

Indiana Bat Structured Decision Making Workshop December 8-12, 2008



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Indiana Bat (*Myotis sodalis*)

Status:

- listed under the Endangered Species Preservation Act in 1967
- Currently listed as Endangered under the Endangered Species Act

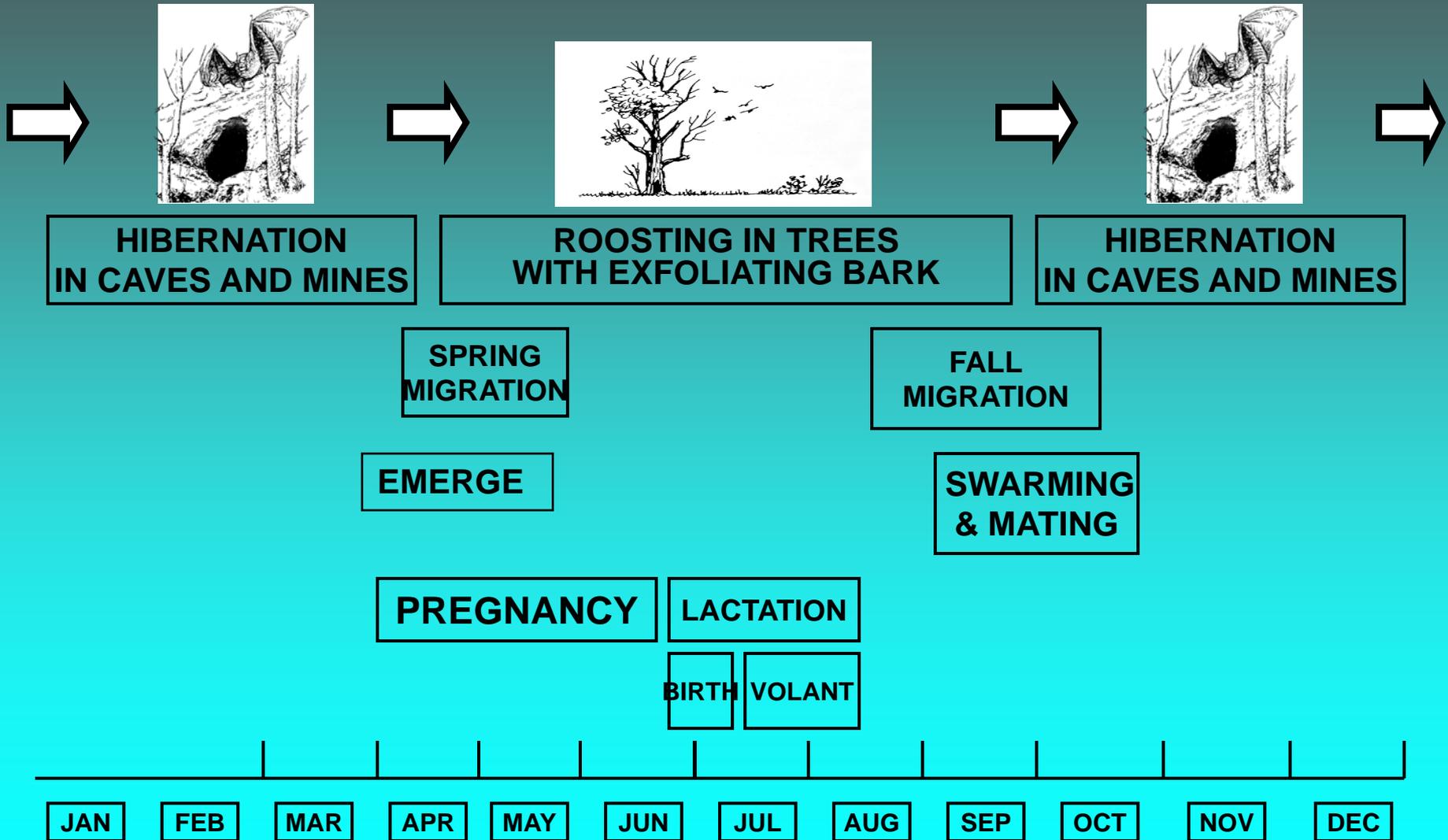
Recovery Plan:

