review all habitats to be sampled, the state of the creek, and any changes in methodology or unusual observations. The Stream Captain will instruct and assist other team members in detecting and collecting macroinvertebrates in the sorting pans, including looking under bark and inside of constructions made of sticks or other substrates. Potential sources of variability such as weather/stream flow differences, season, and site characteristic differences will be noted for each event and discussed in study results. There are places on the data sheet to record unusual procedures or accidents, such as losing part of the collection by spilling. Any variations in procedure should be explained on the data sheet.

Since our evaluation is based on the diversity in the community, we attempt to include a complete sample of the different groups present, rather than a random sub-sample. We do not assume that a single collection represents all the diversity in the community, but rather we consider our results reliable only after repeated collections spanning at least three years. Our results are compared with other locations in the same river sample that have been sampled the same way. All collectors attend an in-stream training session, and most sites are sampled by different collectors at different times to diminish the effects of bias in individual collecting styles. Samples where diversity measures diverge substantially from past samples at the same site are resampled by a new team within two weeks, if personnel are available. If a change is confirmed, the site becomes a high priority for the next scheduled collections. Field checks include checking all data sheets to make sure each habitat type available was sampled, and the team leader examines several picking trays to ensure that all present families have been collected. All lab sorting is rechecked by an expert before completing identification.

B1.2

Twice a year the Adopt-A-Stream program will assemble; they are dispatched to search the river and tributaries on the last Saturday of April and the last Saturday of September. Adopt-A-Stream training will always occur two weeks prior to the sampling event. The Coordinator will contact volunteers approximately three weeks prior to the Adopt-A-Stream training event. Nets, waders, EtOH, vials, and all appropriate equipment are assembled by the training date. On the day of the sampling event the volunteers will assemble at staging points. Gear will be issued and the volunteers dispatched. At the end of the sampling period all Captains will return the gear back to the Coordinator or Director. Two weeks later the macroinvertebrates will be identified. This will be held at the lab of the Director. The Director has light dissection microscopes and light sources

capable of 75x magnification (Nikon SMZ-U, as well as smaller, less powerful microscopes). The Watershed and the Director have several copies of the fourth edition (2nd printing) of Merritt, Cummins, and Berg's Aquatic Insects of North America as reference. Further, experts in insect systematics will be assembled that include faculty from Adrian College, graduate students and faculty (as available) from UM and MSU, and others as can be located. All taxa recovered will be enumerated and identified to family. An eventual goal is to identify each aquatic insect recovered to the genus.

Prior to dispatching volunteer teams on stream search day, vials containing 70% EtOH and data labels are prepared. One label is placed inside the jar, and at least one other label is affixed to the outside of the jar. The data sheet also states the number of jars containing the collection from the stream site. The Stream Captain is responsible for labeling and securely closing the jars, and is also responsible for returning all jars and all equipment. Upon return to the Program building, the collections are checked for labels, the data sheets are checked for completeness and for correct information on the number of jars containing the collection from the site, and the jars are secured together with a rubber band and site label and placed together in one box. They are stored in the central office (J. Martin Lab) until they are examined and counted on the day of identification (two weeks later). The data sheets are used on the identification day, after which they remain on file indefinitely. At the time of identifying the sample, the sample identifier checks the data sheet and jars to ensure that all the jars, and only the jars, from that collection are present prior to emptying them into a white pan for sorting. If any specimens are separated from the pan during identification, a site label accompanies them. For identification, volunteers sort all individuals from a single jar into look-alike groups, and they are joined by an identification expert who confirms the sorting and provides identification of the taxa present. These identifications are then confirmed by the Program Director. When identification of a sample is complete, the entire collection is placed in a single jar of fresh EtOH and stored at Program Director's lab indefinitely. The EtOH is carefully changed (to avoid losing smaller specimens) in the jars every few years. Following identification of taxa, the Director will assemble a report that shows for each site and sample date the MiCorps index rating score, the number of all macroinvertebrate taxa recovered from a site, the number of insect taxa, the number of Ephemeroptera-Plecoptera-Trichoptera, the number of sensitive taxa, and the total number of invertebrates recovered. This will be the 7th year of holding spring stream searches for the River Raisin Watershed, and this fall we will hold our 3rd year of fall searches. The annual report will be prepared by December 2008, and will show the history of each site, with all the above metrics calculated.

B1.3

The watershed started stream search with 13 sites. An additional seven sites were added so that all major subwatersheds were searched. So, the 20 sites were selected first on being representative of one of the subwatersheds and second on the basis of likelihood of invertebrate recovery. The 20 sites must be assessable to our searchers, and must have habitat that would be conducive to invertebrate populations. All sites have examples of run, riffle, and pool; though some are clearly of higher quality than others (e.g. some sites have been more impacted by human construction and activity). Habitat will be monitored every five years in the summer or fall.

