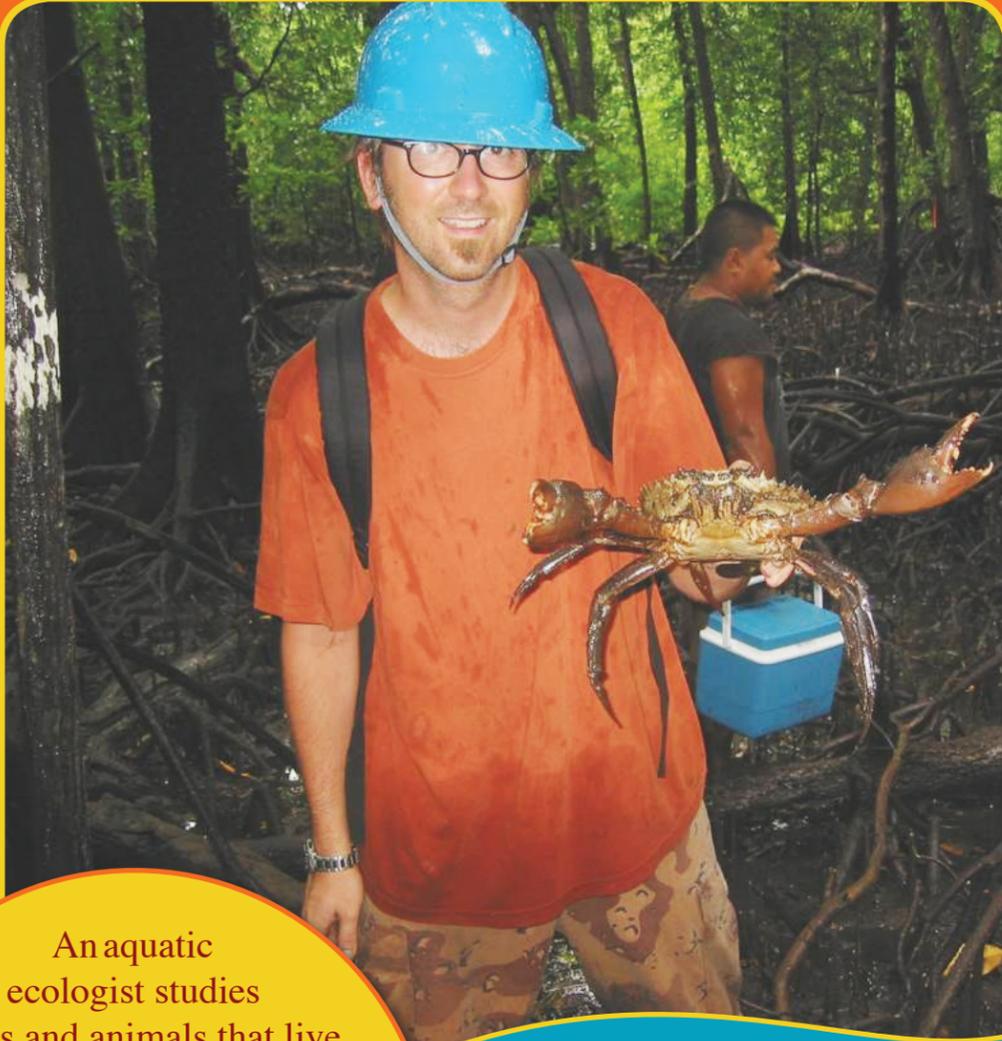




# Meet the Scientist!



An aquatic ecologist studies plants and animals that live in streams, lakes, and wetlands. We try to understand the roles these organisms play in aquatic ecosystems and how stressors such as land use change, climate change, and exotic species influence those roles.

## Dr. Rich MacKenzie Aquatic Ecologist

Ph.D., University of Wisconsin at Milwaukee  
USDA Forest Service scientist



<http://www.naturalinquirer.org>

<http://www.scienceinvestigator.org>

### Important Scientist Characteristics

★ Working in remote locations around the world as well as sampling fish and invertebrates from challenging environments (mangroves, streams that frequently flood) requires creative ideas to design or modify equipment that can effectively and accurately sample fish and invertebrates from these areas.

### Example of a simple research question I have tried

**to answer:** Pacific Island streams and wetlands support native fish, birds, and invertebrates found nowhere else in the world. I have been studying how the invasion of these ecosystems by nonnative tilapia and poeciliid fish affects the food resources that are also used by native fish and birds.

### Technology or equipment used in research:

Masks/snorkels and specialized nets are used to sample fish, shrimp, and crabs from streams and wetlands. Seines are long nets stretched between two poles that are then dragged through the water. Throw nets are large circular nets that are thrown in to the water.

### Most Exciting Discovery

I have discovered two new species of shrimp and several new species of insects from streams and wetlands on the islands of Yap and Pohnpei in the Federated States of Micronesia.

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

I have been sampling fish and invertebrates from muddy environments since I was 5. A summer internship in college revealed that this could be a career. I designed a project that sampled streams for mayfly larvae and then videotaped them in special chambers to document how they responded to pollution.