

Workshop: Using environmental DNA for surveys and monitoring

Dates: November 5-9, 2018

Location: The Wilds Conservation Science Training Center, Cumberland OH

Instructor: Dr. Stephen Spear, Director of Wildlife Ecology at The Wilds

Environmental DNA is increasingly used as a monitoring tool for aquatic and even some terrestrial species. This week-long workshop will provide a detailed introduction to eDNA methodology and how to apply the method into a monitoring framework. The workshop will have lecture components, but will primarily focus on hands-on lab exercises. The workshop is geared toward focal species eDNA monitoring, although metabarcoding approaches will be discussed. The following topics will be included:

- Overview of eDNA case studies using both water and soil sampling
- Collection and filtering of water and soil samples in the field
- Designing primers for species-specific amplification
- Laboratory extraction and amplification of eDNA samples using qPCR
- Interpreting results and analytical tools for using eDNA in monitoring programs.

At the end of the week, each participant will have collected, extracted, and analyzed their own eDNA samples. Participants will also work in groups to design and implement a small eDNA research study during the course of the week.

This workshop is targeted toward both professionals and graduate students with limited first-hand experience with eDNA that are looking to learn more about the method or develop their own eDNA projects. No previous experience is required, although some prior experience in either genetic techniques or monitoring methods would be helpful.

The course will be located at The Wilds (<https://thewilds.columbuszoo.org>), a 10,000 acre AZA conservation center located approximately 90 miles east of Columbus. Our facilities include a low-copy DNA lab, a general lab, classroom, Eastern hellbender conservation center, and many lakes and streams. Housing is available at the new Wilds cabins at Straker Lake (<https://thewilds.columbuszoo.org/home/visit/stay-overnight/the-wilds-cabins-at-straker-lake>). The cabins at Straker lake have 3 rooms/ 2 bathrooms per cabin. Each room has two beds. A limited number of spaces at our Conservation Science Training Center cabins will be available for students on a first-come, first-serve basis. Food service will not be available at The Wilds during the workshop, although each cabin comes with a kitchen that will allow participants to prepare their own meals.

Workshop fees and costs: The fee for the workshop is \$700 for professionals and \$500 for students. Housing at the cabins at Straker lake is an additional \$50/person/night for each room if there are two people per room, or \$100/person/night if an individual room is desired. Limited student housing at the CSTC cabins is available for \$62.50 for the entire week.

To register for the workshop or to ask any questions, please contact Stephen Spear at sspear@thewilds.org.