B1.4

If a study site becomes inaccessible, we will attempt to return to that site as soon as it becomes so. In the event of high water, volunteers will be asked to sample from shore and note their inability to go into the water. The director will return to that site as soon as the water level returns to safe conditions to resample.

B1.5

Program goals are two-fold, [1] to instill among our volunteers and the public at large an understanding of basic ecological principles of moving water and the effects of impairments on water quality. This is achieved through training and the actual experience of searching the streams. [2] Gather macroinvertebrate data from across the watershed to assess stream health. The invertebrate samples and data sheets collected on stream search day are relevant to this goal.

B1.6

There is always conflict and worries when it comes to outfitting 30-50 volunteers. It is important for us to recognize that our volunteers have busy lives, with other priorities. We must not squander their time. The Coordinator and Program Director must be well prepared so that events run smoothly. Training must be careful and concise. The day of the event must have all materials prepared. Stream Captains must know where they are going, and the team must work well together. It is important to us that the volunteers have a good experience.

Further, materials and resources are always in limited supply in a not-for-profit, volunteer monitoring situation. We must husband our resources and properly maintain our equipment.

B1.7

There are three principal sources of variation: the weather (extreme weather variation; wet versus dry years); training and volunteer motivation; and real change in the river. We must, as best as possible and following the quality assurance guidelines outlined here, eliminate the first two from our analysis in the face of variation so as to understand any real change in the health of the river.

B1.8

Collectors will dump their nets into white pans held by Sorters. The Sorters will collect macroinvertebrates with forceps and place all stream invertebrates into containers labeled with locality data within 70% EtOH.

B1.9

Prior to leaving a site the Collectors will rinse their dipnet in the river. All mud and emergent vegetation will be removed before traveling to the next site. This is emphasized at the training event.

B1.10

Macroinvertebrates will be preserved in 70% EtOH until macroinvertebrate identification, two weeks later. At that point they will be enumerated. Rare families will be incorporated into our voucher collection. The remainder will be saved as vouchers and/or used in future training events.

B1.11

The Director and the Coordinator will take whatever corrective action is necessary if a stream can not be sampled on the event day. This will include returning to the site at a later date and searching themselves. Further, the Director will examine all vials returned at the end of the sample event day. If a set of vials from a collection site appears to be inadequate (< 30 invertebrates recovered, or the sample looks to not have representative functional groups present) the director will organize another search of that site as soon as is possible. The annual report will comment on poor samples.

B1.12

Prior to search day all sample vials will have a tag placed within them. The tag will contain information about the date and site searched. Once samples are placed in vials at stream side, vials are carefully capped and brought back to the Director or Coordinator at the check in location. The Director will examine all vials recovered and add new EtOH if necessary. Samples will be held in the Director's laboratory, at room temperature conditions (~68°F) until the macroinvertebrates are identified two weeks later.

B1.13

The Stream Captains will be responsible for returning the completed forms and invertebrate samples to the Program Director or the Program Coordinator. The transfer of these items will normally be done on the day of the stream search (unless special arrangements are made), when nets and waders are returned to the dispatch point.

B2 Instrument/Equipment Testing, Inspection, and Maintenance

B2.1

Equipment for each of the ten teams includes: two 4 gallon buckets, two white trays, four forceps, two D frame kicknets, two pair waders, one drop cloth, one camera, first aid kit, two water bottles thermometers, sanitizing gel and clipboard. Drinking water and snacks are also provided for the teams.

Equipment for Bug ID day includes: sorting pans, ID trays, forceps, some reference material (microscopes and other reference material belong to the Program Director or Adrian College)

The equipment will be stored at the River Raisin Watershed Office, on Sutton Road, Adrian.

B2.2

Materials must be cleaned after each use to preserve length of service. Every spring, nets must be checked for holes and mended or replaced and waders must be assessed, repaired, or replaced when they no longer hold water out.

B2.3

When returning equipment, Captains will communicate to the Coordinator or Director any problems encountered with equipment. The equipment return is an appropriate time to assess major problems with equipment. As the next stream search day approaches, material is then reassembled for teams and examined for worthiness. The River Raisin Watershed Council recently developed and approved an equipment loan policy.

B2.4

The Stream Coordinator is the one primarily responsible for examining equipment. The Director will assist if necessary.

B2.5

Defective material will be replaced or, if possible, repaired. If an item has been found to be deficient in the past and has undergone repair, it will be tracked at each check-in and checkout.

B3 Inspection/Acceptance for Supplies and Consumables

B3.1

EtOH has been provided through University of Michigan and Adrian College in the past. Vials have been procured from Bioquip. Other supplies have been acquired through similar venues. The Stream Coordinator will assess quantities of materials prior to and after the stream search event.

