

Flint Hills Smoke Management Plan

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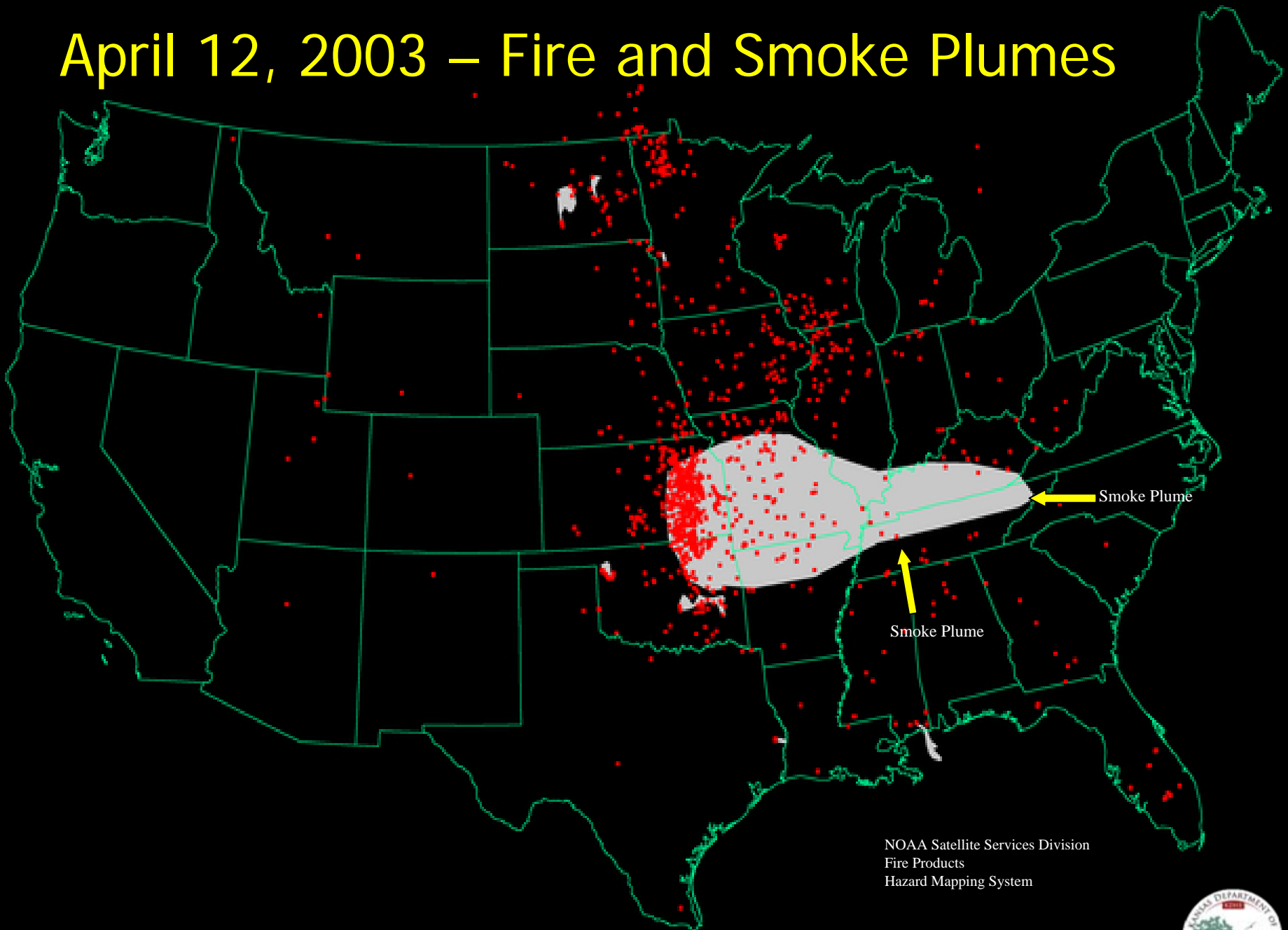


Flint Hills Burning and Air Quality

- Flint Hills burning caused ozone exceedances in KC in 2003 and KC and Wichita in 2009 & 2010
- EPA & KDHE have met with agricultural representatives from 2003 to present
 - Research, education, outreach & field training
- EPA denied KDHE's request to flag 2009 ozone exceedance data due to lack of SMP
- KDHE contacted by ag groups in 2009
- Commitment to develop Smoke Management Plan in 2010
- Committee formed and multiple meetings in 2010 on developing SMP



