



# Meet the Scientist!



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A forest restoration ecologist uses knowledge of forest ecology to develop techniques that restore the biodiversity, structure, and function of forests that have been degraded by human activities.

**Dr. John Parrotta**  
Forest Restoration Ecologist  
Ph.D., Yale University  
USDA Forest Service scientist

## Important Scientist Characteristics:

I think curiosity, followed by careful observation, critical thinking, and a bit of creativity are all needed for my work. These characteristics help me to explain the relationships and factors that influence the structure and species composition of forest ecosystems. They also help me to identify things that we can do to assist the natural recovery of damaged ecosystems.

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

Which factors influence the distribution of different grass and herb species found in an estuary salt marsh in Scotland? Estuaries are aquatic environments where saltwater and freshwater mix. I found that the species distributions across the marsh resulted primarily from how often the area flooded, as well as the soil conditions.

## Technology or equipment used in research:

I use observations in the field and computer software to analyze data. Occasionally, when I do soil work, I use mass spectrometers. Mass spectrometers measure the mass and concentrations of chemical elements in the soil.

## Most Exciting Discovery

Working on degraded lands in Puerto Rico, I found that planting a stand of fast-growing trees very quickly (within a few years) led to the natural regeneration of large numbers of other tree species. The planted trees improved soil fertility and attracted birds and bats that brought in seeds of tree species that otherwise would not regrow on the site.

## When did you know you wanted to be a scientist?

As a kid, I spent a lot of time in the woods, fields, and streams around my home in Massachusetts. I was fascinated by everything I found there. I knew ecology was what I wanted to study in college.

<http://www.fs.fed.us/research/people/profile.php?alias=jparrotta>