Strategy: Strengthening existing alternative markets. 15

Strategy: Fostering development of new markets. 16

Strategy: Developing and verifying alternative technologies and tools. 16

Strategy: Promoting innovative approaches. 17

D. Sharing Knowledge and Increasing Accountability *18*

Strategy: Developing and reporting information on the benefits of, and challenges in, animal agriculture. 18

Strategy: Providing clear and consistent information on regulatory requirements and conservation opportunities. 19

Strategy: Educating natural resource, environmental, and agriculture students on the conservation and environmental benefits provided by animal agriculture. 19

Strategy: Evaluating progress and reporting results. 20

V. Conclusion 20

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Highlights of State and Basin Area Animal Agriculture Conservation Frameworks *21*

Conservation Program and Technical Assistance Needs 21

Market Development Needs 21

Producer Needs 22

Technology Needs 22

Techniques, Practices, and Systems: 22

Monitoring and Assessment Tools: 23

Information Needs 24

Training and Certification Needs 24

Partnership Needs 24

APPENDIX B 26

Related Reference Documents *26*

Feed Management Dialogue: Challenges and Opportunities for Reducing Nutrient Output 26

The Natural Resources Conservation Service's Comprehensive Nutrient Management Planning Technical Guidance 26

Costs Associated with the Development and Implementation of Comprehensive Nutrient Management Plans, Part I – Nutrient Management, Land Treatment, Manure and Wastewater Handling and Storage, and Recordkeeping 26

U.S. Environmental Protection Agency (EPA) and U.S. Department of Agriculture (USDA) Cooperation on the Implementation of the Clean Water Act Regulations for Concentrated Animal Feeding Operations -- Statement of Involvement 27

National Research Council of the National Academies' Report on Air Emissions from Animal Feeding Operations-Current Knowledge, Future Needs 27

United States Environmental Protection Agency's Concentrated Animal Feeding Operations-Final Rule 28

Natural Resources Conservation Service's Environmental Quality Incentives Program Final Rule 28

Comprehensive Nutrient Management Planning Training Opportunities Available from the Natural Resources Conservation Service and Other Sources 28

Natural Resources Conservation Service's Field Office Technical Guide and the National Handbook of Conservation Practices 29

State Technical Committees 29

Natural Resources Conservation Service Grazing Lands Technology Institute's Publications on Grazing Lands Management 29

National Animal Agriculture Conservation Framework

I. Introduction

American consumers expect a great deal of the nation's food and agriculture system. And there is no doubt that it delivers – more nutritious food with wider variety; improved safety with fewer adverse environmental impacts; and, greater convenience than at any time in our Nation's history.

This dynamic and evolving sector has undergone a shift from the largely commodity focused agriculture of the 20th century to the much different and more demanding consumer-oriented focus of the 21st century. Part of this shift means increased public scrutiny of the interface between production agriculture and the natural environment. Environmental quality means a great deal to Americans, from maintaining water quality in rivers, streams, and lakes to improving air quality and minimizing greenhouse gas emissions. It also means open space and the preservation of farmland, ranchland and the communities that support these land uses.

Today, animal agriculture is responding to many and varied issues ranging from environmental and public health to biosecurity and economic concerns. As we enter the 21st century, the Nation's farm and food system as a whole is experiencing challenges created by an increasingly global economy, overlain with unprecedented rapid technological change.

II. Animal Production and the Environment: Trends and Challenges

Animal agriculture has undergone substantial shifts in structure, size, and productivity in the last century. At the outset of the 20th century, farms and ranches were diverse in their production mix and most included livestock and poultry in that mix. In the 1940s, technological advances promoted specialization and drove remarkable productivity increases in the livestock and poultry sector. Ensuing consolidation and concentration in the livestock and poultry sector resulted in significant declines in the overall number of operations, while productivity continued to rise.

