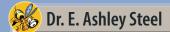A quantitative ecologist uses mathematical skills and ideas to better understand forests, rivers, oceans, fish, wildlife, climate, and more.

Dr. E. Ashley Steel
Quantitative Ecologist
Ph.D., University of Washington–Seattle
USDA Forest Service scientist

Dr. E. Ashley Steel

Important Scientist Characteristics:
I enjoy making connections between ideas from different scientific disciplines. Statistical ideas about variability can help us explore fluctuating water temperatures. Models for managing salmon have many similarities to models for predicting forest growth. Seeking out fun, exciting collaborators and learning to work together is essential for finding these fascinating links between ideas.

Example of a simple research question I have tried to answer:
How do natural water temperature patterns in rivers influence the development of salmon eggs?

Technology or equipment used in research:
I use R, free statistical software for graphing, analyzing, and understanding data. I also use water temperature loggers. These are small gadgets about the size of a thick quarter that I cable into a river. They record the water temperature every hour for a year and then I go back and download the data.

Most Exciting Discovery
We found that when water temperature fluctuated in strange ways or with natural patterns, it influenced the timing of salmon eggs developing into young fish. Our discovery suggests that dams, climate change, and other human actions affecting water temperature patterns could have big, and possibly unexpected, impacts on salmon populations.

When did you know you wanted to be a scientist?
In college, I conducted research on human health. I loved figuring out how to collect quality data and learn from it. I also loved rivers. I knew I wanted to be a scientist when I discovered that I could use data to study rivers too.

http://www.fs.fed.us/pnw/lwm/aem/people/steel.html