April 12, 2003 – Fire and Smoke Plumes

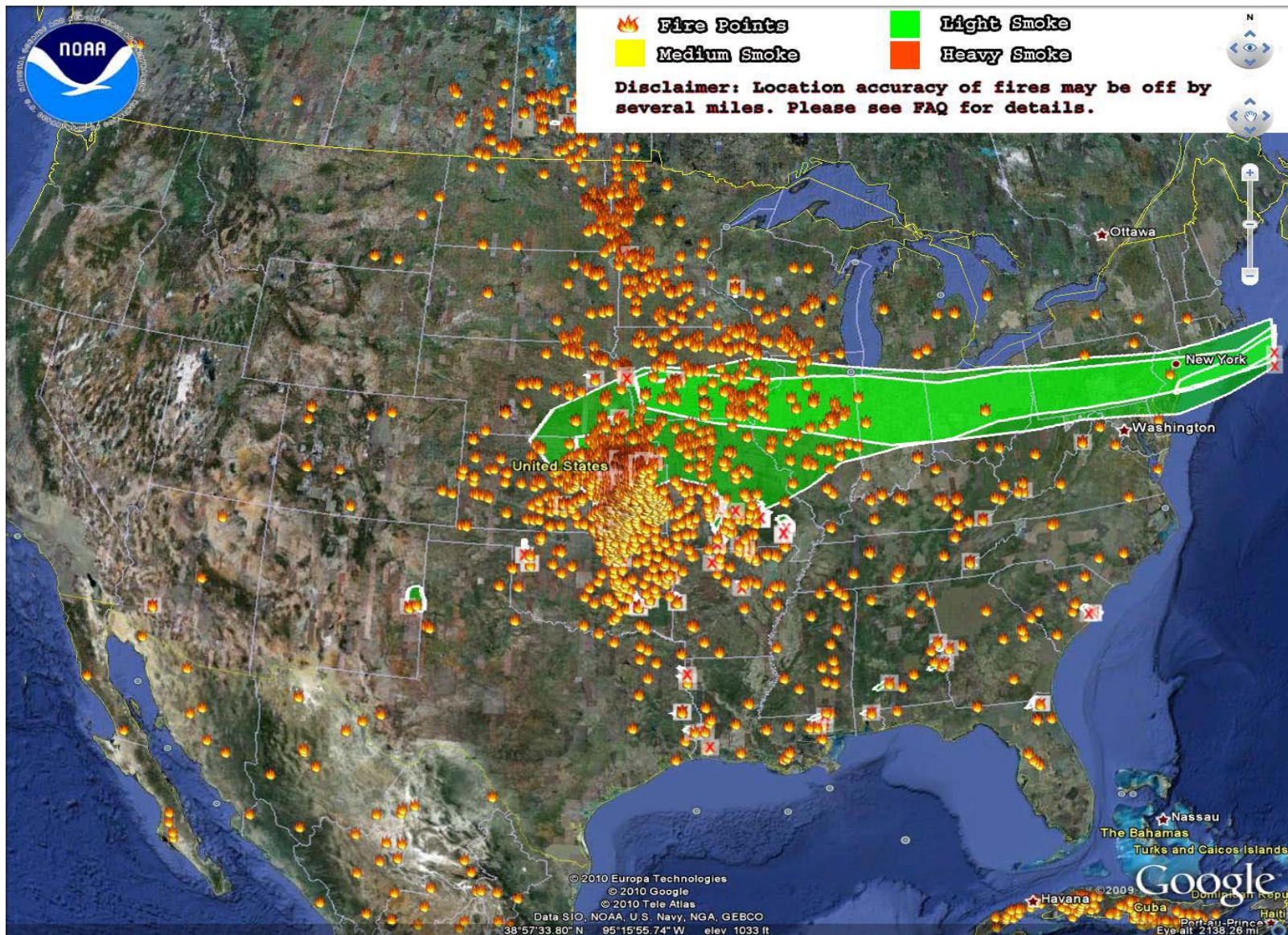


NOAA Satellite Services Division
Fire Products
Hazard Mapping System

Our Vision – Healthy Kansans living in safe and sustainable environments.