In 1997, nearly 70 percent of the Nation's 1.9 million farms and ranches reported livestock or poultry production – representing 1.3 million operations nationwide. Most of these operations (56 percent) produced few or primarily pastured livestock. Operations with confined livestock types, such as fattened cattle, milk cows, swine, chickens or turkeys, veal, or heifers, accounted for 18 percent of all farms producing livestock and poultry. These confined operations accounted for about 40 percent of the total number of animals units produced – an estimated 38 million animal units in 1997. Grazing operations accounted for the remaining 60 percent of animal units produced. The Natural Resources Conservation Service's National Resources Inventory reported about 522 million acres of grazing land (405 million acres of rangeland and 117 million acres of pasture) in the contiguous states in 2001, about 5 percent less than in 1982.

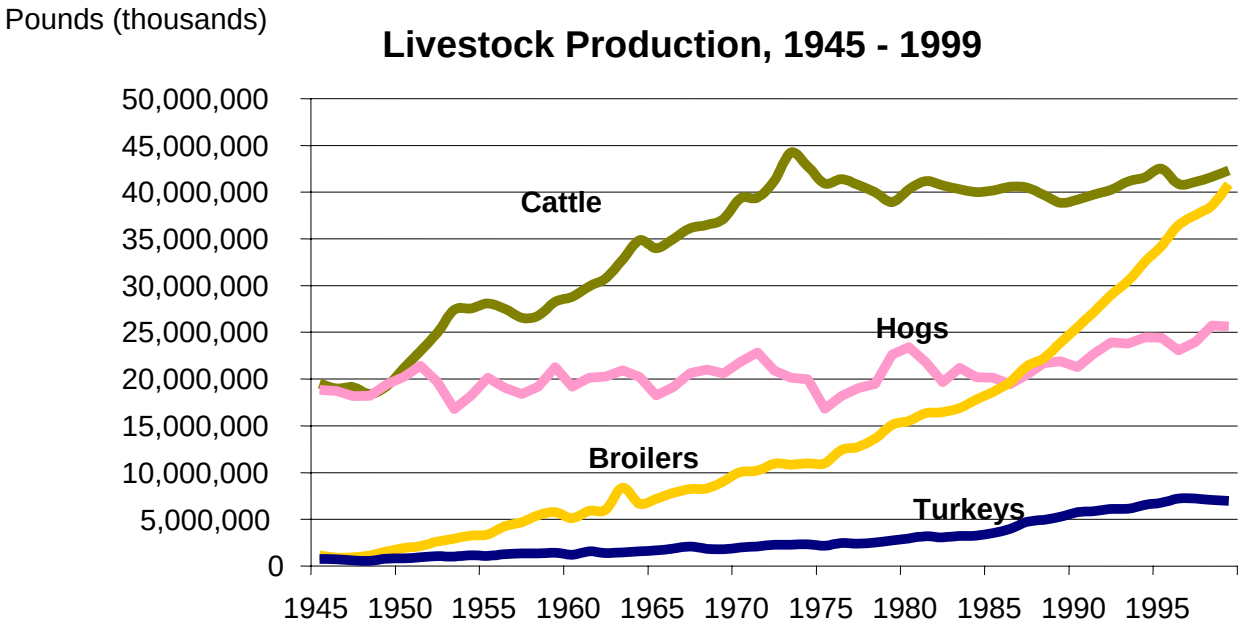
Figure 1 Historical Perspective, 1900 to 1997

Historical Perspective

	Beginning of the Century (1900)	End of the Century (1997)
Number of Farms	5,739,657	1,911,859
Average Farm Acreage	147 acres	487 acres
Livestock		
Percent of Farms Raising:		
Cattle	85 %	55 %
Milk cows	79 %	6 %
Hogs & pigs	76 %	6 %
Chickens	97 %	5 %
Government Payments	- 0 -	$5 billion
Percent Population Living on Farms	39.2 %	1.8% (1990)
Percent Labor Force on Farms	38.8 %	1.7 % (1990)

