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## Appendix A: Population Dynamics and Effects of Hunting

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## POPULATION DYNAMICS AND EFFECTS OF HUNTING

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Despite nearly 70 years of research on quail in North America, we have only a meager understanding of the mechanisms that regulate abundance and productivity of quail populations. Many state agencies and private landowners continue to use guidelines developed by Stoddard (1931) and Rosene (1969). However, many of these recommendations were developed during an era when land-use practices in agriculture and forestry were drastically different from what they are today.

The workshop group on Hunting and Population Dynamics reached a consensus that 4 broad areas need to be addressed: (1) standardization of census and population monitoring methods, (2) issues related to maintaining a sustainable harvest of wild quail through hunting, (3) assessment of population response to management actions and fragmentation, and (4) adoption of a proactive philosophy for quail population and habitat management on both public and private lands. Additionally, some issues related to releases of pen-raised quail have a bearing on this workshop session.

### Issue 5.1

#### STANDARDIZATION OF CENSUS AND MONITORING METHODS

Despite the use of broad-scale data bases, standardization of analytical and assessment

techniques to assess annual census and harvest data on a state-by-state basis do not exist and may confound comparisons of trends.

#### Strategies

5.1.1—Develop a cooperative, broad-scale quail population monitoring program that assesses quail population trends from state and federal agency data bases and is readily accessible by all interested parties.

5.1.2—Enlist support of constituency groups to distribute information and publications on status reports for local, regional, and national quail population trends.

### Issue 5.2

#### HUNTING AND HARVEST OF QUAIL

We do not have a quantitative assessment of whether quail hunting results in compensatory or additive mortality in habitats dominated by present-day land-use regimes or whether disturbance of quail from hunting-related activities have negative, indirect effects on populations.

#### Strategies

5.2.1—Conduct research that identifies threshold densities and hunting pressures for additive mortality and indirect effects of hunting.

5.2.2—Encourage state wildlife agencies to be creative in their approaches to season length and bag limits.

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### Issue 5.3

#### EFFECTS OF FRAGMENTATION ON QUAIL POPULATIONS

Effects of habitat fragmentation need to be assessed at the landscape level because widespread changes in agricultural and forestry land-use practices have had broad impacts on quail habitat quality.

##### Strategies

5.3.1—Coordinate research efforts with management actions (supported by constituency groups) to take advantage of manipulations in an experimental context, and monitor population trends in areas of differing habitat quality.

5.3.2—Standardize analytical techniques on a statewide or regional basis before implementation.

5.3.3—Perform research to assess interactions between habitat fragmentation and population isolation in the context of population genetics, population response to local management actions, intensity of harvest, and weather-related extirpation.

### Issue 5.4

#### TRANSLOCATION OF WILD QUAIL

Translocation of wild quail may be a viable management action for restoration of local populations in areas where habitat improvement has been attempted, but population response is

limited. State wildlife agencies often receive tremendous amounts of political pressure to become involved in releases of pen-raised quail.

##### Strategies

5.4.1—Perform controlled experiments to test the impact of translocating wild quail on restoring native populations.

5.4.2—Educate the public about the futility of using pen-raised quail as a mechanism for population restoration.

### Issue 5.5

#### PROACTIVE PHILOSOPHY OF POPULATION AND HABITAT MANAGEMENT

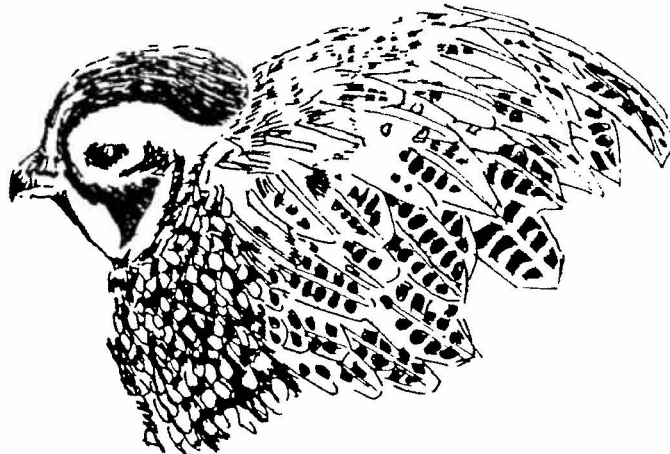
Current perceived public apathy about quail resources may in reality be ignorance or frustration resulting from inadequate agency public information programs. Additionally, biologists often disagree among themselves with regard to specific management strategies.

##### Strategies

5.5.1—Reach a consensus on specific agency research goals and take a unified position on issues when dealing with the public.

5.5.2—Initiate programs that permit local constituency groups to adopt specific management projects on public areas.

5.5.3—Seek opportunities to make presentations on quail management.



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