



Inside Canyonlands

Biological Soil Crust Transcript

Hi folks, I'm Karen Henker at Canyonlands National Park.

Many visitors to Canyonlands are surprised when they're told to "be careful where you walk...because our dirt is actually alive."

Biological soil crust is a common surface covering here at Canyonlands and surrounding area, and without it, there would be almost no life in this desert. This knobby, black crust you see here is actually a whole community of microscopic organisms, including algae, fungi, lichens and mosses. But the real star of the show is a tiny organism called "cyanobacteria."

Cyanobacteria, or blue-green algae, are one of the oldest known life forms on earth. Under a microscope they look like tiny little worms, and when they get wet they move through the soil leaving behind long, sticky fibers. Sand grains and soil particles stick to these fibers, creating a delicate structure filled with tiny holes.

Imagine this sponge-like sand structure as a miniature apartment building, where moss, algae, fungi and lichens move in as tenants. It takes decades – even a century – for the full community to form.

Where soilcrust develops, the whole neighborhood benefits. A solid coating of crust resists erosion by wind and water, and provides a stable place for plants to grow. After a rainfall, soilcrust soaks up water like a sponge, giving local plants a nice long drink. Also, the cyanobacteria help convert nitrogen in the air into a form plants can use, which is very important in this resource-poor desert habitat.

Unfortunately, it takes only one careless, godzilla-like step to crush the community and destroy the whole thing. Soilcrust takes many years to reform after damage – if ever. Yet avoiding it is simple: when hiking, walk on established trails, bare rock or sandy washes where crust doesn't grow. Vehicles and bikes should stay on designated roads, respect road closures and search only pass other vehicles where they won't damage roadside vegetation.

In many national parks, you're told to "Take only pictures and leave only footprints." But at Canyonlands, we ask you to be even more careful with your feet – and don't bust the crust! With your cooperation, this park will remain beautiful, healthy and wild for generations to come.

I'm Karen Henker. Thank you for joining me on Inside Canyonlands.