



Meet the Scientist!



As an ecologist, I seek to understand how different parts of an ecosystem, such as plants, rocks, water, and human uses, interact and change. My research strives to help people take care of their environment, especially after damaging events.

Dr. Jonathan Long

Ecologist
Ph.D., Northern Arizona University
USDA Forest Service scientist



<http://www.naturalinquirer.org>

Important Scientist Characteristics:

For my work, it is important to integrate diverse sources of information to understand how systems work and what causes them to fail. So having an insatiable curiosity and broad education is important to start. You can develop more specialized skills to recognize the building blocks of ecosystems and how they fit together.

Example of a simple research question I have tried to answer:

What ingredients are needed to restore wetlands damaged by wildfires? To answer this question, I set up long-term studies at streams that were damaged and treated. I also studied geologic maps and old photos and interviewed elders to gain an even longer-term perspective.

Technology or equipment used in research:

I used repeated surveys of stream channels using self-leveling laser devices, measurements of plants, and photographs taken at the same place over time. The measurements quantify physical and biological changes, while the photographs provide an integrated view.

Most Exciting Discovery

Working with Native Americans to restore important springs that had been damaged by overgrazing and floods, I learned that we could return many of those places to a lush, vibrant condition. I have discovered new populations of rare plants and fishes while exploring these special places.

When did you know you wanted to be a scientist?

Early in my career, I saw the opportunity for ecological restoration to resolve conflicts that had resulted from past mismanagement and injustice. I decided to study ecological restoration for my doctoral degree so I could gain a deeper understanding of how to help people bring their treasured natural places back to health.

<https://www.fs.fed.us/psw/people/profile.php?alias=jwlong>