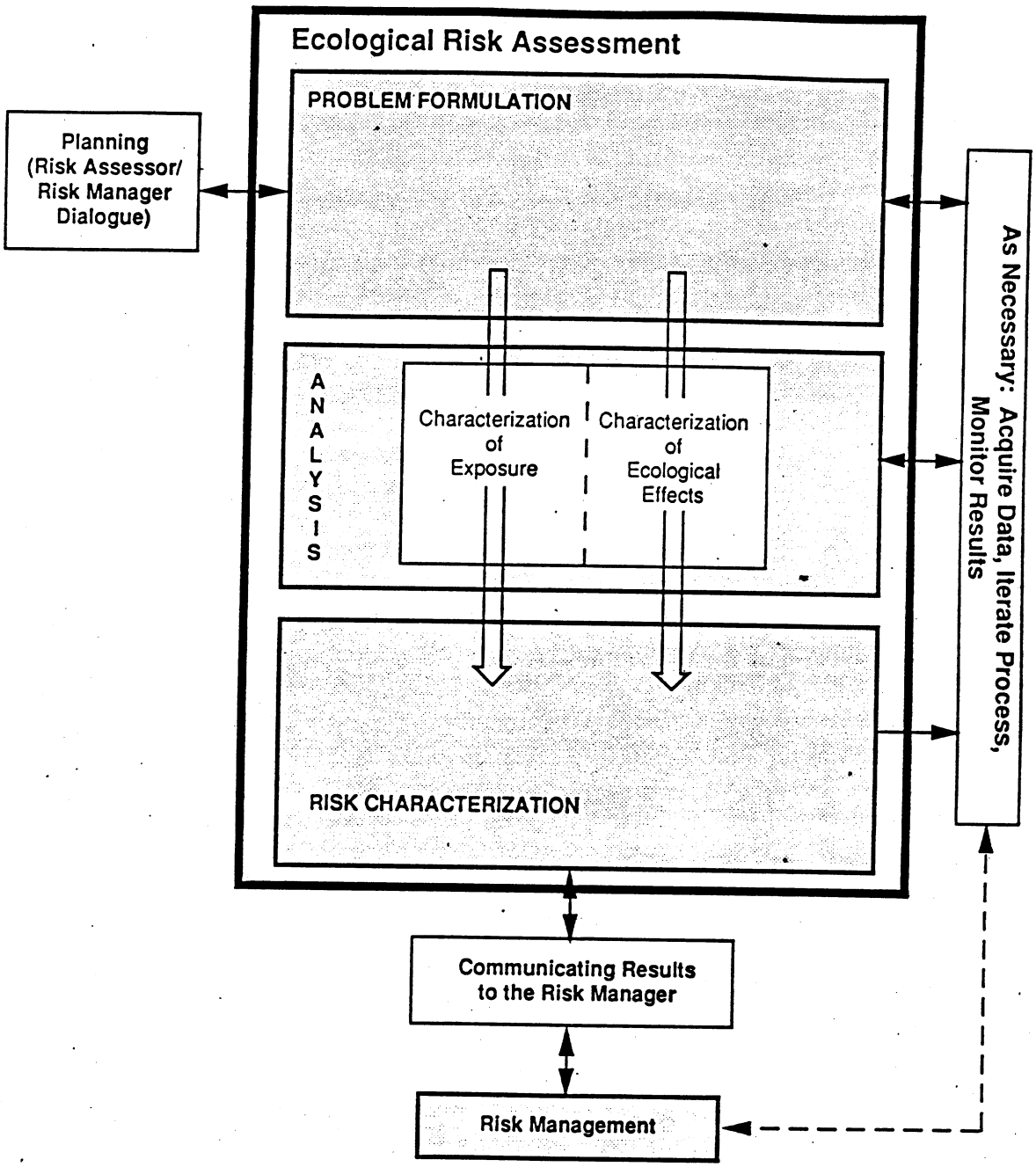


Figure 1-1. The framework for ecological risk assessment (U.S. EPA, 1992a). Ecological risk assessment is shown as a three-phase process including problem formulation, analysis, and risk characterization. Important activities associated with ecological risk assessment include discussions between risk assessors and risk managers and data acquisition and monitoring. Ecological risk assessments frequently follow an iterative or tiered approach.

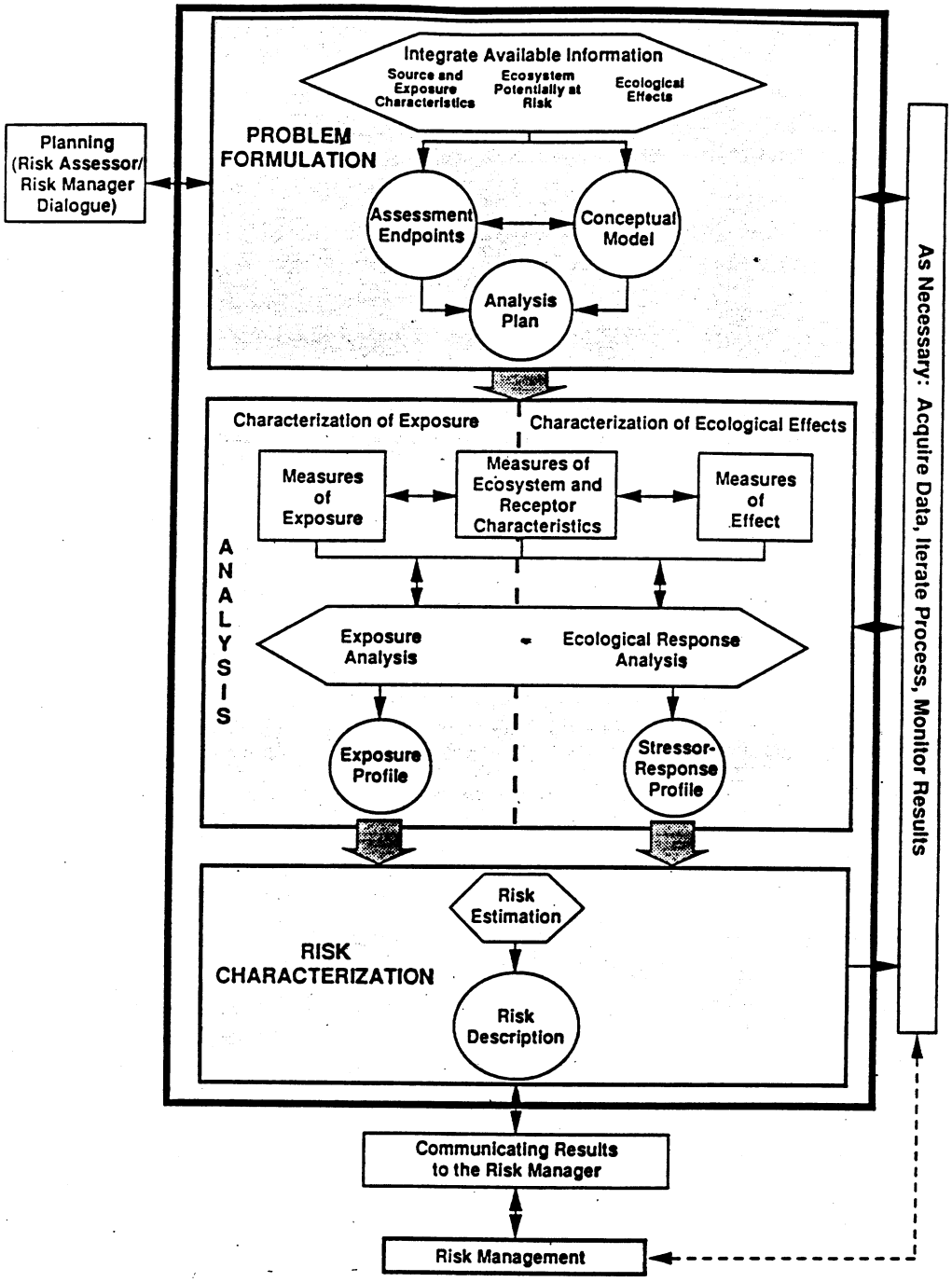


Figure 1-2. The ecological risk assessment framework, with an expanded view of each phase. Within each phase, rectangular boxes designate inputs, hexagon-shaped boxes indicate actions, and circular boxes represent outputs. Problem formulation, analysis, and risk characterization are discussed in sections 3, 4, and 5, respectively. Sections 2 and 6 describe interactions between risk assessors and risk managers.

