

Safety in The Field

Field work is a vital part of most environmental research. To make the most of every trip into the field, it's necessary to plan and prepare for the safety of all Team Members.

- An itinerary must be filed before any field work is performed.
- Field work itineraries should be submitted to Prof. Viadero at rc-viadero@wiu.edu

Prior to conducting any off-campus studies, an itinerary must be submitted electronically to the faculty laboratory supervisor and to support personnel in both the Quad Cities and Macomb. The itinerary should include:

1. Date and destination(s).
2. Departure time and an estimated return time.
3. Name and contact information for the Team Leader. This person will serve as the group's main point-of-contact.
4. Names of Team Members working in the field.
5. The make, model, and registration/license plate numbers of vehicles.
6. Any planned periodic check ins with the lab and the method used to check in (phone call, text, email).
7. A brief overview of the planned work.

Use of Chemicals in the Field

- In environmental science field research, the most common chemicals taken into the field are small volumes of concentrated strong acids including nitric acid (HNO_3), hydrochloric acid (HCl), and sulfuric acid (H_2SO_4). These acids are used to preserve samples for later analysis in the laboratory. The particular acid used is a function of target analyte(s).
- The use of chemicals in the field should be minimized by taking the smallest volume of chemical needed and/or taking dilute solutions. Generally, acids used to preserve samples in the field are transported in small dropper bottles.
- MSDS sheets for chemicals used in the field must be taken with the Field Team.
- Any chemicals used in the field should be transported in a secondary containment holder.
- Appropriate personal protective equipment must be taken and used by all members of the Field Team.
- Appropriate supplies should be taken to appropriately manage any spill of the reagent(s) used in the field.

Personnel Responsibilities

Before leaving, the Team Leader should:

- Submit an itinerary.
- Take a first aid kit with a first aid manual.
- Verify that necessary MSDSs and spill containment materials are taken.
- Ensure the team takes appropriate personal protective equipment for each Team Member.
- Check the weather forecast.
- Be familiar with potentially poisonous animals and insects, hazardous terrain/site conditions, and weather.

- Ensure the team has necessary scientific and safety equipment and supplies to complete planned work. This includes personal flotation devices (PFDs) when working on or from boats/watercraft. Often, PFDs will be available on the boat. The Team Leader should ensure a sufficient number of PFDs are available on board the boat for all Team Members.

Team Members should:

- Gather any necessary personal protective equipment (safety goggles, hard hats, boots, gloves, etc.)
- Be sure immunizations are up-to-date.
- Have weather-appropriate clothing (rain jacket, insulated boots, a hat, waterproof gloves, etc.) When working around water, an extra change of clothes is recommended.
- Have necessary personal supplies (medications taken on a regular basis, identification such as a state-issued driver's license or equivalent, medical insurance identification card, drinking water, sunscreen, etc.)
- Have a sufficient supply of allergy treatments for those who suffer from a severe reaction(s) to an allergen(s). Team members who know they have severe reactions must inform the Team Leader of the nature of the allergy, known signs/symptoms, and the location of allergy treatments in the event assistance is needed to administer the treatment.
- Be familiar with potentially poisonous animals and insects, hazardous terrain/site conditions, and weather.
- Take time to point out hazardous plants or animals (poisonous plants; poisonous, biting, stinging animals; poisonous mushrooms; etc.). Explicit instruction on what to watch out for could be incorporated into a sample page of a notebook where students are guided to identify, sketch, and ask questions about a hazardous species. The element of danger could help hold students' attention.
- Be aware of student allergies to specific plants, pollen, or bee stings. Bring appropriate medical materials if necessary. In general, bringing a first-aid kit when working in the field is a good rule of thumb.
- Any student with a known bee sting allergy should carry an EpiPen when they go out in the field.
- Gloves should be provided to personnel to wear when handling potentially harmful plants.