

HOW TO SELECT A TAXONOMY LABORATORY

If you are not processing your own macroinvertebrate or periphyton samples, you will be faced with the important task of selecting a contractor to process the samples for you. Given that there is currently no standard by which macroinvertebrate laboratories can be certified in the US, how does one go about selecting a reliable contract laboratory? There are several things you can do that will help you during the selection process to avoid serious data quality issues later on.

Some key questions to ask bidding laboratories:

1. **Does the laboratory have the capacity to handle my samples?** Many labs are unable to handle large numbers of samples in a timely manner.
2. **Does the lab handle hazardous good shipment legally?** Some labs are not in compliance and you should be aware of your potential to receive fines for shipping or receiving hazardous materials illegally.
3. **How long has the lab been operating?** Startup labs often provide low bids to get work in the door. Lack of experience is a risk factor you need to evaluate.
4. **Who are the staff members?** It is a good idea to see who the staff are, what their training is, and how long they have been with the firm. High employee turnover of taxonomists can be indicative of inexperience.
5. **Does the laboratory have an internal QA plan? If so, what is it?** Be sure to ask for a copy of the QA plan. This will tell you if the lab is concerned with internal quality assurance.
6. **Will the lab provide you with a QA report on your samples?** A QA report for your project should be included in the sample price.
7. **Does the lab have adequate equipment and literature?** Ask for an equipment list and list of taxonomic references. An inadequate literature list may indicate an inability to perform species-level ID.
8. **Has the lab published anything along the lines of new species descriptions or new distributional information?** These publications indicate the lab has a genuine interest in, and knowledge of scientific aspects of new species records and invertebrate ecology.
9. **Does the lab have a dedicated database manager who can error-check the data and deliver it in a format compatible with your needs?** The data delivered to you should be in the format you request so you do not have trouble importing or configuring data. When it is time to analyze your data, you can realize *significant cost savings* if the data are in a user-friendly format.
10. **What does the lab charge for its services?** Unusually low or high bids should raise a red flag. Remember, you get what you pay for...up to a point.

Things you can do that will help ensure the quality of your data:

- *Be sure you have well-defined objectives and an appropriate sampling design before you sample.*
- **Budget enough funds** to allow for 10-20% of the samples to be reprocessed by a second, highly qualified laboratory or your own staff. This will allow for another look at the invertebrates and will reveal any problems with taxonomic identifications.