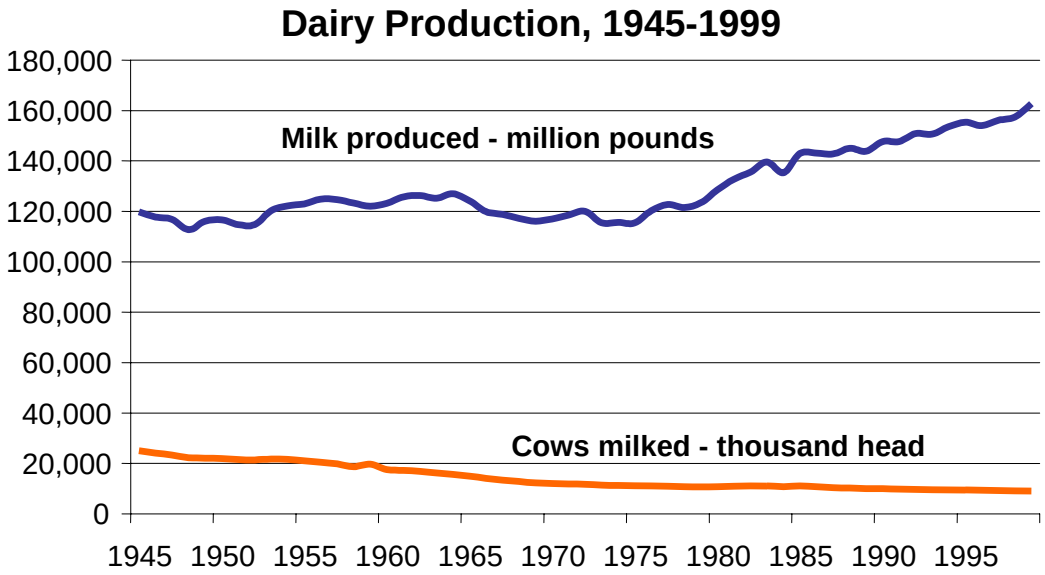
Source: USDA-NASS

Figure 2 Livestock Production from 1945 to 1999



Source United States Department of Agriculture

Figure 3 Diary Production from 1945 to 1999



Source United States Department of Agriculture