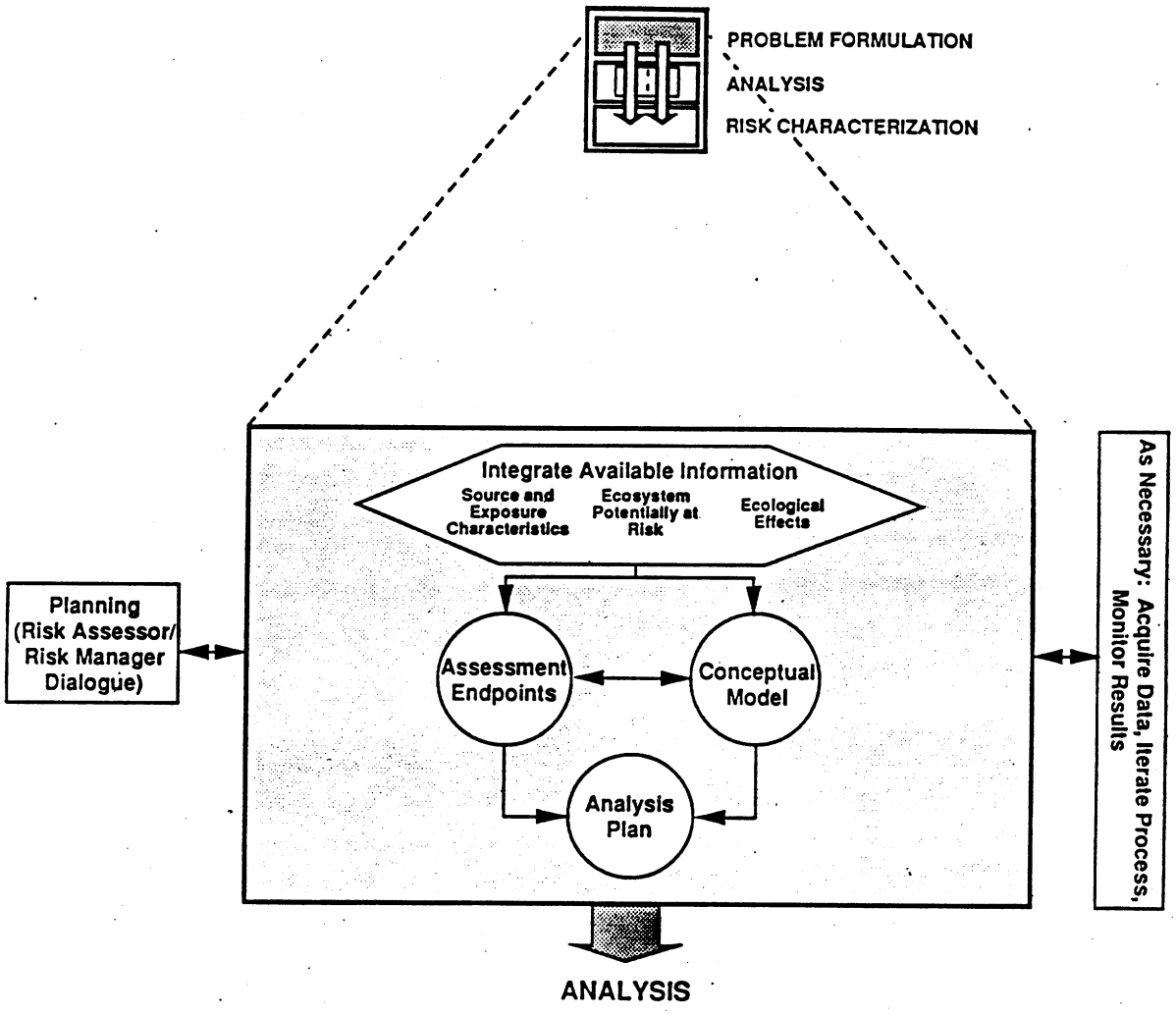


Figure 3-1. Problem formulation phase.

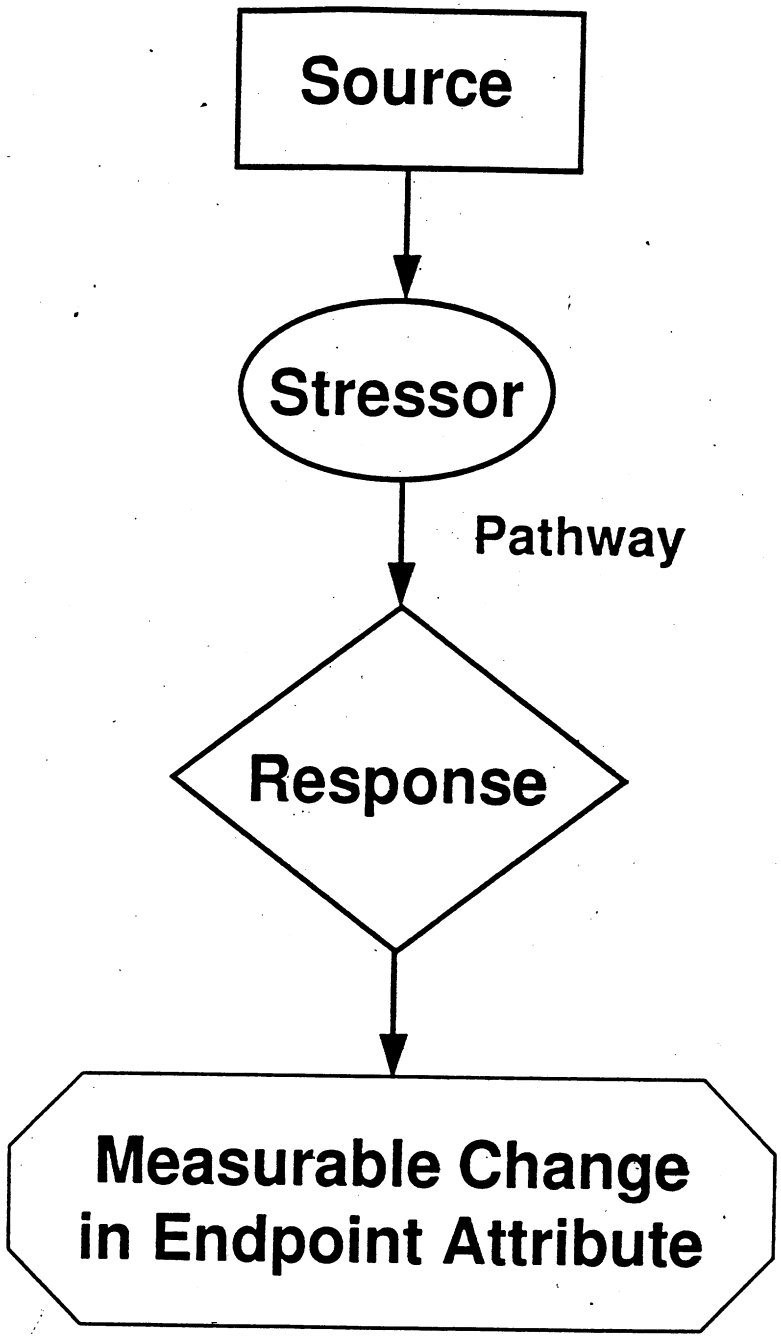


Figure 3-2. Elements of a conceptual model diagram. Illustrating the linkages between sources, stressors, and responses is an important function of the conceptual model diagram. However, the arrows in the diagram do not necessarily reflect the order in which this information is developed. See Appendix C for specific examples.

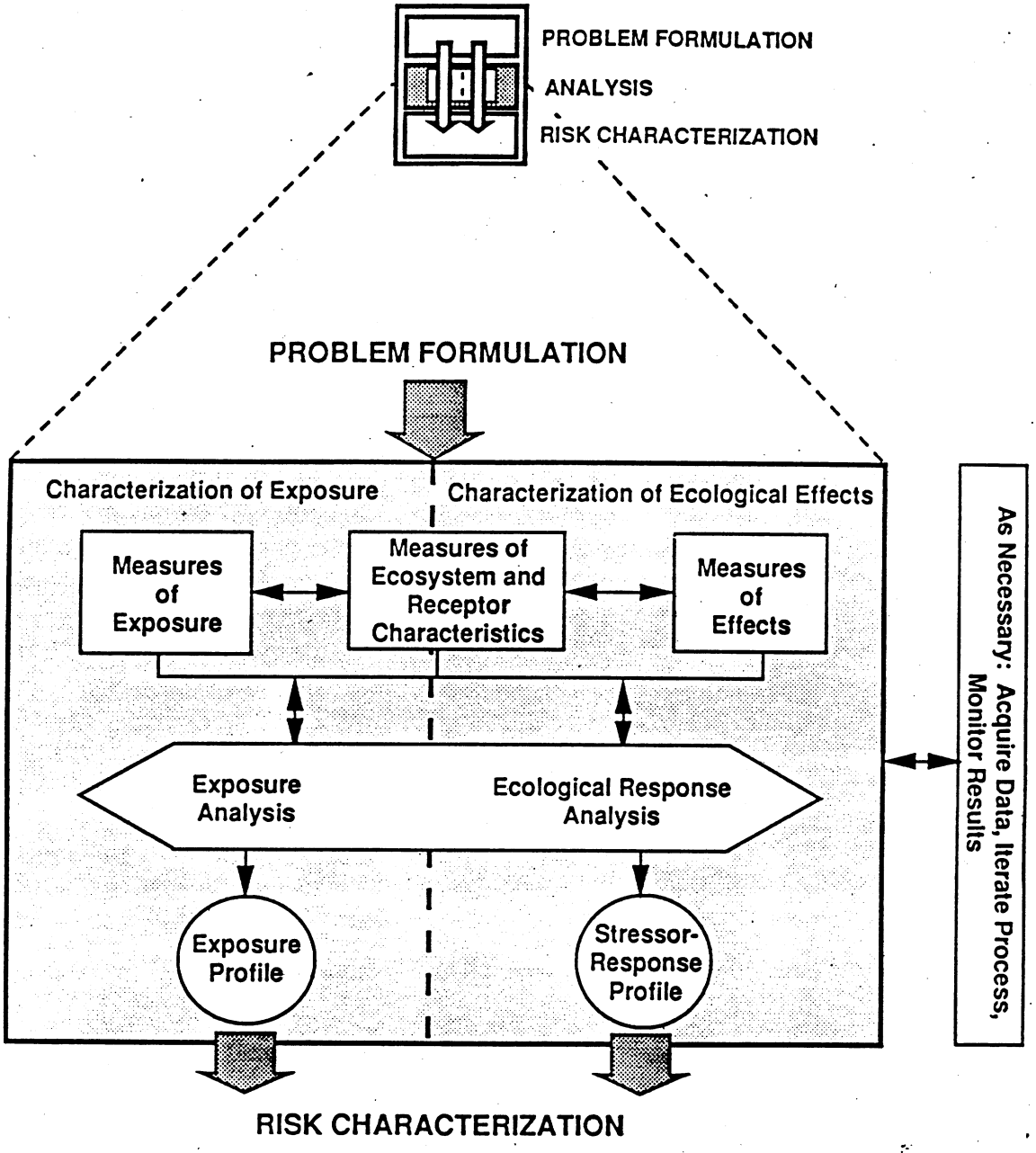


Figure 4-1. Analysis phase.

