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Appendix A: Agricultural Practices and Pesticides

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AGRICULTURAL PRACTICES AND PESTICIDES

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Agricultural practices have broad-scale influences on quail populations. As time has passed, these once positive influences have now become largely negative. In spite of many problems faced by quail in contemporary, clean farmed agricultural environments, numerous proactive management and research opportunities exist. The participants for the Agricultural Practices and Pesticides portion of the Strategic Planning Workshop identified 3 broad categories of issues that have the greatest potential to impact quail populations in contemporary agricultural environments: (1) general habitat loss and strategies for development and improvement, (2) use and management of agricultural chemicals, and (3) agricultural programs and policies.

Issue 1.1

HABITAT LOSS AND STRATEGIES FOR DEVELOPMENT AND IMPROVEMENT

Extensive farming practices and water development projects have eliminated vast areas of quail habitat and caused widespread fragmentation of the remaining habitat.

Strategies

1.1.1—Establish and maintain quail management areas within watersheds that are impacted by reclamation projects.

1.1.2—Develop and implement inventory and monitoring systems (e.g., geographic information systems) to identify the quality and extent of quail

habitat, particularly where habitat has been severely restricted.

1.1.3—Conduct research to determine minimal and optimal sizes of management units and populations for quail in areas impacted by reclamation projects and habitat fragmentation.

1.1.4—Conduct studies of quail productivity in no-till and conservation till agricultural lands compared with traditional rowcrop and small grain environments.

1.1.5—Encourage acceptance of low-input, sustainable agriculture (cf., Robinson 1990), and use working demonstration farms to show application of economically practical quail habitat management techniques.

1.1.6—Add wildlife to the list of traditional beneficial uses of water.

Issue 1.2

USE AND MANAGEMENT OF AGRICULTURAL CHEMICALS

Pesticides (e.g., herbicides, insecticides, and nematocides) directly and indirectly have adverse effects on game-bird populations. However, sufficient data are lacking to clearly support or refute the relationship between pesticides and quail.

Strategies

1.2.1—Determine the direct (e.g., White et al. 1990, Kilbride et al. 1992) and indirect (cf., Sotherton et al. 1993) effects of pesticides on quail populations.

1.2.2—Encourage agronomic methods and cultural practices that reduce quantities and change temporal use of chemicals to mitigate their effects

on quail populations (e.g., Conservation Headlands, *sensu* Potts 1986).

1.2.3-Develop safe methods of applying pesticides.

Issue 1.3

AGRICULTURAL PROGRAMS AND POLICIES

Federal farm programs include practices that severely limit the value of these programs for quail. For example the CRP and other set-aside programs include practices such as mandatory mowing in summer, promotion of exotic cool-season grasses (e.g., tall fescue [*Festuca* spp.]), emphasis on establishing tree monocultures, and lack of management options (e.g., strip-disking) for maintaining old fields, all of which reduce potential benefits of these programs for quail. In addition, state and local programs (e.g., weed control) reduce the quality of quail habitat.

Strategies

1.3.1-Enlist Congressional support to modify current programs, such as the CRP, so they are maintained or improved for quail.

1.3.2-Establish "top down" (federal, state, county) policy formulation for implementation and enforcement with respect to enhancing wildlife habitat.

1.3.3-Identify specific problems and needs of quail in contemporary agricultural environments

and conduct research directed toward farm and quail management issues.

1.3.4-Develop a more flexible set of regional, statewide, and national guidelines for farm conservation programs that better fit local requirements of quail (e.g., use of native warm-season grasses opposed to exotic cool-season grasses).

1.3.5-Quantify differences in weed control, erosion, and soil quality among fields that are mowed, strip-disked, and traditionally planted to crops.

1.3.6-Change weed control regulations in federal programs to specify the control of only noxious plants.

1.3.7-Seek development and implementation of new and existing legislation that mandates improved interagency cooperation and more equitable allocation of agricultural conservation program funds at all levels of government.

1.3.8-Use government agencies and private constituency groups to jointly sponsor informational materials (e.g., pamphlets and videos) pertaining to management practices benefiting quail in productive and fallow croplands.

1.3.9-Provide U.S. Department of Agriculture personnel (e.g., Soil Conservation Service agents) with training and information about beneficial management practices for quail.

1.3.10-Seek implementation of State Technical Committees, provided for in the 1985 and 1990 farm bills to improve interagency cooperation and provide better opportunities for input on wildlife implications of farm programs.

