Program Focus Team Action Plan:

Kansas Natural Resource and Environmental Management

2012-2013

Strategic Opportunities Addressed:

- Sustain Profitable Agricultural Production Systems
- Identify Pathways for Efficient and Sustainable Energy Use
- Ensure an Abundant and Safe Food Supply for All
- Enhance Effective Decision-Making Regarding Environmental Stewardship
- Assist Communities in Becoming Sustainable and Resilient to the Uncertainties of Economics, Weather, Health, and Security

Situation:

GRASSLAND

Kansas is a prairie state noted for its native grasslands, streams and wetlands, abundant blue skies and green grassland vistas. The native grasslands that exist throughout Kansas are one of the state's most important renewable natural resources. These grasslands help maintain the landscape and its watersheds and aid in maintaining the water quality in our streams and lakes. Grassland habitats are home to many of the state's rich diversity of native plants and wildlife species. These landscapes also provide scenic beauty, recreation, tourism, and contribute to cultural values.

Kansas grasslands are of prime economic importance to not only the state, but the entire nation. The state nationally ranks 12th in acres of pasture and rangeland. Of North America's 140 million presettlement tallgrass prairie acres, only 4% survives to this day and 80% is located in Kansas. Kansas presently has about 15.8 million total acres of native grasslands or rangelands, 2.5 million acres of pastureland, and at any given time, 3 to 6 million acres of annual forages. These grasslands are vital in supporting the state's largest agricultural commodity, beef cattle production. In 2009 cattle generated $5.55 billion in cash receipts for the state.

For now and the future, Kansas grasslands encompass a host of rich natural resource opportunities and provide an equal number of resource management challenges. Numerous natural resource issues face our grassland managers which warrant the development and dissemination of sound research-based information. To meet the evolving needs of these managers, it is essential to provide access to a vast, rapidly expanding knowledge base to address topics such as invasive species, water quality, ecology and biodiversity, climate, and other emerging issues.

Drought is a recurring issue in various parts of the state, with serious impacts on grassland health and grazing profitability. Managers must consider the effects of drought on both the grassland and livestock when implementing or adjusting plans for stocking rates and duration of grazing.

WATER

Water affects every facet of our lives, from drinking supplies to recreation. Its quality and quantity determines how and if it can be used. In Kansas, nearly 500 square miles are covered in water. In addition, there are more than 10,000 miles of streams and river in Kansas, most of which are privately owned.

In terms of quality, assessments from the Kansas Department of Health and Environment (KDHE) found many Kansas streams to be impaired by pollutants such as fecal coliform bacteria, herbicides, nitrogen, phosphorus and/or sediments. Pollutants come from a variety of sources including: substances discharged from factories, runoff from agricultural land or storm drains and yards in urban areas. Furthermore, bacteria, sediment, and excess nutrients from livestock and poultry waste have been shown to contaminate surface and groundwater and soils.

A primary source of this groundwater is the High Plains/Ogallala aquifer, which spans 225,000 square miles through portions of Kansas, Nebraska, Oklahoma, Texas, Colorado, South Dakota, Wyoming and New Mexico. Irrigation consumes more than 90 percent of the groundwater used in Kansas. In recent years, drawdown or depletion of the aquifer has greatly surpassed the rate of natural recharge, which illustrates the limitations of what was once thought to be a boundless resource.

A number of management practices are recognized to preserve or improve water quality including riparian buffer

strips, reduced pesticide/herbicide use, vegetative filter strips, reduced tillage, fertilizer placement, and pesticide timing. Waste management projects have included research on the effects of land application of animal waste, wastewater recycling through irrigation systems, lagoons evaluations, filter strips to reduce water contamination and wetland cells constructed to treat dairy runoff. In addition, tools that reduce water usage such as irrigation management/scheduling and subsurface drip irrigation have gained momentum.

The need has never been greater for technical information and assistance. Producers will continue to face new and unprecedented challenges as water continues to be one of the most debated and sought-after resources. Timely results and recommendations from research projects and practice implementation will be important to the survival of agricultural operations.

FORESTRY

Although the Great Plains is not thought of as a forested region, Kansas' woodlands play an integral role in the environmental and economic well-being of the state. Approximately 2.2 million acres of the Kansas landscape are classified as forestland by the USDA. An additional 2.9 million acres are in the form of agroforestry resources (i.e. riparian forests, windbreaks, isolated trees). These acres, combined with the canopy found in urban and community settings, account for 10% of the total land area in the state. Kansas forests are steadily increasing in area. Since the first official inventory in 1936, Kansas forests have increased by 3.9 million acres (includes non-FIA forestland).