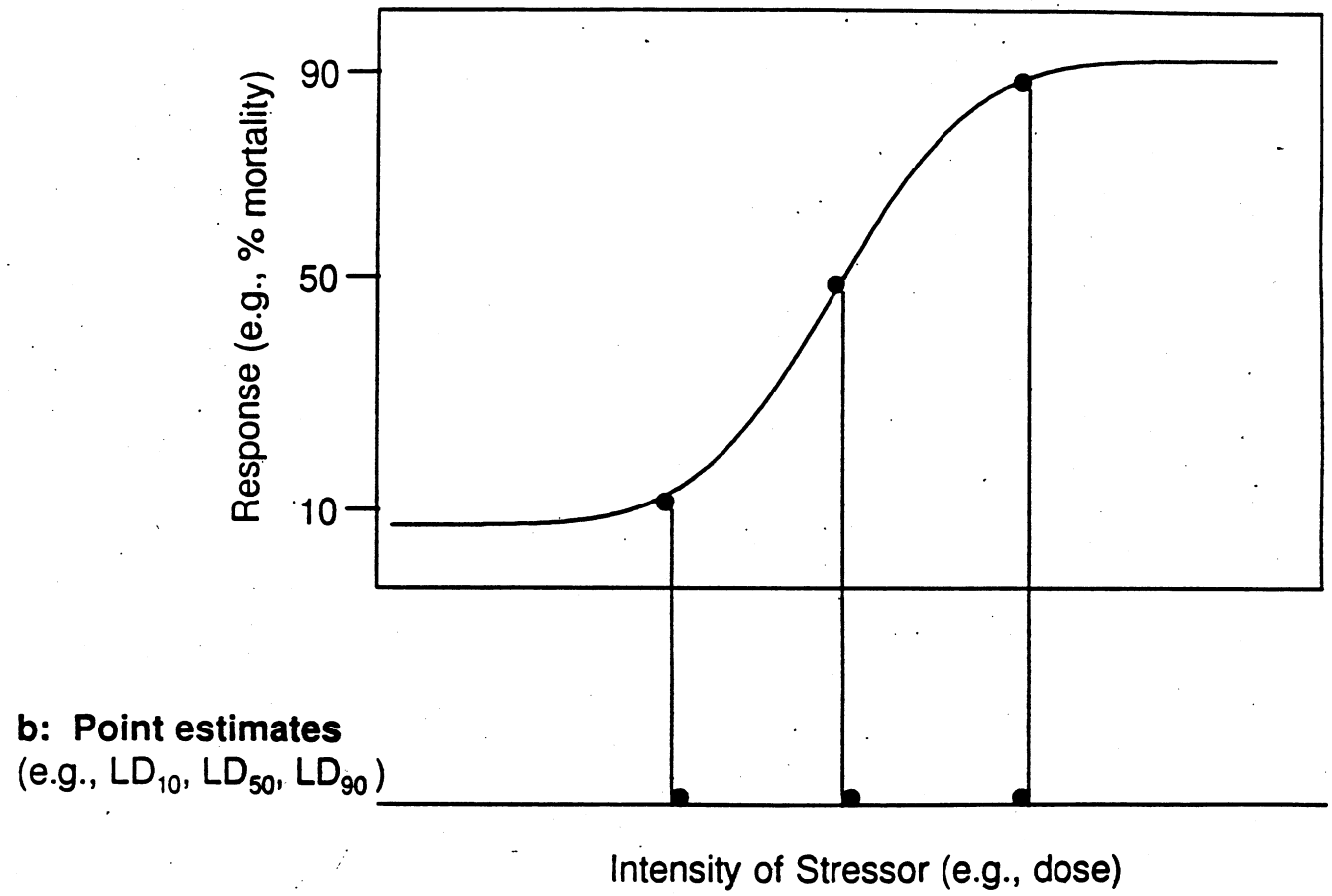


Figure 4-2. A simple example of a stressor-response relationship.

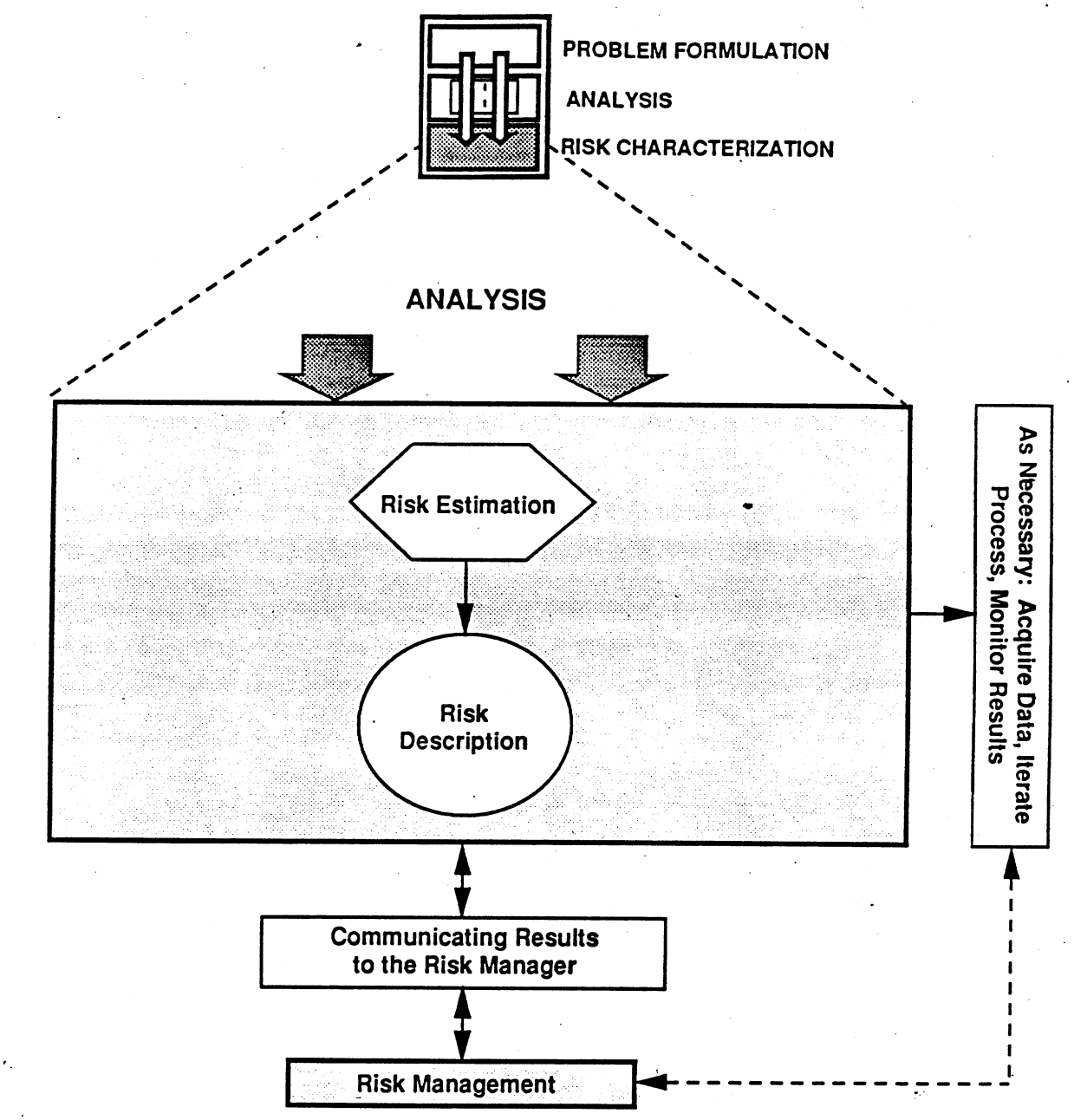


Figure 5-1. Risk characterization.

