

## **Protocols for Preventing the Spread of Fungal and Viral Pathogens<sup>a</sup>**

### **When to Decontaminate**

1. Between sites located in different watersheds.
2. Between individual sites that are surveyed when traveling distances greater than 5 kilometers or between definitive clusters of sites.
3. Between all breeding sites of sensitive species that are surveyed and separated by more than 1 km.
4. After any site where dead, dying, or ill animals are encountered.

### **What to Decontaminate**

1. Boots
2. Dipnets
3. Socks
4. Any other body parts, clothing, or other equipment that was exposed to waters or mud.

### **Washing and Decontamination Procedures**

1. Washing - Once surveys are completed at a site or watershed scrub and rinse all equipment to remove any lingering mud. Whenever possible, it is a good idea to do this between all sites.
2. Prepare a mixture of 10% bleach (a ratio of 4 ounces (one-half cup) of bleach to every 3.8 L (1 gallon) of water) in a waterproof tub or bucket that can be carried in your vehicle between watersheds or sites. Use a fresh bottle of bleach each field season and to ensure that concentrations remain around 10% a new bleach mixture should be made on a regular basis. If the solution of disinfectant becomes cloudy or brown with mud, silt, and vegetation, it should be discarded and a fresh solution made. Diluted bleach solutions should also be discarded after decontaminating equipment from any site where dead, dying, or ill animals are encountered. When discarding used bleach pour it out at least 30-40 meters away from water, preferably on the surface of a road or other ground surface that has already been highly impacted.
3. Decontamination - After washing equipment, dip and thoroughly scrub individual items in the container of 10% bleach. An alternative approach for remote sites where carrying a tub of bleach is impractical is to spray rinsed equipment with a concentrated (25-30%) bleach solution out of a large spray bottle and then let equipment dry between sites.
4. Do not rinse bleached equipment between sites. Instead allow the bleach to remain on the equipment to ensure that all pathogens are killed. Most bleach will evaporate between sites so the amount of bleach introduced at the next site should be quickly diluted.

### **At Sites Where Ill or Dead Animals Have Been Found**

1. Report observations of numerous ill or dead animals to a qualified biologist as soon as possible so that the cause(s) are more likely to be ascertained.
2. Use a fresh pair of rubber gloves to handle live animals at a site where ill or dead animals have been found in order to ensure that pathogens are not being transferred between individual animals.

<sup>a</sup>Maxell, B.A., J.K. Werner, P. Hendricks, and D.L. Flath. 2003. *Herpetology in Montana. Northwest Fauna No. 5, Society for Northwestern Vertebrate Biology. 138 pp.*