B3.2

The Stream Coordinator is the one primarily responsible for maintaining consumables. The Director will assist if necessary.

B4 Non-Direct Measurements

Not applicable at this time.

B5. Data Management

B5.1

Each fall a comprehensive report on the Adopt-A-Stream findings will be produced by the Program Director. This document will include the location and physical description of each site. It will include the complete invertebrate history of each site. It will include the latest findings for each site, and will explain the most recent findings in the context of the history of each site.

The existing electronic data base will be expanded to include the new findings. For each of the sites the data given in section A7.1 will be entered.

B5.2

Relevant program information will be communicated to the Executive Director of the Watershed by the Program Director. Both will retain copies.

B5.3

A hard copy has been produced of all data (as listed in A7.1) for all sites and for all years. This has been provided to the Watershed Council by the Program Director. Electronic data are stored on at least two different computers and on CD.

B5.4

The data sheets filled in by the Stream Captain is given to the Coordinator on their return. This is kept with the samples until Bug ID Day. At that point a data sheet will be produced showing which invertebrate groups were recovered and how many of each. This data will be entered into the database. The MiCorps data will be entered into the MiCorps database and will also be in the annual report.

B5.5

All calculations are checked twice. Hard copies of all computer entered data are reviewed for errors by comparing to field data sheets. Unusual results for a particular site (an unusually high or low score) are rechecked against field and bug ID data sheets

B5.6

Data are entered by hand by the Program Director into a spreadsheet (JMP 4.0.4). For each site, each of the metrics discussed in section A7.1 are entered. Once entered into the spreadsheet, data can be compared (within a location through time, between locations, break the data into subwatersheds, ect.)

B5.7

This was discussed in section A7.

B5.8

The Program Director is responsible for data entry and analysis.

B5.9

Please refer to section B5.3.

B5.10

N/A

C1. Assessments and Response Actions

C1.1

The field and lab data are examined across time during the writing of the annual report. Further, site anomalies may be noted when [1] Stream Captains turn in their vials with collected insects. A poor showing for a site may be immediately identified by the Program Director at this time and the Director may order another sample, or [2] on Bug ID day a given site's invertebrate captures becomes known. If the invertebrate captures are not in congruence with previous findings for that site, that site may become marked for a resample, and the next seasons' Stream Captain carefully counseled.

If MiCorps personnel are available, they are welcome to come and assess our search.

C1.2

The Program Director is responsible for assessing the quality of the volunteer work. Any member of the organization, be they volunteer, staff, or board member may speak to the Director about concerns. The Director will evaluate concerns and act accordingly.

C1.3

See C1.2

C1.4

The Program Director has ultimate authority for addressing assessment concerns within the Adopt-A-Stream Program. If a problem is of a serious enough nature, the Program Director will discuss and look for council from the Executive Director and the Executive Board of the River Raisin Watershed. Any changes to the historical record of any Adopt-A-Stream site (e.g. throwing out a data point on the basis of a poor collection) will be documented in the annual report.

C2 Data Review, Verification, and Validation

C2.1

Refer to A7.

C2.2

The Program Director will revisit selected sites during the summer months and resample. The Director will sample for a minimum of a two hour period, placing all captures into pre-labeled vial every 30 minutes (so a minimum of four samples will be removed). The findings of these samples will be compared to the volunteer collected data.

For validation, the number of all new taxonomic discoveries will be plotted against time. If a site asymptotes prematurely (no new findings, followed by many new, same season, findings) that data collection will be judged to be incomplete. Invariably these premature asymptotes are linked to low sample size (<30 individual invertebrates collected).

C2.3

The Program Director is responsible for verifying and validating. This is a small watershed organization. There isn't anyone else.

C2.4

N/A

C2.5

N/A

C3 Reconciliation with Data Quality Objectives

C3.1

Procedures for dealing with quality objectives were discussed in A7.

C3.2

The River Raisin Watershed Council's Adopt-A-Stream Program has no regulatory ability. The Adopt-A-Stream program may recommend to DEQ or other agencies a review of certain stream stretches based on poor sample returns. All macroinvertebrate data is provisional until demonstrated otherwise (as discussed in section A7).

C4 Reporting

C4.1

The Adopt-A-Stream program collects invertebrates twice a year. Annually a report on all sites is generated. In this report all metrics (as discussed in A7) are reported. The annual report keeps a running history for each site through time. Any deviations are problems associated with quality assurance will be documented in the annual report.

C4.2

The annual report is produced by the Program Director. This report follows the chain of transfer in A4.4.

C4.3

As mentioned in C4.1, there is a running history for each site in the report. Any quality assurance problem will be noted with that site. An appendix may be produced at the end of the report, compiling all quality assurance issues.

The data sheets that volunteers fill out are from the MiCorps protocol (<http://www.micorps.net/forms.html>).