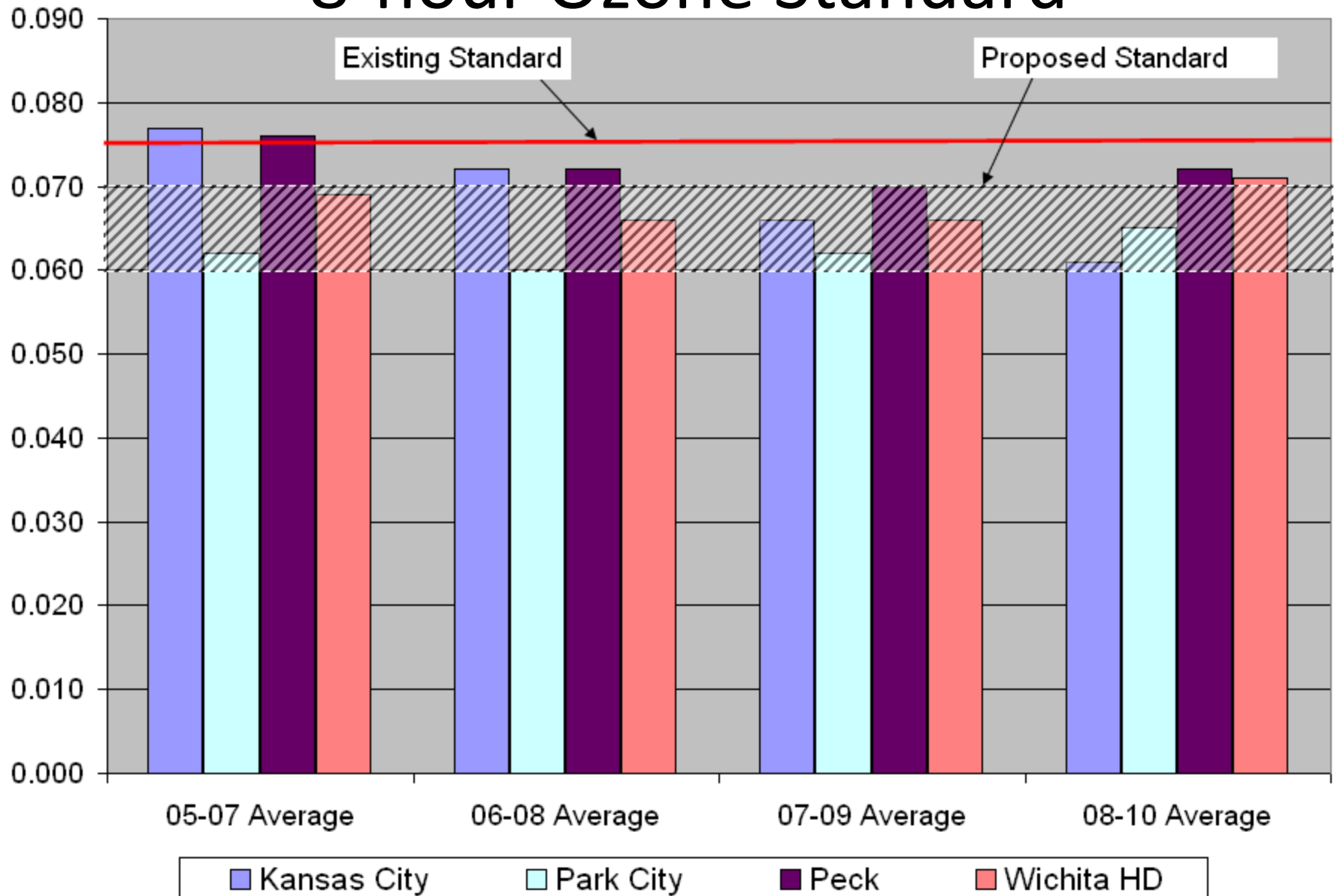
April 11, 2010 Fire and Smoke Plumes



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8-hour Ozone Standard



Why have a smoke management plan?

- To reduce impacts on public health
 - Emissions include Nitrogen Oxides, Volatile Organic Compounds and particulate matter
 - Nitrogen oxides and volatile organic compounds combine to form ozone
- To help meet national air quality standards
- To receive exceptional event flag in case of air quality exceedance



What happens when air quality standards are exceeded?