- 1983 w/revised plan due in 2009

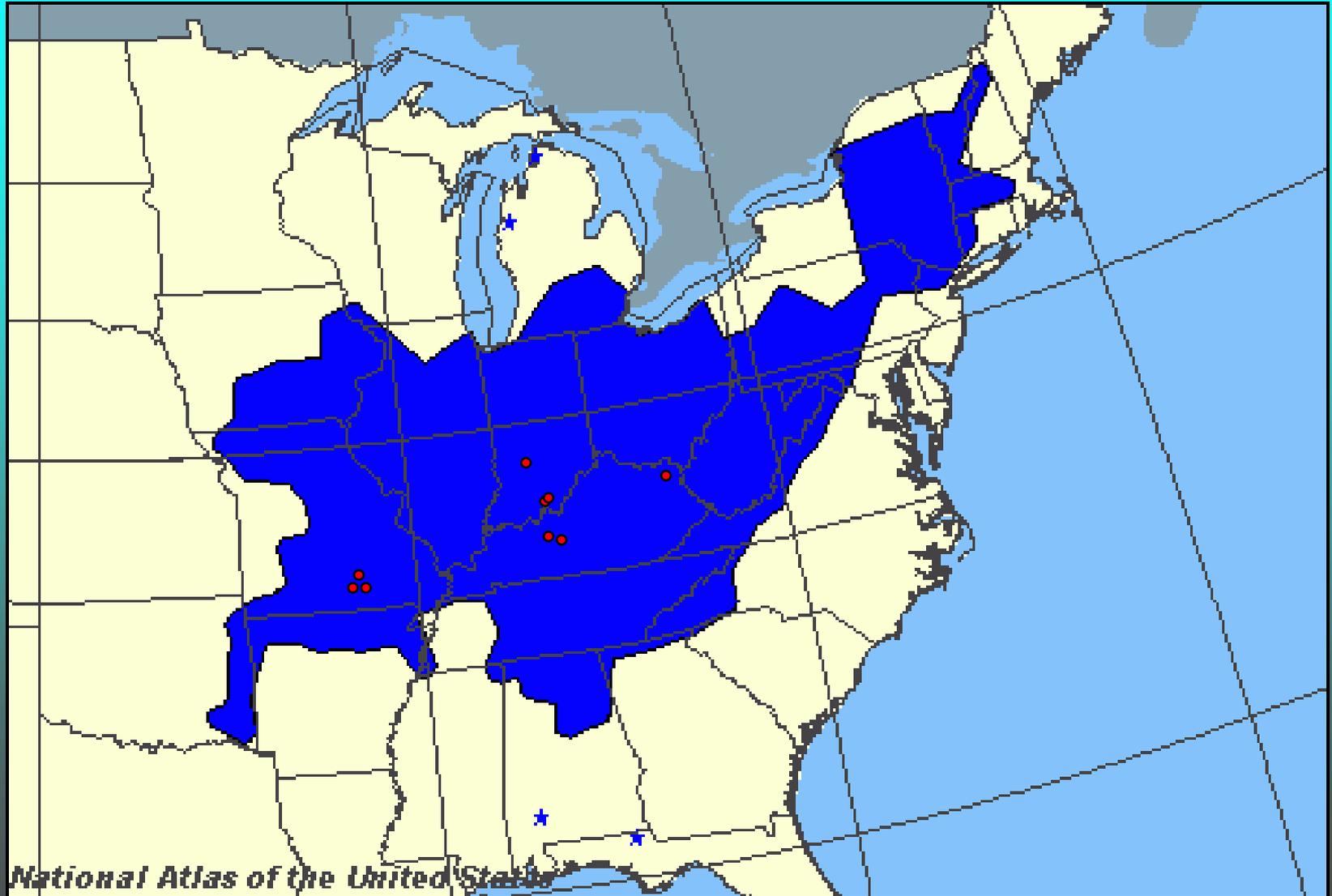


Adam Mann

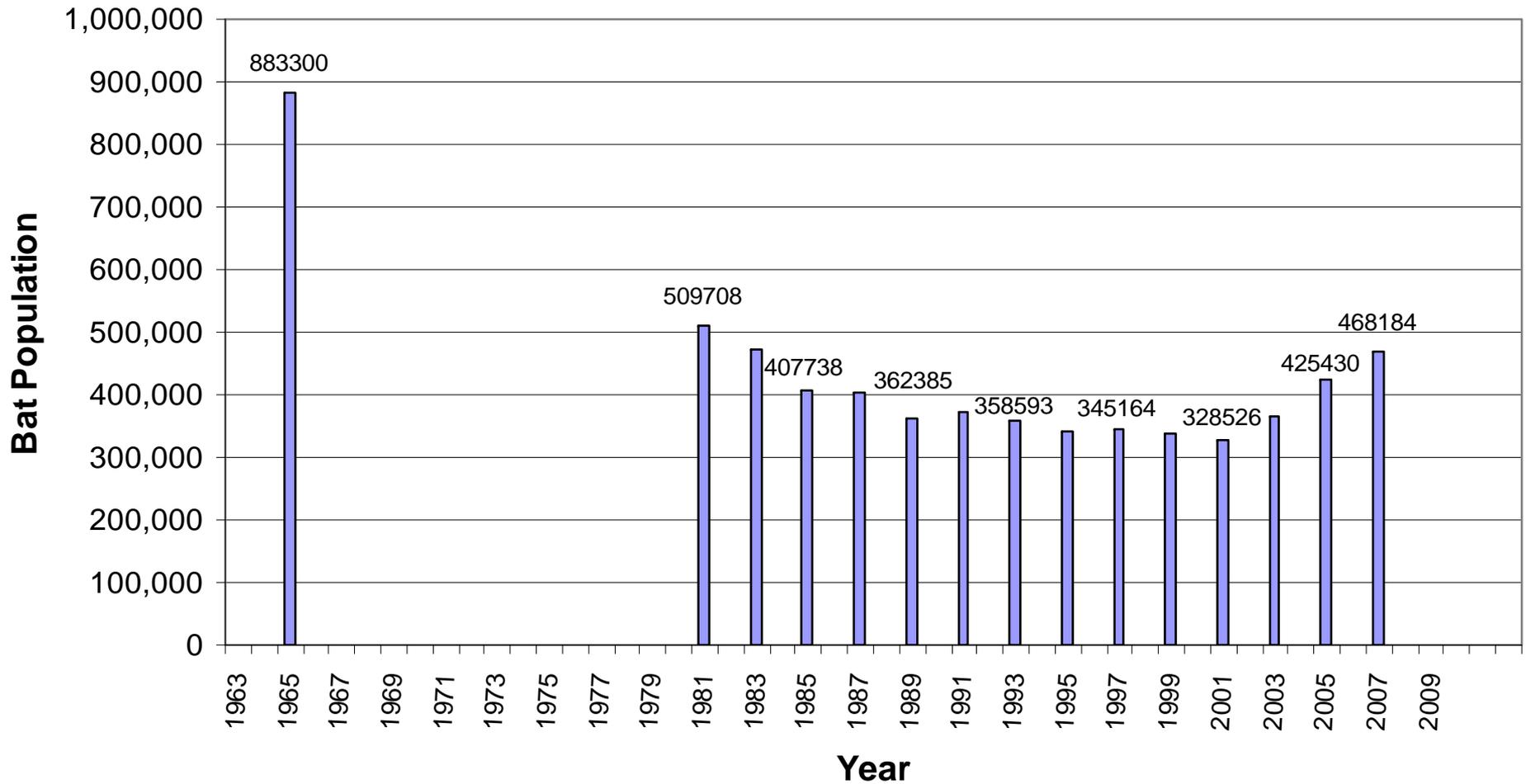
Annual life history chronology of Indiana bats



Range of the Indiana Bat



POPULATION TREND SINCE LISTING



WNS

White-nose Syndrome

- first documented 2007
- unidentified agent causing large-scale mortality of bats in the Northeast
- spreading rapidly
- largest threat to bat conservation in the U.S.



Decision Context

A. Recovery Planning

- establish measurable, objective criteria
- determine which actions are most helpful in achieving the recovery criteria
- choose among competing actions

B. Section 10(a)(1)(A) Permitting

- determine research priorities
- determine short and long-term impacts
- evaluate the trade-offs between costs & benefits of research

Decision Context

C. Section 7 Consultation

- ranges from small, local one-time actions to large scale, landscape actions
- evaluate how proposed actions will affect local, regional and rangewide recovery objectives
- identify minimizing and mitigating measures

D. Habitat Conservation Planning

- multiple-scaled scenarios
- determine effects of proposed actions
- evaluate mitigation plans to maximize benefits to the species

Need for a Demographic Model

- Currently, no demographic model is available
- Lack of a model is an impediment to decision making
- We need the ability to predict the effects of proposed actions on size, persistence, and distribution of Indiana bat populations - in all decision contexts
- Emergence of WNS has increased the urgency of having a predictive model

Workshop Goals

- To develop performance criteria for a demographic model
 - input & output variables
 - parameter values
 - explicitly address structural and parametric uncertainty
- But, to get there, we must
 - refine our decision contexts
 - identify the objectives & alternatives applicable for each decision context
- Then, we can discuss what type of model(s) we need for each decision context