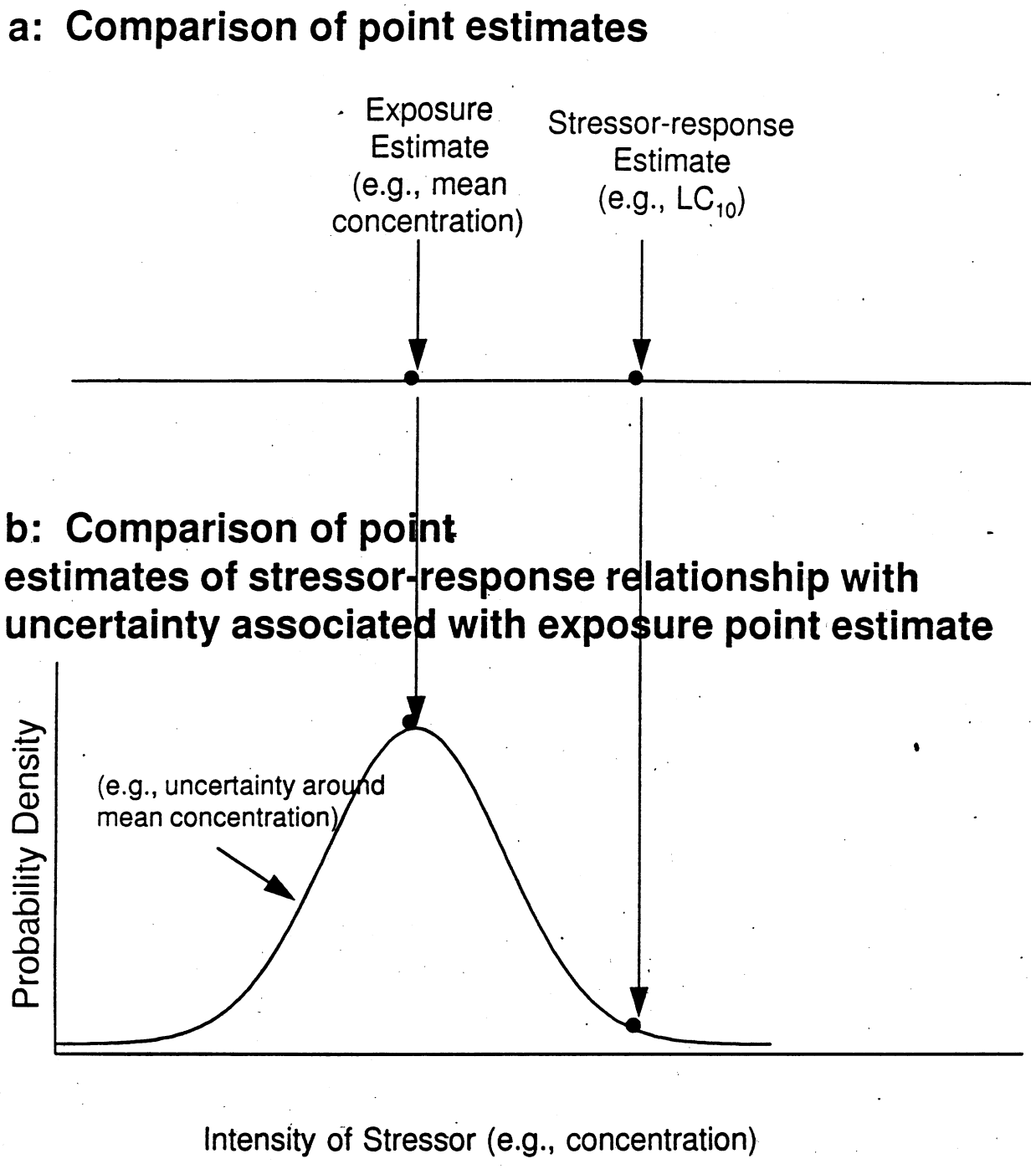


Figure 5-2. Risk estimation techniques. a. Comparison of exposure and stressor-response point estimates. b. Comparison of point estimates from the stressor-response relationship with uncertainty associated with an exposure point estimate.

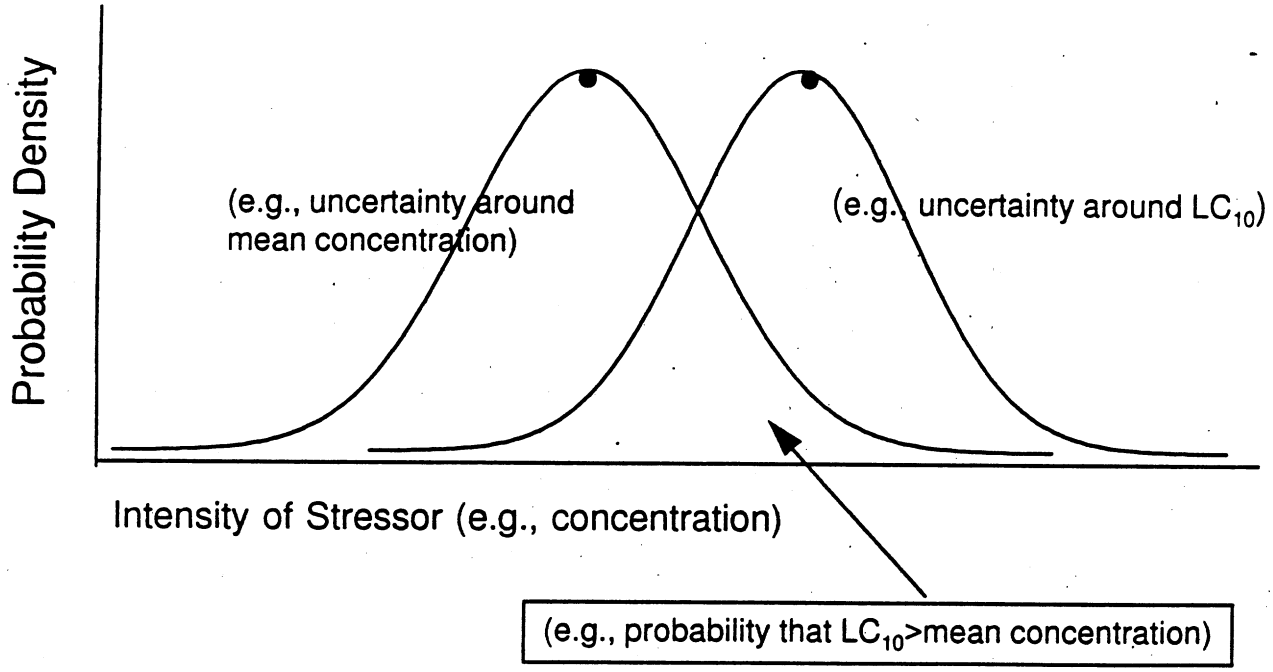


Figure 5-3. Risk estimation techniques: comparison of point estimates with associated uncertainties.

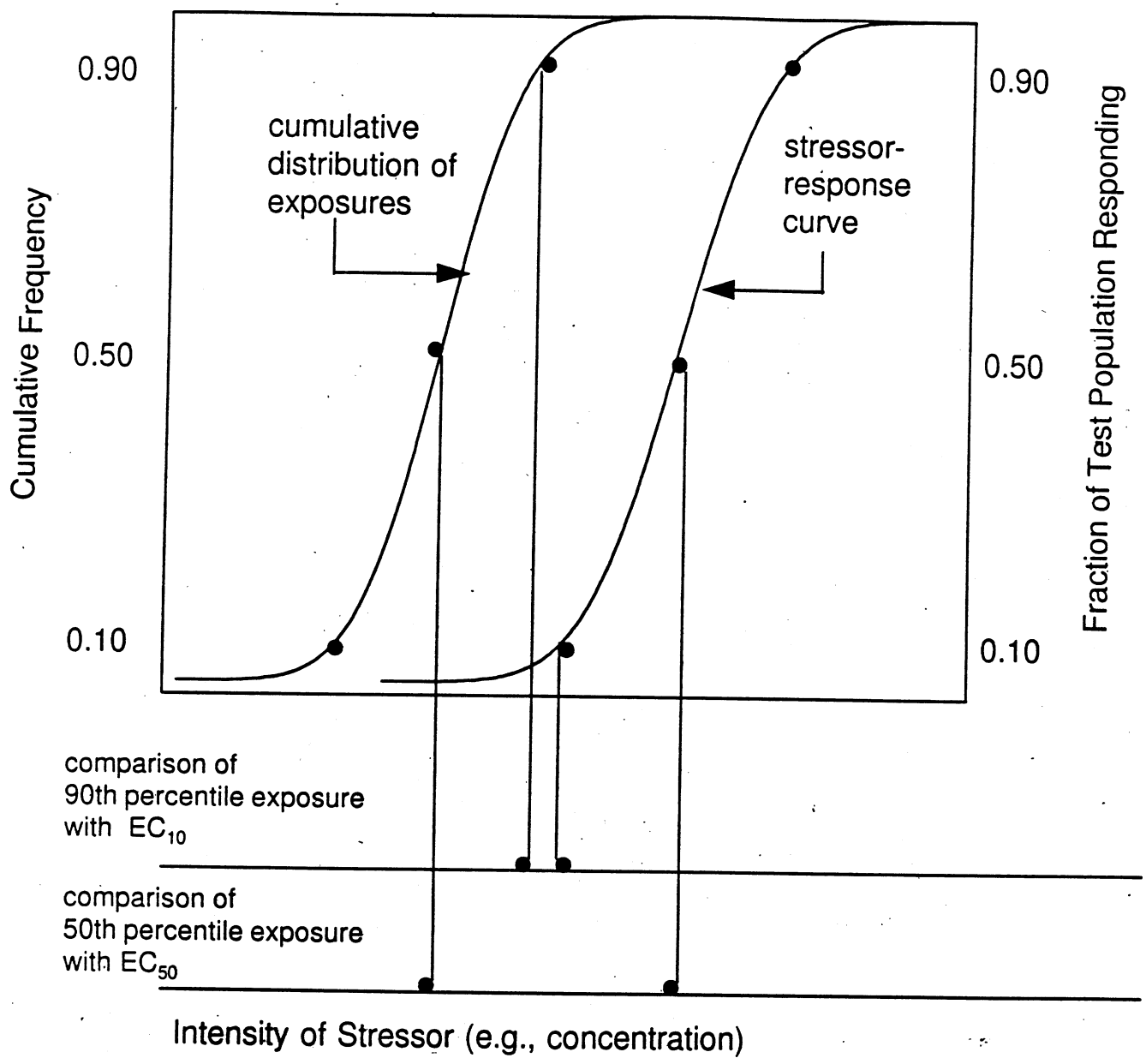


Figure 5-4. Risk estimation techniques: stressor-response curve versus a cumulative distribution of exposures.