- State Implementation Plan (SIP) preparation
- Economic development curtailed
- New rules to reduce NO_x & VOC emissions
- Potential sanctions for failure to meet standard
- Increased costs for fuel, electricity, goods, etc.
- Citizens breathing polluted air



About the Plan

- Is voluntary for prescribed burns of rangeland
- Includes restrictions on some types of burning in April
- Includes tools to assist land managers and local fire officials in making burn decisions
- Has a pilot program to evaluate use of a burn checklist
- A web site with a tool to predict smoke plume movement and other burn resources
- Includes plans for outreach and education



Chapter 1 - Introduction

- Air Quality Impacts From Flint Hills Burning
 - History
- Flint Hills Ecosystem
 - Topography & geology
 - Climate
 - Animal species & habitats
 - Preservation of tallgrass
 - Historic fire cycles & roll of fire



Chapter 2 - Reasons for Having a SMP

- Health Concerns
- National Ambient Air Quality Standards
- EPA Interim Fire Guidance
- Nonattainment Consequences & Costs
 - State Implementation Plans
 - Reasonably Available Control Technology regulations
 - Transportation Conformity, potential loss of federal highway funds
- Maintaining Flint Hills & Ag Economy
 - Description of intensive early stocking
 - Discussion of weight & financial gains
 - Potential for prairie loss for areas not burned



Chapter 3 - Reducing Downwind Impacts of Flint Hills Burning

- Review Need for Burning
- Fire Management Practices
 - Air quality, timing, transport wind, mixing height, dispersion
 - Humidity, fuel moisture, temperature
 - Ignition & burn techniques
- Smoke Plan Pilot Project – Spring 2011
 - Greenwood & Chase counties
 - Fire Management Practices booklet



Chapter 4 - Restrictions on April Burning

■ Counties Affected

- Butler, Chase, Chautauqua, Cowley, Elk, Geary, Greenwood, Johnson, Lyon, Marion, Morris, Pottawatomie, Riley, Sedgwick, Wabaunsee & Wyandotte

■ Examples of restricted burns

- Crop residue
- Land clearing
- Yard waste

■ Types of burning allowed

- Agricultural burning to manage prairie and grasslands
- CRP burning
- Other burns approved by local authorities on case-by-case basis



Chapter 5-Outreach, Education & Public Notification

■ Outreach

- Fire training events
- Fire & Smoke Planning Resource website (www.ksfire.org)
- Broadcast and print media
- Group presentations

■ Audience

- General public
- Land managers
- Fire officials

■ Message

- Health effects
- Fire management practices
- April burn restrictions



Chapter 6 - Surveillance and Enforcement

■ Surveillance

- Air monitoring
- Review of Satellite imagery
- Post burn season survey of land managers

■ April Burn Restrictions Enforcement

- Local fire officials/emergency managers
- KDHE district offices



Chapter 7 - Data Collection, Research Needs & Long Term Strategies

- Data Collection Pilot program for 2011
- Research Needs
 - Characterize emissions & remote sensing
 - Monitoring studies
 - Timing & frequency
 - Management techniques
 - Health impacts
 - Prairie Chicken
- Long Term Strategies
 - Computer modeling of air quality impacts



Chapter 8 - Contingency Measures

- Expand April burn restrictions to counties surrounding Flint Hills
- Require fire management practices checklist, notification, & data collection
- Require burn approvals based on weather & pre-existing conditions
- Establish time-of-day windows for burning
- Burn bans based to potential air quality impacts



Implementation



of The Plan



Our Vision – Healthy Kansans living in safe and sustainable environments.

Plan Implementation

- Let us know what types of outreach and training work best
- Provide input and feedback on the web site, fire management practices and other tools
- Participate in the pilot program in Chase and Greenwood Counties
 - How can the checklist be improved?
- Do your own pilot if you are in another county
- Attend an Extension fire training program



Plan Implementation

- Participate in the reg development process for the April restrictions
- Provide burn information for 2011 to your local fire official for the data collection effort
 - Kansas State University research
 - No landowner-specific information in report
- Pass on information regarding the plan to friends, neighbors and local officials
- Remember that the Plan will change as knowledge and conditions change



QUESTIONS?

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