



Protect California's native plants from damaging pathogens: Important sanitation steps to take when visiting native plant habitats



Photo: Phytosphere Research

Destructive invasive plant pathogens and weed seeds can be transported to sensitive plant habitats when contaminated soil or plant material is shed from footwear, equipment (such as hiking poles), and other personal items.

Planted landscapes can be a source of damaging plant pathogens such as *Phytophthora* species, so treat dirty footwear from your yard, urban parks, etc., as contaminated.

Especially in heavily visited locations, native habitats may have areas that are already contaminated. When soils are wet, plant pathogens and weed seeds can be spread in contaminated mud and plant materials that stick to footwear and other items.

What you can do

Start clean: Before you travel to a field location, always make sure your footwear and other items are free of visible soil or plant material, including clinging seeds. If you are visiting multiple locations, check and reclean as needed before you go to your next stop.

Stay clean. To avoid spreading soilborne pathogens while on the trail, avoid walking on muddy soil, and remove any mud or soil that is picked up as close as possible to its source. Carry a cleaning kit and use it if you are unable to avoid wet areas. Check frequently for hitchhiking weed seeds and don't discard them in a noninfested area – use a trash bag.

How to clean

Cleaning: If you can see soil (or seeds, plant debris, etc.) on your shoes and other items, they aren't clean. Clean soles and other materials so no residual soil or debris are visible.

Before you go:

1. Loosen and remove dirt directly into a trash bag using a stiff brush. You may need to use a screwdriver or similar tool to clean grooves and between treads.
2. If items are not clean after dry brushing, clean at a laundry sink, tub, or similar. Wet the dirty areas with soapy water and use a brush to scrub off clinging soil. Rinse with clean water. Dirty water should go down the sewer drain, not onto the ground or into a storm drain.
3. When items are visibly clean, let them dry before use so they don't pick up soil. Spraying the washed surfaces with 70% isopropyl alcohol can speed drying and also acts to sanitize any residual soil film. Transport your clean items in a clean bag or bin.

In the field:

Cleaning is more difficult in the field, so avoiding muddy situations is best. Carry a cleaning kit for in-field use including a small brush, screwdriver or pick, small spray bottle of 70% isopropyl alcohol, paper towels or cloth rags, and plastic bags. When cleaning, remove as much soil as possible before using the alcohol to finish cleaning.

If your items need further cleaning when you return to your vehicle, clean them thoroughly before you leave if you are going to another field site. If returning home, you can change into clean footwear and place dirty items in a bag or bin to be cleaned at home. If using noncleanable bags, they should be disposed of with regular (landfill) trash.

What about your vehicle?

A dirty vehicle can spread disease. Ideally, your vehicle's tires, wheel wells, truck bed, and interior should be free of soil and plant materials that may be shed along the road or at the parking area. Before heading to a site, particularly if you will be driving or parking in unpaved areas, use a standard commercial car wash for the body and undercarriage and to vacuum the interior. Be aware that driving into puddles or muddy areas can also facilitate the spread of plant diseases.

For more information see the Phytophthoras in Native Habitats website, www.calphytos.org.