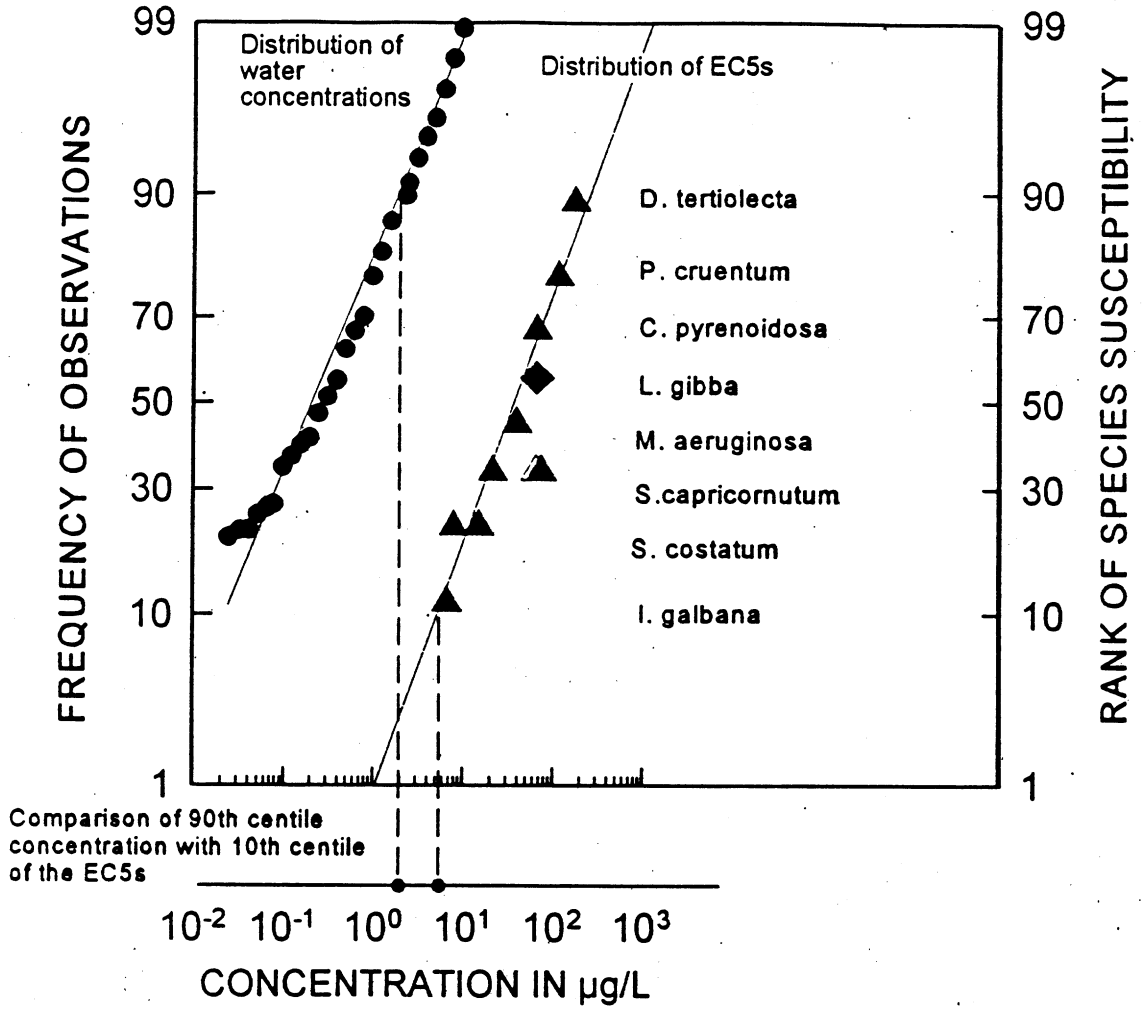


Figure 5-5. Risk estimation techniques: comparison of exposure distribution of an herbicide in surface waters with freshwater single-species toxicity data. See Text note 5-4 for further discussion. Redrawn from SETAC, 1994a.

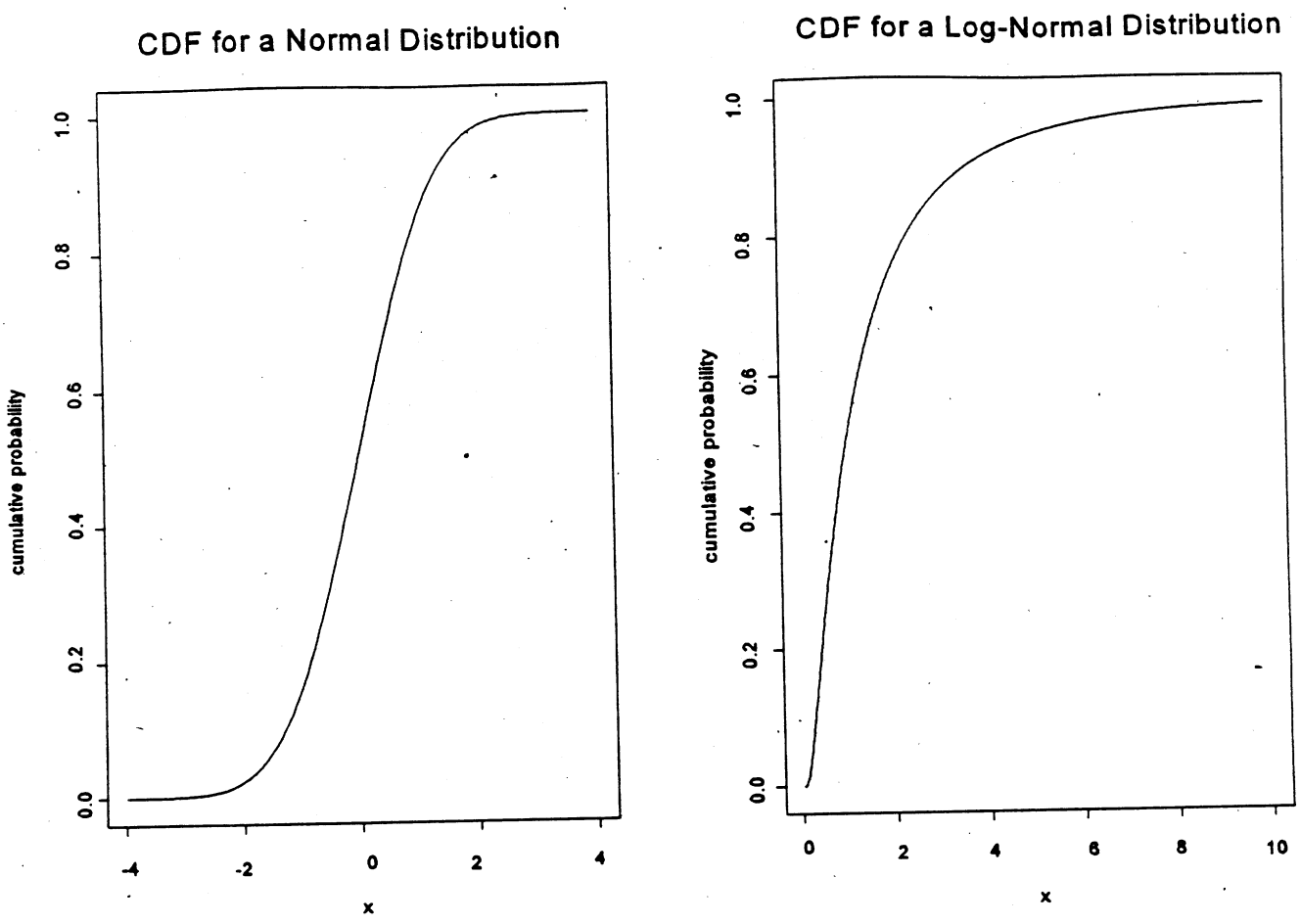


Figure B-1. Plots of Cumulative Distribution Function (CDF)

