

TRENDS AND PROSPECTS IN ECOLOGICAL RISK ASSESSMENT

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Ecological Risk Assessment (ERA) began in the early 1980s with a desire to bring the rigor and power of risk assessment to the evaluation of hazards to nonhuman organisms, populations and communities. In particular, the U.S. Environmental Protection Agency wanted an ecological assessment practice that would be equivalent to existing human health risk assessment practices. In the years since, ERA has developed a standard framework, with many national variants, and standard concepts, models and data sets. In some respects, ecological risk assessment has become more sophisticated than its parent, human health risk assessment (HRA). Trends in ERA with implications for HRA include more consideration of cumulative risks, more consideration of site characteristics and context, more comparative risk assessment, more integration of human health and socioeconomic issues including balancing of countervailing risks, better definition of ecological endpoints and values, more efficient methods, and more relevance to decisions. In the process of investigating and managing environmental pollution, risk assessment is the last good chance for science to influence decisions. Further, science is the only neutral platform for resolution of differences among the interests who wish to influence decisions. By continuing to deepen our environmental sciences and develop consensus methods, we can increase the degree to which science speaks with one voice.