

Planning and Design of Field Surveys for Wildlife Species of Greatest Conservation Need in Iowa

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Goals and Objectives:

- Develop a statewide monitoring program based on Iowa GAP databases and distribution maps that will provide scientifically based information on the current distribution and abundance of target species.
 - Describe field survey methods to be used with the sampling strategies to gather field data.
 - Develop a State Wildlife Grant proposal that will implement the sampling strategies and field data collection methods and define a process to update the databases.
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Progress:

The Iowa Wildlife Action Plan identified 296 species of greatest conservation need, but individual monitoring programs for each species would be cost prohibitive. Therefore, we adapted the U.S. Forest Service's Multiple Species Inventory and Monitoring Program (MSIM) to Iowa for use in the monitoring program. This design involves the establishment of permanent monitoring plots, roughly 26 acres in size, distributed across the entire state of Iowa. Plots will be chosen based upon a random stratified sampling scheme with a condensed number of GAP habitat types used for stratification. The number of plots per strata as determined through computer simulation is 16 but implementation will depend on the amount of funding available.

Within each of the plots, sampling protocols for various taxa will be implemented as appropriate. These protocols have been compiled into a technical manual, and include techniques for mammals, birds, amphibians and reptiles, bats, fish, mussels, butterflies, dragonflies and damselflies, and terrestrial snails. Additional chapters include Data Entry, Data Analysis, Report Writing, and Program Review. All protocols have been subjected to peer review from faculty at Iowa State University, biologists with the Iowa Department of Natural Resources (DNR), and other wildlife and habitat experts around the state.

The protocols were implemented at 14 locations during 2006, mostly on lands enrolled in DNR's Landowner Incentive Program. A total of 304 (19 habitats x 16 sites per habitat) permanent sampling locations have been chosen throughout the state of Iowa based upon a randomized sampling design using the condensed GAP habitats as the stratification factor. We are currently finishing the State Wildlife Grant proposal to implement the surveys on public lands.

Conclusions and Recommendations:

Funding to implement the program statewide at 304 locations will be difficult to obtain. The project will therefore be implemented in a rotating panel design with a few sites being visited each year, but the majority of areas being visited only every 3 - 5 years. Depending on available funding, the surveys can be scaled back by: (1) focusing on certain taxonomic groups (e.g. butterflies and birds, will not collecting information on mammals and reptiles); and (2) focusing on certain habitats (e.g. collect information in forests and warm season grasses habitat types only, while omitting sites in other habitat categories).