The economic value of Kansas forest products will continue to grow along with size, quality and volume of forests. Ecosystem services are non-priced amenities or market goods. They may include water quality and quantity, carbon sequestration, forest certification, energy conservation or recreation.

Collectively, 95 percent of Kansas rural forestland is privately owned, which poses a defined need for programming and services that target the ownership and management of the majority of our woodland resources. These should address the threats that create wildfire risk, threaten Kansas forest health, and loss of Kansas forestland. At the same time, these programs and services should promote the benefits of sustaining water quality and quantity, protecting and restoring forest biodiversity and wildlife habitat, sustaining and protecting forest and agroforestry ecosystem, and maintaining and promoting livelihoods and the economic benefits of woodlands.

Deadly threats to Kansas forests are found in adjacent states, such as the Emerald Ash Borer in Missouri, and Thousand Cankers Disease of walnuts in Colorado.

FISHERIES AND WILDLIFE

When Kansas was settled by Europeans, we had an abundance of fish and wildlife. As the state has become more populated it has had an effect on the fisheries and wildlife resources. The methods of farming, ranching, and other land utilization practices have caused some wildlife populations to diminish and others to thrive. Lack of understanding what causes those changes creates misinformation and dissatisfaction. Wildlife and outdoor recreation are important to the quality of life for most Kansans. Kansas is noted for its quality populations of bobwhite quail, ring-necked pheasants and white-tailed deer.

Fisheries and wildlife associated activities in Kansas provides values for recreation as well as economic returns to landowners. A recent survey found that 1.1 million Kansas residents and nonresidents 16 years of age or older fished, hunted or watched wildlife in Kansas. In 2006, state residents and nonresidents spent $839 million on fisheries and wildlife recreation in Kansas.

Many of the issues that fish and wildlife face on private lands are related to habitat management. The management of rangeland, woodlands, water and cropland varies greatly depending upon the ultimate purpose for that habitat. Many landowners are starting to purchase lands for the primary purpose of recreation and are not concerned about economic returns from that land. Information, research and outreach efforts need to be developed that assist those land managers in Kansas who value outdoor recreation.

Public Value:

The economic and physical health of all Kansans is dependent on understanding and wise management of our natural resources.

Outcomes:

Short-Term:

Target audiences will become aware of both existing and emerging natural resource issues. Participants will gain an understanding of:

- why environmental issues are of interest or concern
- who/what is impacted by these environmental issues
- to what degree stakeholders are impacted
- which protocols should be employed to address and ultimately resolve the issues.

Audiences will increase their knowledge base regarding economically and environmentally sustainable practices that will prevent future problems. Stakeholders will recognize and appreciate the importance of their role in the process of collaboration and resolution of natural resource issues.

Improving grassland health is the focus of this year's plan, and evaluation tools are being developed to improve the reporting of program impacts in this area.

Evaluation Questions:

- Do you have a written management plan for your grassland? (Before event)
- What is the range or pasture condition of your grassland?
- After participating in this program, I gained increased understanding about _____ .

Medium-Term:

Stakeholders and participants will develop long-range strategic plans and implement best management practices as they relate to the sustainable management of grasslands, water, forestry, energy, wildlife, and air. Partnerships will be made among stakeholders to work collaboratively to alleviate and prevent environmental concerns throughout Kansas.

Evaluation Questions:

- What changes in grassland management, if any, do you plan to make based on what you have learned at this meeting?
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- What is the trend in range condition?
- What is the trend in pasture condition?

Long-Term:

Target audiences will benefit from measurable improvements in existing natural resource concerns and mitigation of emerging threats. Kansas citizenry will be environmentally literate and will make sound decisions regarding natural resources. Participants and their associated interests will become economically viable and environmentally sustainable.

Evaluation Questions:

- Was grazing plan developed?
- Were goals from grazing plan met?
- Have you implemented BMP's related to the Extension program?
- What economic impact (Dollars saved or increased dollars earned) on a per head or per acre basis can you attribute to your participation in this program?

Outputs:

ACTIVITIES

Support existing resources as well as develop, implement, and evaluate new programs, services, publications, and decision-making tools that bolster long-term sustainable management practices for natural resources and the environment. These may include, but are not limited to invasive species management, wildlife habitat development, nutrient management, riparian and forestland preservation and enhancement, irrigation management, soil conservation, and air quality enhancement.

PARTICIPANTS & STAKEHOLDERS

- Producers, Operators, and Land Managers

- Landowners

- Local, State, and Federal Government Agency Personnel

- Agricultural and Environmental Advisors and Consultants

- Local, State, and National Media

- Agricultural, Natural Resource, Environmental, and Industry Organizations

- Local, State, and Federal Government Officials

- Other key stakeholders yet to be identified

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