Figure 4 Trends in Rangeland, 1982 to 2001

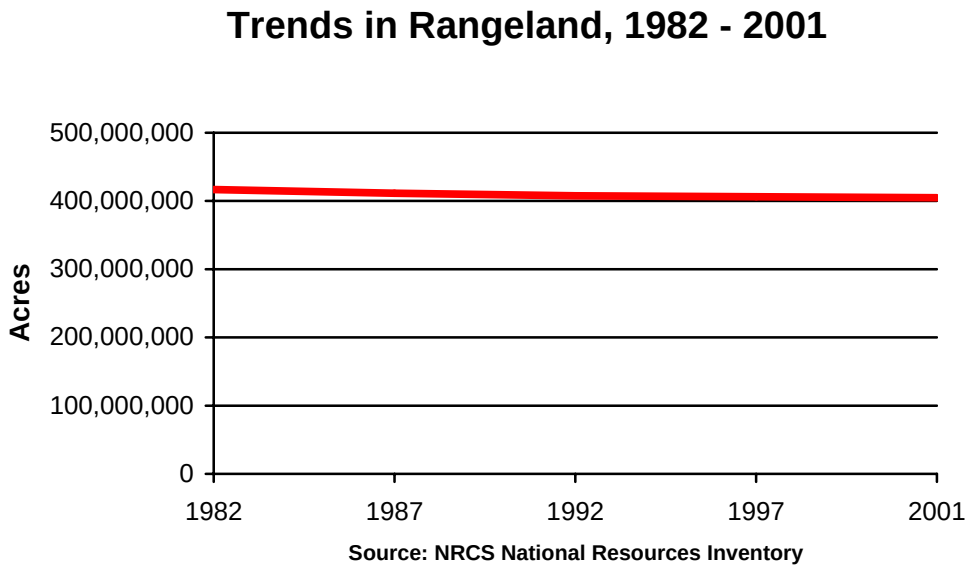


Figure 5 Trends in Pastureland, 1982 to 2001

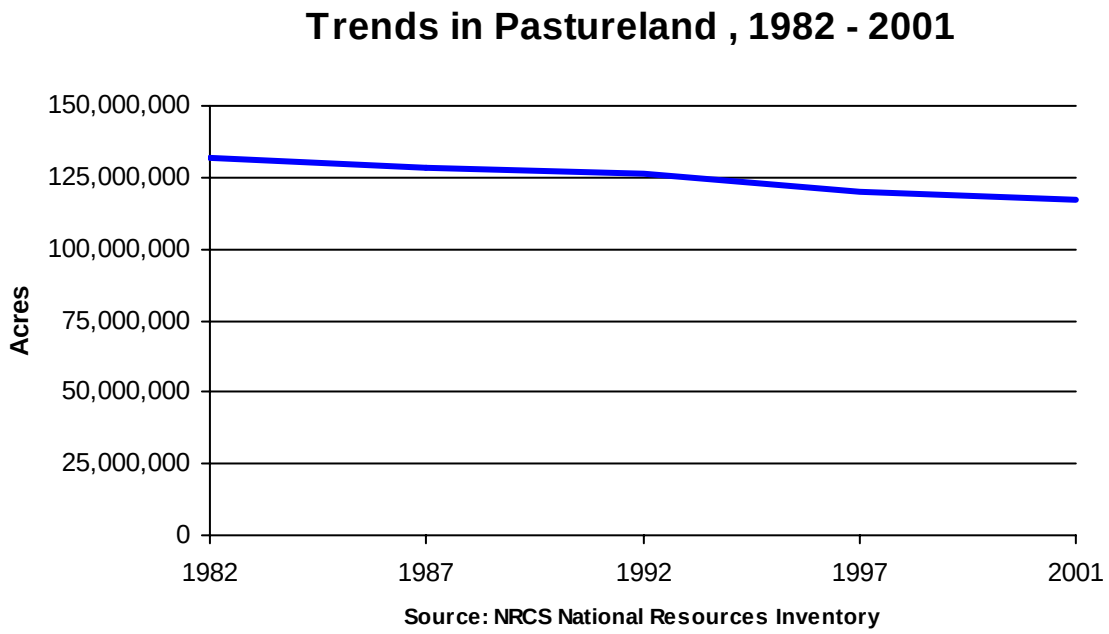
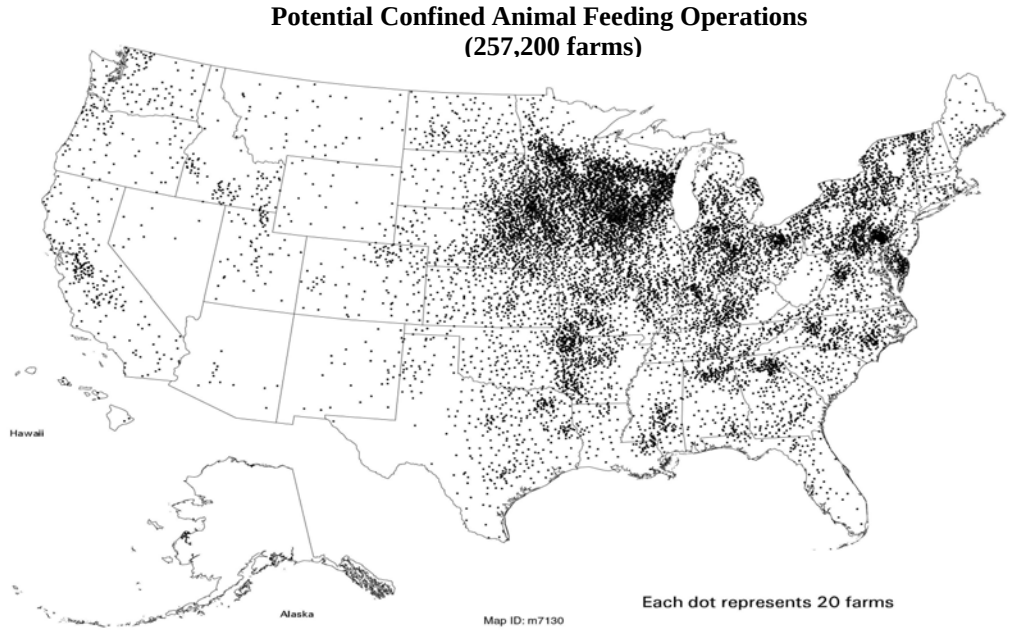


