



Helgen, J. *Peril in the Ponds: Deformed Frogs, Politics, and a Biologist's Quest*

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Beginning in the 1990s and continuing during the past two decades, reports of deformed frogs found in ponds in seemingly remote areas of the upper Midwest generated a great deal of news coverage and concern among the public. The images were disturbing and freakish—many frogs were missing legs or eyes, or had misshapen jaws. In my own environmental classes, images of these frogs generate intense conversation and fear among students. A question that always comes up is “How, in remote areas, could this happen?” *Peril in the Ponds* unravels this story as told in a deeply personal manner by biologist Judy Helgen, who worked as a research scientist in biological monitoring at the Minnesota Pollution Control Agency.

Peril in the Ponds provides an inside view of a highly emotional environmental issue that generated fear and concern among the public and sparked intense debates among scientists, politicians, and government agencies. By the 1990s, wetlands across the United States were endangered from pollution and decades of drainage to convert them into farmland and developments. In fact, the status and conservation of wetlands became a national political topic. But when grossly deformed frogs began to be collected in Minnesota wetlands and ponds, alarm bells went off. What caused such deformities: pesticides, ozone depletion, parasites, or some combination of all? The disturbing nature of the deformities and the possible link to pesticides or even radiation created a *Silent Spring*-type concern and moment. Judy Helgen writes with passionate concern about vulnerable frogs and wetlands as she navigates through a maze of media and a reluctant government agency that often frowned on investigative research. The Minnesota Pollution

Control Agency made it clear to Helgen that the agency's job was enforcement, not investigative science. She reports with an insider's perspective on the complexity of the frog issue but also broadens the issue to a global scale as she meets with scientists from around the world to discuss the global amphibian decline that was documented beginning in the 1980s. However, her story goes well beyond the search for a reason(s) behind the frog deformities. This is also a story that describes the human and emotional connection between people and environments they care about. She also shares the fears expressed by the teachers, students, and other citizens who initially reported the frogs and who ultimately looked to scientists such as Helgen for answers. This is a critical part of the book's larger story; she connects science with citizens and shows that at times science matters a great deal to the public. Making the connection between scientific research and the general public is often an important goal, but it remains elusive for many researchers. Helgen's story clearly illustrates the power of science to help the public navigate complex and sometimes frightening issues.

The book contains eleven chapters that take the reader through the frog deformation story from first being alerted to the issue by a school group, to the frustrations of working within a scientific bureaucracy, and lastly an epilogue with an update on the search for answers. Besides being valuable for anyone interested in wetlands and amphibians, this book will be useful in a variety of classes such as general environmental studies, ecology, and even a methods class to show students both the rewards and frustrations of “public interest” scientific research. It is important for students to understand how politics can alter, shape, and unfortunately, even stop important research. However, even more importantly, *Peril in the Ponds* demonstrates the positive societal impacts of dedicated scientists who fight through such roadblocks. *Peril in the Ponds* is clearly written, accessible, and makes an important contribution to the environmental change and wetland conservation literature.

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