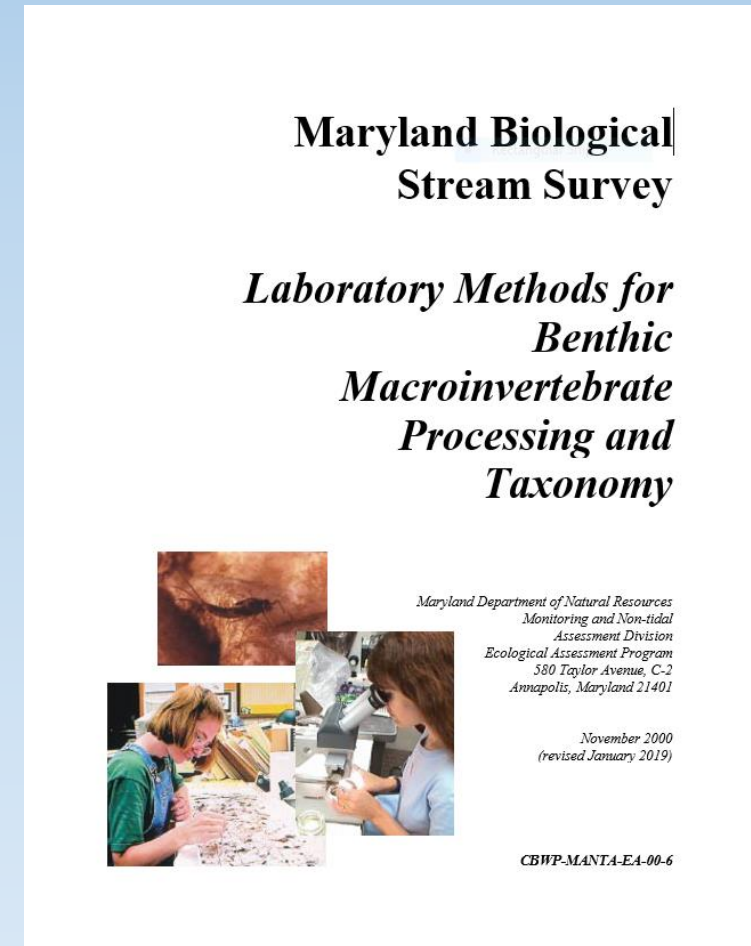


# MBSS Benthic Lab Processing and Taxonomy

## Benthic Lab Protocols

- Everything in my presentation can be found in our Laboratory Manual
- Sample Delivery and Check-in
  - Chain of Custody form
  - Each sample is given a unique “log number”
  - Store samples in a well vented location until they are to be sub-sampled



# MBSS Benthic Lab Processing and Taxonomy

## Laboratory Preparation and Sub-sampling

- Pour contents through a U.S. #30 sieve (595  $\mu$  mesh)
- Rinse sample material with tap water to remove fine sediment, clean and remove any large objects such as sticks, stones or large leaves
- Transfer to standard MBSS sampling tray (100-5cm<sup>2</sup> grids)
- Randomly choose grids and remove organisms until the grid containing the 120<sup>th</sup> organism is picked completely and place them into a 60 ml sample vial with 95% ethanol



# MBSS Benthic Lab Processing and Taxonomy

## Laboratory Preparation and Sub-sampling

- When finished processing sample, pour remaining sortate back into bucket and replace preservative
- Retain sortate for 5 years
- Sub-sample is kept for at least 10 years



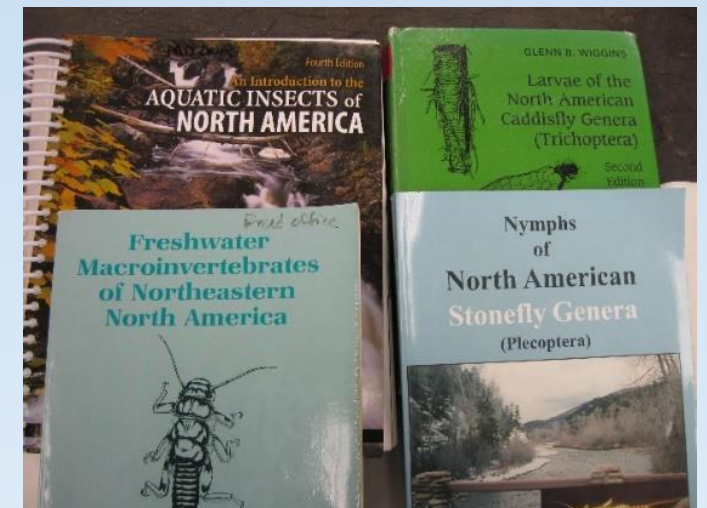
# MBSS Benthic Lab Processing and Taxonomy

## Laboratory Identification

- Most organisms are identified to genus level if possible using a stereoscope
  - Some exceptions include: Oligochaeta (family), Nematoda (phylum), Nematomorpha (family - Gordiidae)
- The organisms not identifiable to genus due to immaturity, size or damage may be left at family or higher
- MBSS Benthic lab only uses **published** taxonomic keys for identification



Missing gills, cerci and legs  
Heptageniidae



# MBSS Benthic Lab Processing and Taxonomy

## MBSS Benthic Lab Certification

- Brief training at Annapolis Field Office Benthic Lab
- Read lab protocol manual (preferably ahead of time)
- Step by step demo of lab protocol
- Process and sub-sample one sample using shown method while lab personnel check over their work using a QAQC standard
- Complete a short written test (Passing is 90% correct)
- Goal is  $\leq 1$  BIBI unit between applicant and auditor

