

**Protocol for Monitoring Springs at Ozark National Scenic Riverways, Missouri.
Heartland I&M Network**

SOP 2: Training for Field Sampling and Laboratory Processing

Version 1.1 (11/4/2019)

Revision History Log:

Previous Version #	Revision Date	Author	Changes Made	Reason for Change	New Version #
1.0	11/4/2019	Dodd	Revised training requirements and explained certification process for habitat and fish collection	IMD guidance	1.1

This SOP explains the training procedures for using field equipment properly, collecting spring community and habitat data, and processing invertebrates in the laboratory. This training ensures a high level of consistency among samplers and processors while maintaining crew safety. Prior to training, all personnel should review the general protocol and each SOP. Someone familiar with the protocol and experience with the sampling and processing procedures should supervise the training.

Field Sampling and Habitat Data Collection

Procedure:

- A. **Aquatic Plants.** All field personnel will review the plant identification guide included in SOP #5 and be familiar with common species of aquatic vegetation occurring in the springs prior to monitoring. Monitoring techniques described in SOP #5 (Aquatic Vegetation Sampling) also will be reviewed prior to sampling. Field crew leads responsible for plant identification will be certified. New team members will practice plant identification and assigning Daubenmire cover classes to vegetation in practice plots with a certified crew lead. See SOP #5 for details on certification and QA/QC procedures.
- B. **Habitat Data.** Field crew leads responsible for collecting habitat data will review SOP #9 (Physical Habitat Measurements) and be certified in collection of habitat data. The

project lead will conduct certification of crew leads. For new crew members who will assist with habitat data collection, a nearby stream will be used to practice collecting habitat data under the supervision of a certified crew lead. New members, under supervision of crew leads, can then assist with habitat data collection. See SOP #9 for details on certification and QA/QC procedures.

- C. **Invertebrates.** All crew members will review SOP #6 (Aquatic Invertebrate Sampling) prior to collection of samples and will follow the procedures outlined in this SOP. New members will initially collect samples under direct supervision of a crew lead when collecting in the springs. Crew leads will ensure that each person is comfortable with all aspects of the sampling routine and equipment.
- D. **Fish.** All crew members will review collecting methods described in SOP #8 (Fish Community Sampling). Two critical elements to collect quality data and maintain consistency across years is: an adequate number of experienced crew members and the consistency in the team conducting the fish sampling and habitat data collection. Training is key to data quality and consistency as well as clearly defined QC procedures. Crew training and qualifications along with QC and certification procedures are outlined in detail in SOP #8.
- E. **Discharge and Water Quality.** All crew members will review methods described in SOP #4 (Documenting Core 5) and SOP#10 (Measuring Discharge) prior to sampling. Field crew leads will be familiar in calibration of the flow meter and water quality meters and proper deployment procedures and use of these instruments. Crew leads will instruct new crew members on how to collect discharge and deploy water quality instruments.
- F. **Laboratory Processing of Invertebrates**
All new staff responsible for processing invertebrate samples will read SOP #7 prior to sorting or identification and experienced staff may review this SOP from time to time. All staff will follow steps outlined in SOP #7 (Laboratory Processing and Identification of Invertebrates). A QA officer (project lead or certified staff member) will conduct QC procedures for new and experienced sorters and conduct certification for these staff. Certified staff may then QC others on sorting efficiency. The QA officer will also conduct QC procedures for identification accuracy and certify staff members in identification of invertebrates. See SOP #7 for details on certification and QC procedures.