

Chapter Problem

Are Frog Populations Declining?

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Disappearance of toads, frogs has some scientists worried

By Charles Petit, *Chronicle* Science Writer

Gary Fellers, a biologist at Point Reyes National Seashore, hiked into the back country around Mount Lassen recently to scour the ponds and streams for the small, brown Cascades frog that he used to find there by the thousands.

"We looked at 50 localities, including 15 where historically the frogs were always found," he said. "We found two. Not frogs in two places. Two frogs total."

For several years in a row now, similar news of vanishing frogs and toads has come from Australia, Canada, India, Europe, what used to be the Soviet Union, the mountain-hugging rain forest of Central and South America, and most of the western United States.

Now, after a series of meetings to compare fragmentary but worrisome notes, hundreds of scientists and amateur naturalists have joined in an international attempt to find out whether, as so many fear, frog and toad populations are in simultaneous decline around the world.



Environmental scientists believe that there is a decline in the population of frogs around the world. They speculate that declining frog populations are a symptom of deteriorating environmental conditions. How would these scientists gather accurate data about existing frog populations? How would they use these data to speculate on previous or future population levels?

Project Connection

As part of your course project, you will have to discuss the validity of your results. The content of this chapter will provide you with the tools you will need to estimate the probability that your results are a reliable predictor for an entire population. Combined with the material in Chapters 3 and 4, you will have a complete set of statistical tools for analyzing and validating either sample data or simulation data.