**Environmental Science Field Trip/Project Safety Manual**

**While most “field trips” are to commonly used areas on school property; however, we must remain vigilant and cautious to ensure safety.**These rules and guidelines were developed to help ensure that all field trips/projects exercise the utmost regard for the safety of each student participant. Following these rules and guidelines should provide the safest practical environment for those participants and should minimize the occurrence of safety-related incidents.

1. **PARTICIPANT RESPONSIBILITIES**

**Each Field Trip/Project Participant is Responsible For:**

* Following all safety instructions.
* Acting in a manner that is safe for themselves and their co-participants.
* Using personal protective equipment (PPE) when necessary, as when recommended or upon personal identification of a hazard requiring PPE use.
* Disclose any personal dietary needs, health risks or physical disabilities that may limit their full participation in the field trip/project, or that may affect their health and safety or that of co-participants.
1. **SAFETY GUIDELINES AND SPECIFIC RULES FOR FIELD OPERATIONS**

When in doubt about any activity, err on the side of safety and caution!

1. **PERSONAL PROTECTIVE EQUIPMENT & CLOTHING**

**Footwear**

Type of apparel should be governed by the climatic conditions and terrain. Be sure the footwear fit properly. Bare feet, high heels, clogs and sandals are inappropriate for field work.

**Eye protection**

Safety Glasses or Goggles **MUST** be worn to protect the eyes during activities such as chipping or grinding rocks, moving through areas heavy with tree branches etc. Chemical splash goggles must be worn when working with chemicals that could injure the eyes (corrosives) unless the chemical is used behind a "protective shield". An eyewash is also required when working with corrosive chemicals.

**Appropriate clothing**

In the field all participants should have hats, sunscreen, etc. Hats will shield you from the sun and help prevent sunstroke. If you should suspect that you are overheated you must inform me immediately. We always will err on the side of caution and you will be sent to the nurse for evaluation

**4. DON'T GET LOST!**

Never go off alone.

**5. ETIQUETTE**

Leave each site as you found it, or cleaner. Pick up all trash and don't forget your tools and equipment. Gates should be left open or closed according to how they were found, unless otherwise directed. Notify the meif you see any questionable or dangerous activity. **In the event of persistent unsafe or inappropriate behavior by a field trip participant, you will be consequence and receive a 0.**

**9. POSSIBLE HAZARDS**

Beware of illegal "toxic dumping" in areas never picked up discarded items as well and avoid such possible toxic materials or residues. When encountering these items, note the location, warn others and notify me so that I can notify the appropriate authority.

**10. EXPOSURE TO THE ELEMENTS**

**Sunburn**

Sunburn is a common and easily preventable hazard. People differ in their susceptibility to sun due to their skin pigmentation. Certain medications can also increase susceptibility to the sun. **IF YOU ARE TAKING A MEDICATION THAT STATES YOU SHOULD AVOID EXPOSURE TO THE SUN YOU WILL BE EXCUSED FROM THE EXERCISE**.

**Heat Exhaustion**

Heat exhaustion can affect individuals in any physical condition. It is typically caused by prolonged physical exertion in a hot environment. Heat exhaustion symptoms include fatigue, irritability, excessive thirst, heavy sweating, and cool and clammy skin. Treat these symptoms by lying the down in a shaded area and you will be transported to the nurse for evaluation.

**Heat stroke**

This is more serious than heat exhaustion. Symptoms include high body temperature; hot, red, dry skin with absence of sweating; rapid pulse; convulsions and unconsciousness. This is a potentially fatal condition that requires immediate attention. **As soon as you feel overheated tell me so that we can take proper precautions.**

**11. WATER PURITY**

A variety of potentially harmful pathogens including bacteria, parasites, and viruses can survive in natural water sources such as streams, lakes, and rivers. Never drink from a natural source of water!!!