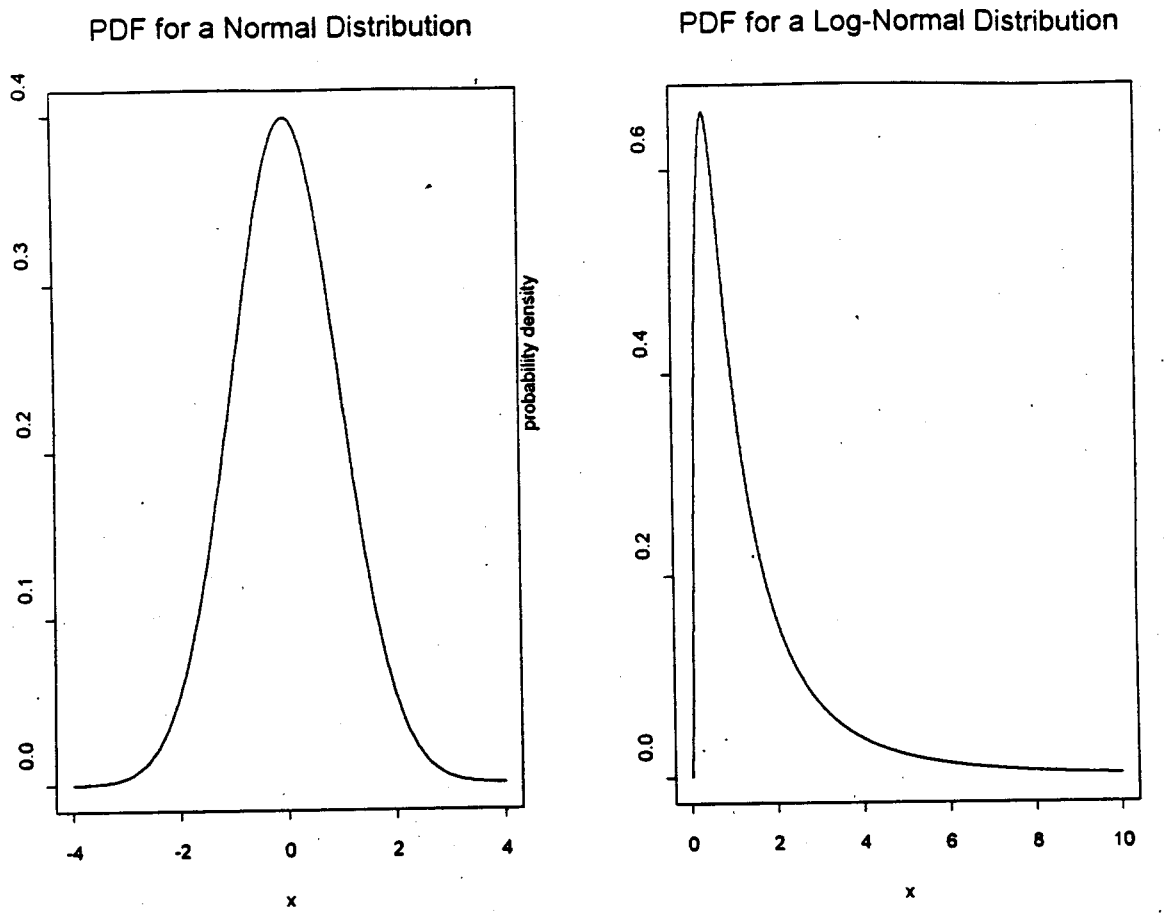


Figure B-2. Plots of Probability Density Functions (PDF)

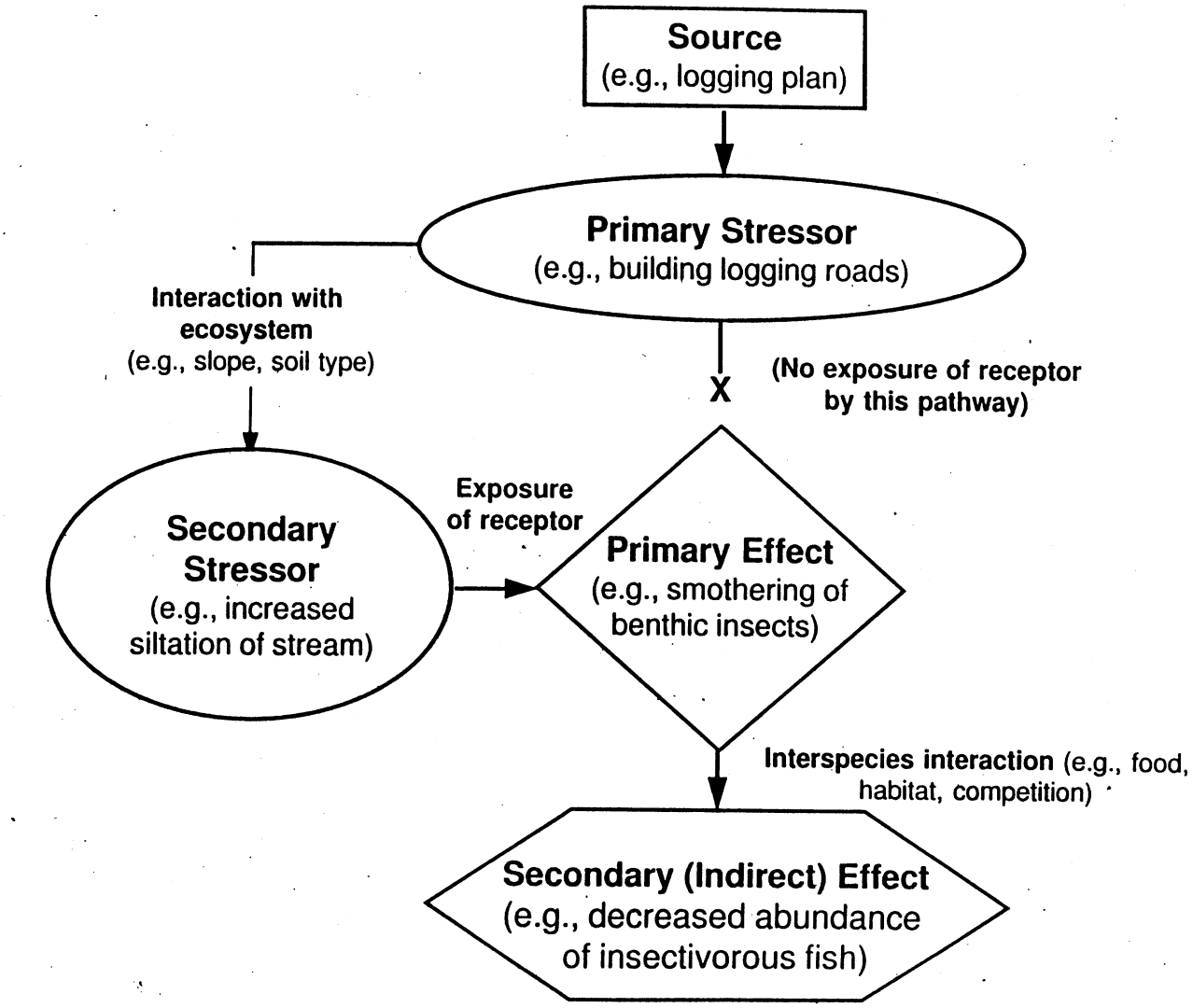


Figure C-1. Conceptual moder for logging

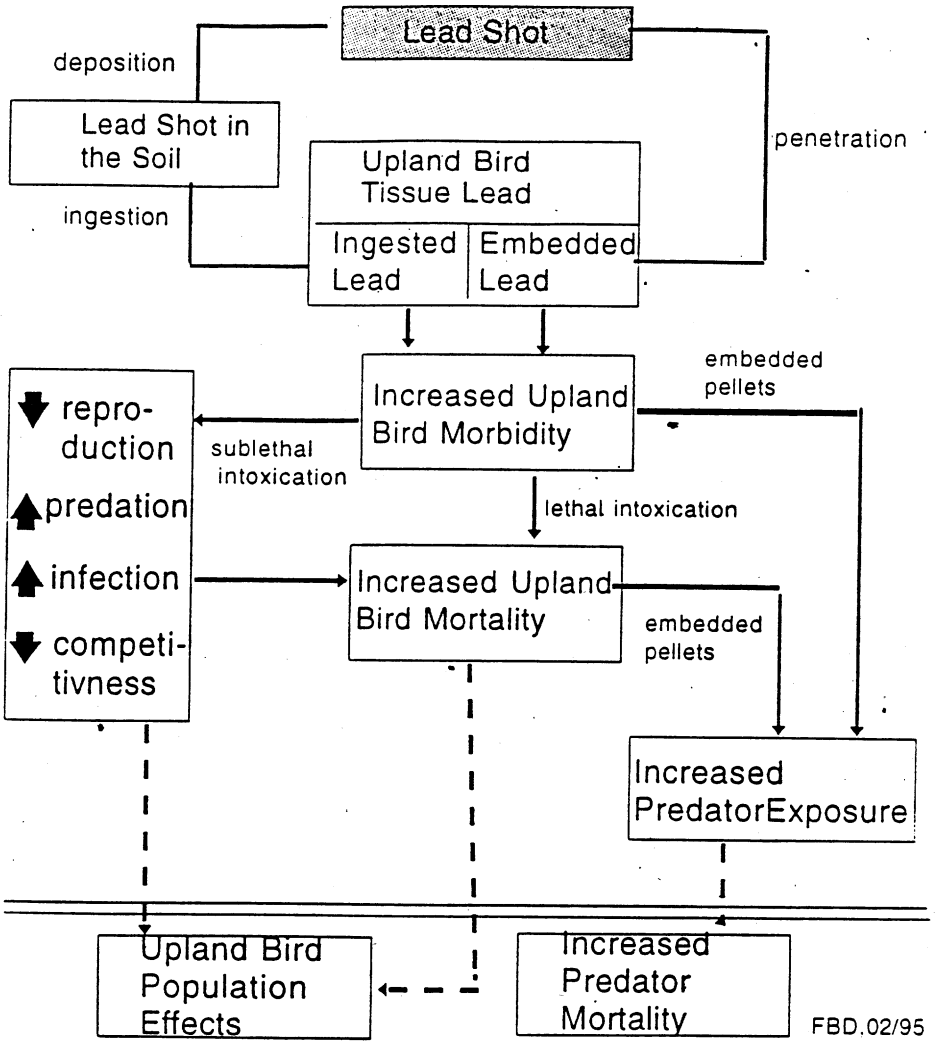


Figure C-2. Conceptual model for tracking stress associated with lead shot through upland ecosystems. Reprinted from *Environmental Toxicology and Chemistry* by Kendall et al. (1996) with permission of the Society of Environmental Toxicology and Chemistry (copyright 1996).