Figure 6 Potential Confined Animal Feeding Operations



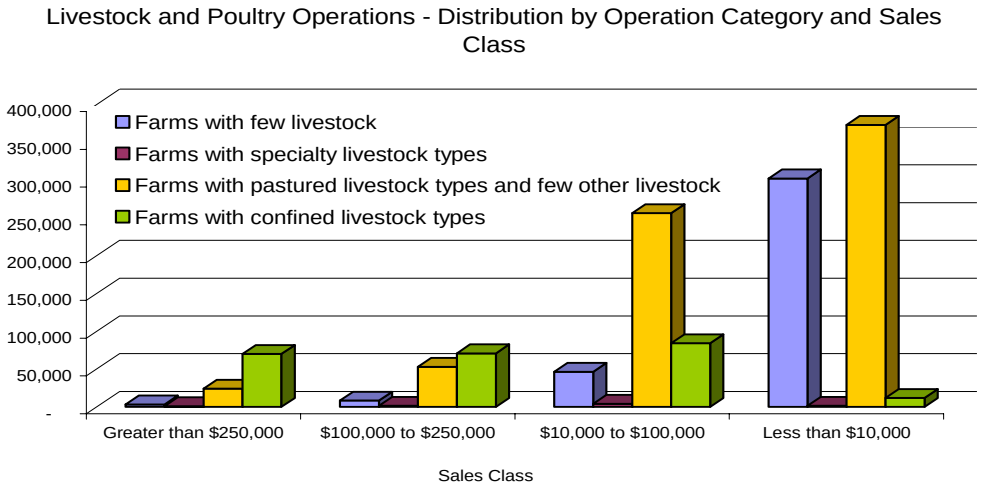
Source: United States Department of Agriculture

National Animal Agriculture Conservation Framework

In 2000, animal agriculture generated $100 billion in agricultural revenue, accounting for more than one-half of the total value of agricultural sales. Livestock and poultry returns are a major contributor to the revenues in the Nation's agricultural sector. Nearly 70 percent of the Nation's farms with sales of greater than $250,000 have livestock or poultry as part of their production mix. But the majority of farms and ranchers that include livestock or poultry production as part of the operation have total sales below $250,000.

Today, exports of consumer-oriented, high-value products, such as meats, poultry, and processed products, are growing more rapidly than exports of basic commodities. This export market for meat, poultry, and processed products also is critical to sales of feed grains and oilseeds, because these products are fed to animals before they are processed and exported. In 1990, only 1.4 percent of the total value of U.S. grain output and 1.8 percent of the value of U.S. soybean output was exported as livestock and poultry products. In 2000, those numbers had grown to 4.3 percent and 5.4 percent, respectively. In the past 15 years, U.S. export sales of the three major meats—beef, pork, and poultry—have grown faster than the meat exports of the Nation's competitors. The U.S. has moved from primarily a meat importer ($3.7 billion) to a major exporter ($6.2 billion).

Figure 7 Livestock and Poultry Operation Category and Sales Classes



Source: United States Department of Agriculture

Along with the productivity increases characterized by U.S. animal agriculture, has come increasing scrutiny of the sector's potential impact on the Nation's natural resources. The array of potential environmental issues has grown. Today, concerns are as varied as the sector itself, including:

- Nutrient and sediment pollution of water resources
- Greenhouse gas emissions (e.g., methane, nitrous oxides, carbon dioxide)
- Air quality (e.g., odors, particulates)