**12. POISONOUS PLANTS**

"Leaflets three, let it be". Poison Ivy and Poison Oak are common in the East. Consuming the wrong "edible" wild plant can also be a route of poisoning. **Never consumeor touch plants without gloves. NEVER eat anything such as** "wild mushrooms" on a field trip/project. To prevent contact exposure, learn to recognize and avoid poisonous plants. Wear long pants and long-sleeved shirts to eliminate or minimize exposures. Don't touch objects that have had contact with the plant (like shoes).If you come in contact with a poisonous plant, don't spread the rash by touching other areas of the body. Carefully remove contaminated clothing if possible. **TELL ME IF YOU HAVE ANY CONTACT WITH A POISONOUS PLANT SO THAT YOU CAN GO TO THE NURSE TO BE EVALUATED**

**13. PESTS AND WILD ANIMALS:**

Minimize problems by paying attention to the following:

* Do not feed any animals (birds, ducks etc)
* Be aware of the appearance and habitat of pests likely to be found.
* Carefully look for pests before placing hands, feet, or body in areas where pests live or hide; e.g., wood piles, crevices, ant hills, or burrows.
* Do not touch or come into contact with sick or dead animals.

**If you are bitten or stung and any of the following you will report to the nurse**

**Common Field Pests**

**Bees and Wasps**

Bees (including "Killer Bees"), wasps, hornets and yellow jackets may be attracted to scented materials (body fragrances, perfumes, lotions, deodorants, and scented soaps) and food. These insects can inflict stings that can cause serious or fatal allergic reaction in some people. This is the most frequent cause of serious medical problems among field workers, after trauma, e.g., falls and vehicular accidents. **Avoid and report any bee activity!** If you know or suspect you are allergic to these insects, you must inform me.

**Centipedes**

Centipedes may be found under boards, in cracks and crevices, and moist locations, where they hide during the day and emerge at night to eat small insects. The centipede's bite is more painful than serious.

**Conenose Bug**

Conenose (assassin) bugs may be found in areas animals inhabit. They breed in the dens of wood rats. Conenose bugs thrive on blood, can carry disease, and can cause serious allergic reaction in some people.

**Fleas and Ticks**

Fleas and ticks commonly inhabit animals and their nests and trails. Both are blood suckers, and their bites can spread diseases such as Bubonic plague (flea) and Lyme Disease or Rocky Mountain Spotted Fever (tick). When outdoors, wear clothing of tightly woven materials, tuck pants into boots and stay on the widest part of paths.

**Mosquitoes**

Mosquitoes bites can spread diseases such as West Nile, LaCrosse etc. Birds can be reservoir hosts for some diseases such as West Nile, and incidental hosts such as dogs, cats, horses and other vertebrates can also carry disease.

**Snakes and Other Reptiles**

Most snakes encountered are harmless. Several species of rattlesnake, however, may be encountered in the Eastern US. Walk in open areas.

**Spiders**

Black widow and brown recluse spiders may be found in shady protected rock piles, under logs or bark, in outdoor privies and in old buildings. Both spiders can inflict painful bites which can cause local reactions, sweating, nausea, muscle cramps, fever, chills etc. Locally, spiders have been linked to cases of MRSA.

**ANY BITES, STINGS, OR EVEN POSSIBLE EXPOSURES/CONTACT WITH THE ABOVE WILL BE EVALUATED BY THE NURSE.**

**14. DISEASES:**

**Hantavirus Pulmonary Syndrome**

Hantavirus Pulmonary Syndrome (HPS) is a respiratory disease caused by a virus that is transmitted via the deer mouse and its feces. The risk of transmission appears to be low. However, HPS is difficult to diagnose and treat and has a relatively high fatality rate. Infection occurs by breathing dust or aerosols containing feces, urine, or saliva from infected deer mice. The most likely ways to acquire the disease are 1) by entering or working in buildings where there has been heavy mice infestation, 2) by excavating rodent burrows or sites very nearby them, or 3) by directly handling the rodents or their carcasses, or disturbing their feces. Anyone who develops the flu-like symptoms mentioned above within six weeks of a possible Hantavirus exposure must seek medical care at once and alert the health care provider of the potential Hantavirus exposure.**NEVER ATTEMPT TO CAPTURE/CORALE/PET ETC. any rodent, squirrel etc. or their nest.**