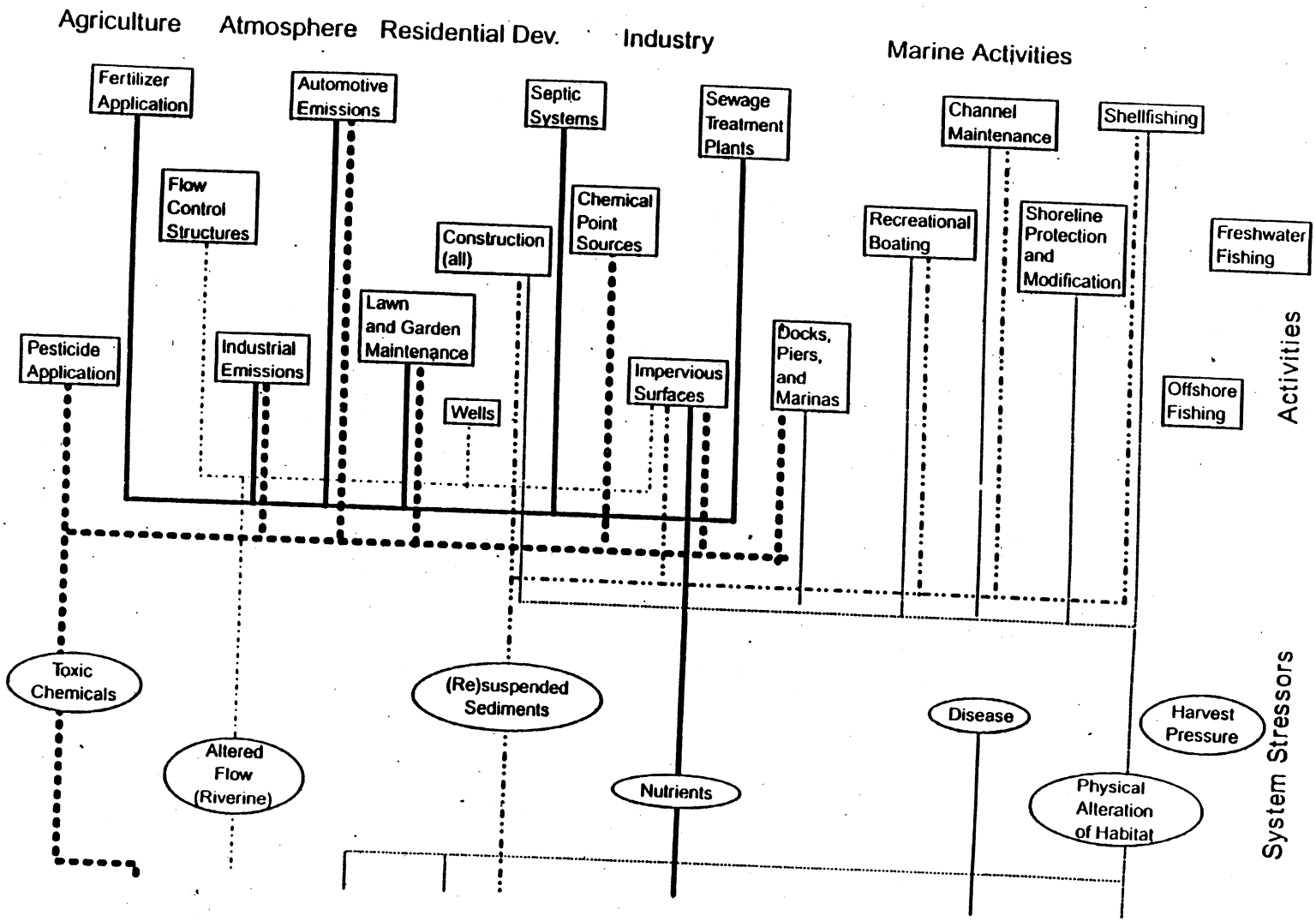
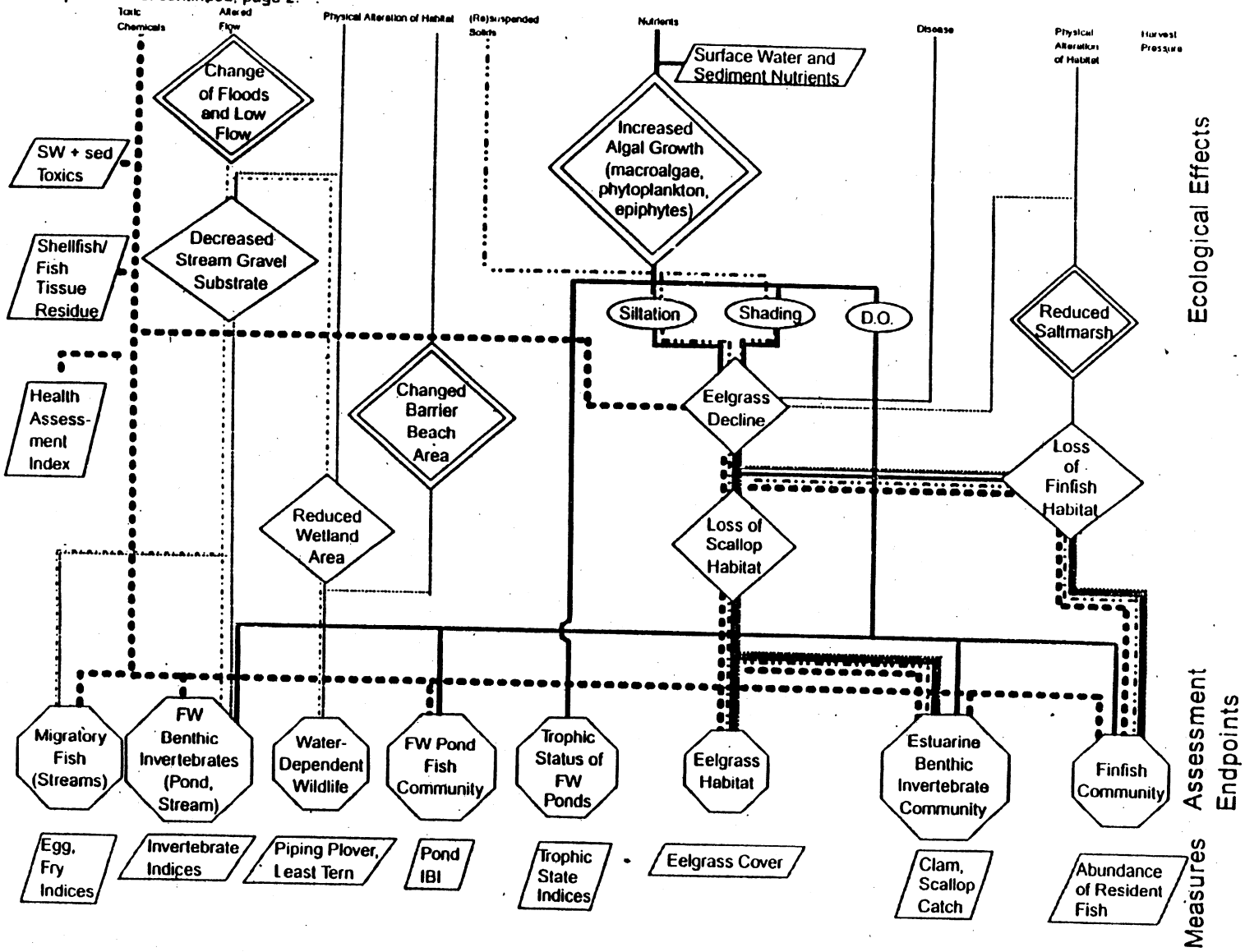


Figure C-3. Waquoit Bay watershed conceptual model.

Conceptual Model continued, page 2.



