

# Integrating science and management for managing invasive species



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**U.S. Department of the Interior  
U.S. Geological Survey**

# Traditional approach



- Traditional approach for research and management
  - Conduct research that informs management
    - ✦ PVA and listing decisions
    - ✦ Brown tree snakes (acetaminophen and snakes)
  - *Dr. Margaret Hunter: Population Genetics and Environmental DNA to Inform Management Decisions*
  - *Dr. Wesley Daniel: Tools for Predicting and Communicating Risk of Aquatic Species Invasion*

# Structured decision making



- **Structured decision making**
  - Formal approach to decision making
  - The learning is folded explicitly in the decision making process
  - Learning is not the ultimate objective but a means to achieving management goals.
  - *Dr. Hardin Waddle: A Daily Capture Probability Model for Management of an Invasive Reptile*
  - *Bradley Udell (PhD student): Decision Analysis for the Optimal Control of Invasive Plants*
  - *Dr. Fred Johnson: From Detection to Action: A Decision-analytic Approach for Controlling Invasive Species*