**Lyme Disease**

The disease is spread by the bite of an infected tick. Contact your health care provider at once if you experience the following symptoms (typically three days to one month after tick exposure): a red bump where bitten, joint pain, fever, chills, headache, and malaise. Untreated Lyme Disease can appear to go away, only to return in more serious form later. Secondary stages can include heart complications and meningitis-like symptoms. Months or years later, arthritis can appear, and the later stages can involve chronic neurological manifestations.

**Plague (Bubonic)**

This bacterial disease has been found in several areas in the Southwest. Plague may be contracted through the bites from a rodent flea or by contact with infected animal tissues, or inhalation of the bacteria of the animal. Infected fleas may leave a sick or dead animal host and bite people. Symptoms include fever, chills, malaise, nausea, sore throat and headache. Symptoms may appear from one to seven days after infection. Untreated plague is fatal in about half of all reported cases. You should discuss immunization against plague with your doctor or Student Health Services if you are working in a plague-infested area or are likely to come in contact with fleas.

**Rabies**

Several wild and domestic animal species are reservoirs for rabies, including foxes, wolves, bats, coyotes, raccoons, skunks, dogs, and cats. Rabbits, squirrels, chipmunks, rats, and mice are rarely infected. A bite from an infected animal can pass the generally fatal disease to humans. To prevent exposure, avoid contact with any wild animals, particularly sick or dead ones.

**Rocky Mountain Spotted Fever**

This disease is spread by tick bites, and is characterized by flu-like symptoms including fever, headache, and muscle pain and is often accompanied by a rash. Symptoms appear from 3 to 14 days after the tick bite.

**Tetanus**

The spores of this disease-producing organism can enter the body through puncture wounds, lacerations or burns that become contaminated with soil or excrement. Immediately wash all wounds to help prevent tetanus, and consult a Doctor. This potentially fatal disease causes painful muscle contractions and spasms. The incubation period varies from 3 to 21 days, depending on the extent and location of the wound

**West Nile Virus (WNV)**

The most likely route of WNV infection to humans is through the bite of an infected mosquito. Most cases of WNV are probably not acquired in the workplace but there are some workers at risk of WNV infection, such as people who work outside. Most human WNV infections cause either no symptoms or a mild flu-like illness. The most severely affected patients may develop an inflammation of the brain, or the membranes of the brain or spinal cord, or both, called encephalitis, meningitis, or meningoencephalitis, respectively. These severe cases may be fatal. The most likely way persons become infected with WNV is through the bite of an infected mosquito.

While working outdoors, you can decrease their risk of WNV infection by reducing their contact with mosquitoes through the use of the personal protective measures listed below where mosquitoes may be actively biting:

* Wear long-sleeved shirts, long pants, and socks when possible.
* Consider applying insect repellent to exposed skin, as appropriate and according to label directions. When in doubt contact and discuss options with your personal physician.

**Guidelines:**

* Report any hazards as soon as possible.
* Use Personal Protective Equipment (PPE)
* Taking immediate action to minimize any unsafe action or condition.
* Maintain communication
* Report any injuries
	+ Do not perform any activities that you feel may exceed your physical capacity.
	+ Never go anywhere alone (always have a buddy) - do not wander off by yourself
	+ **REPORT any incident or accident immediately**

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Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date \_\_\_\_\_\_\_\_\_ Period \_\_\_\_\_\_\_\_

**Environmental Field Guidelines 2013-2014**

We have read and discussed the Class Guidelines and Lab Safety Guidelines, and agree to address any issues we may have immediately.

student signature

parent/guardian name parent/guardian signature date