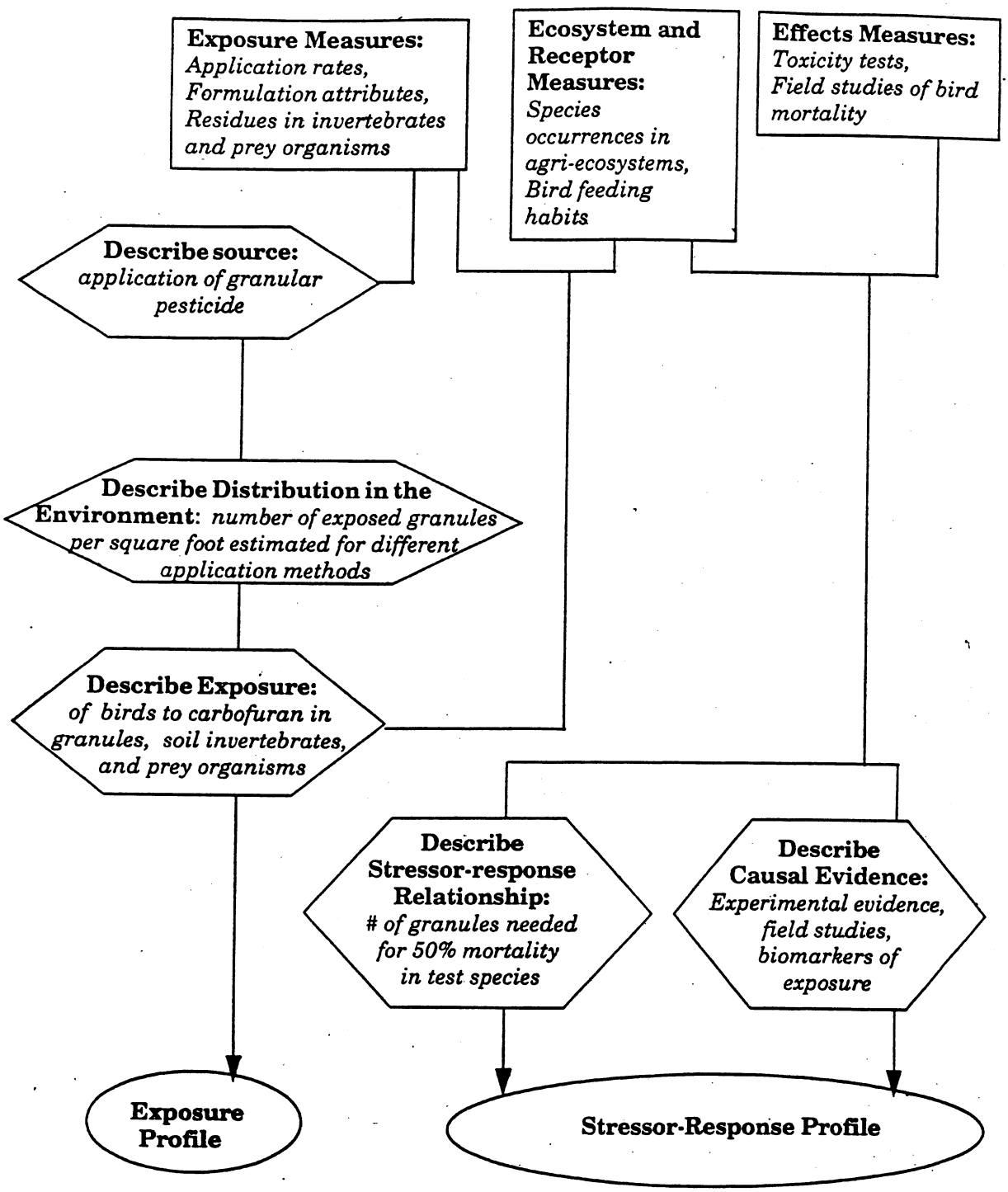


Figure D-1. Example of the analysis phase process: special review of carbofuran. Rectangular boxes indicate inputs, hexagon-shaped boxes indicate actions, and circular boxes indicate outputs.

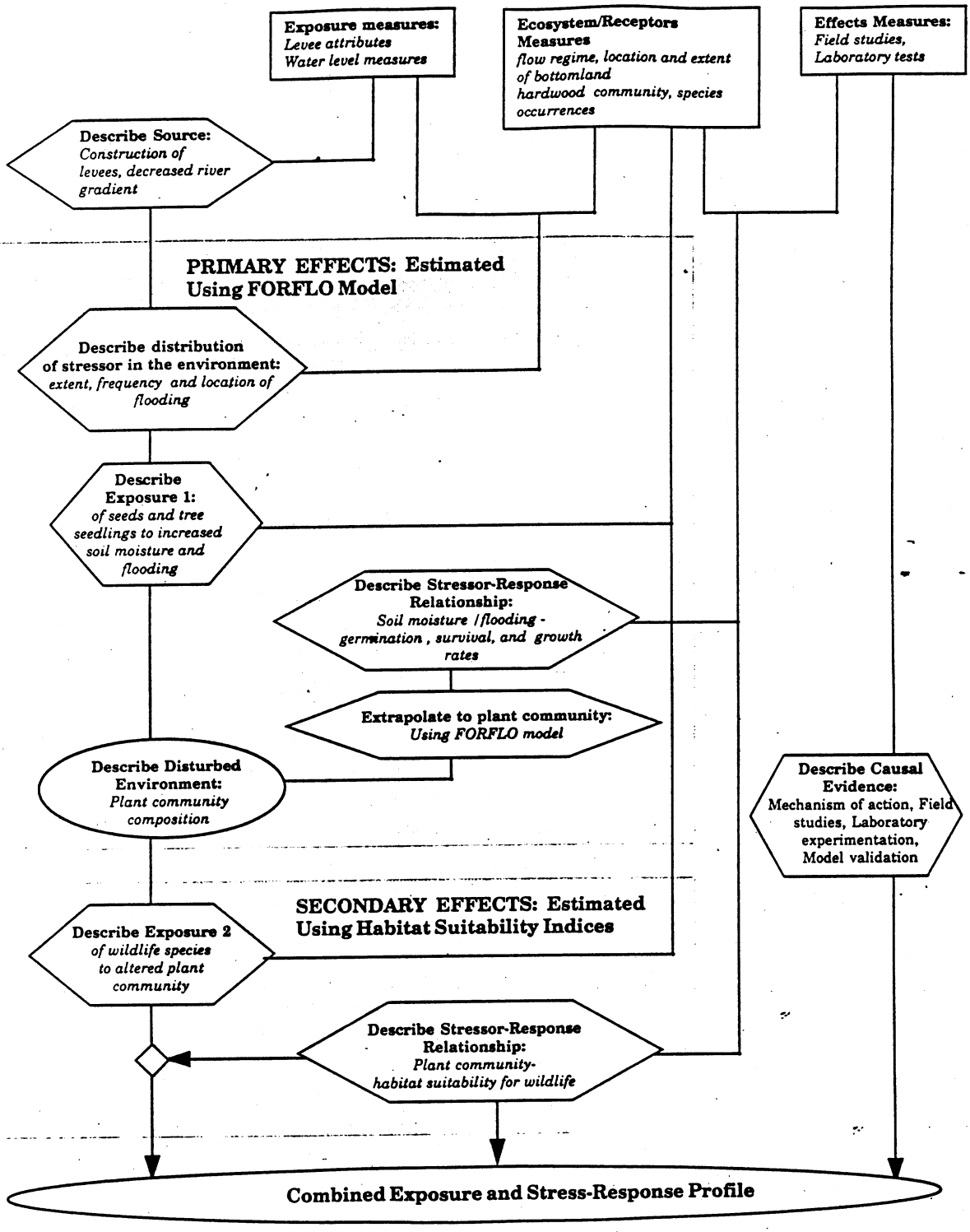


Figure D-2. Example of the analysis phase process: modeling losses of bottomland hardwoods. Rectangular boxes indicate inputs, hexagon-shaped boxes indicate actions, and circular boxes indicate outputs.

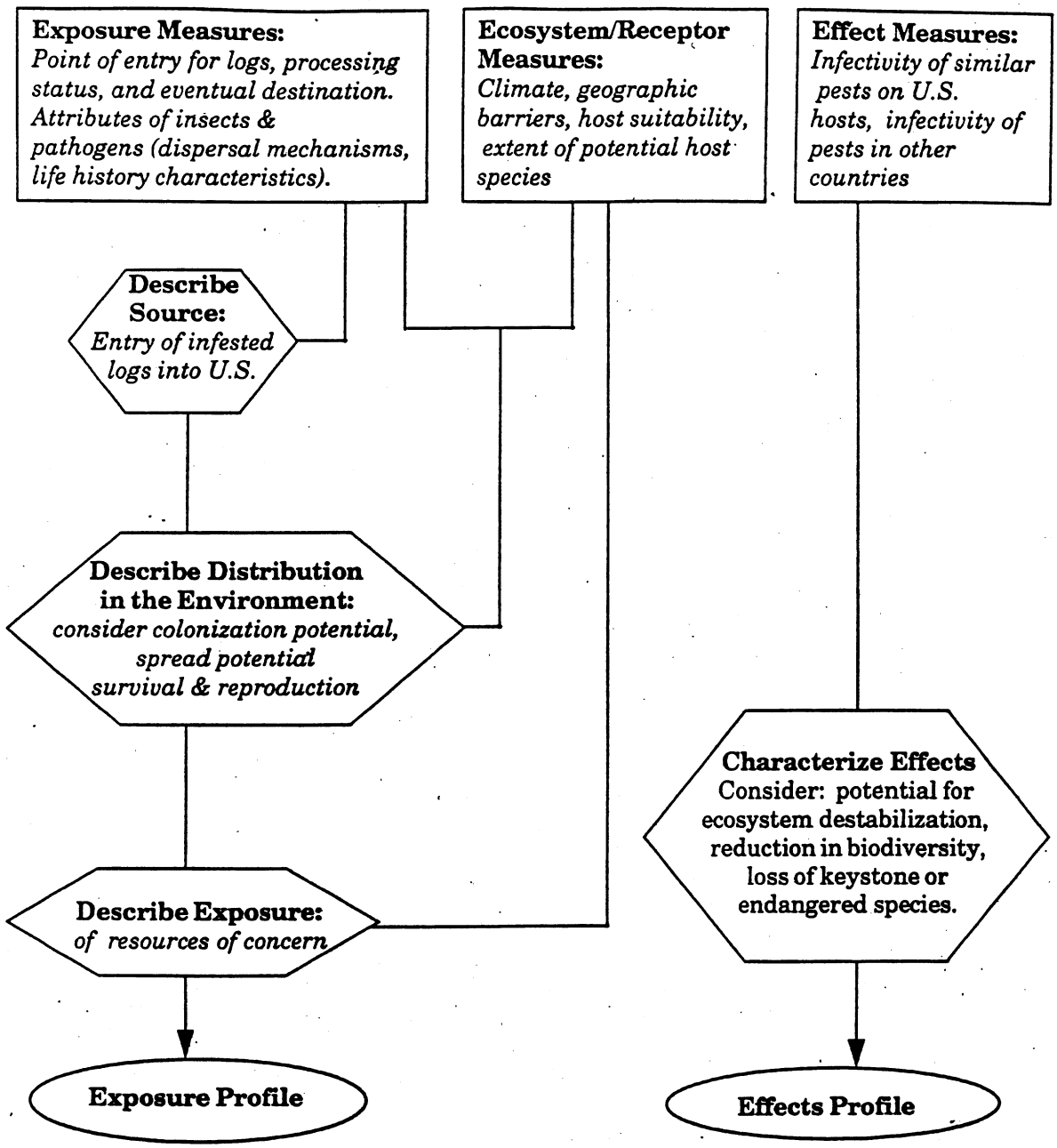


Figure D-3. Example of the analysis phase process: pest risk assessment of the importation of logs from Chile. Rectangular boxes indicate inputs, hexagon-shaped boxes indicate actions, and circular boxes indicate outputs.