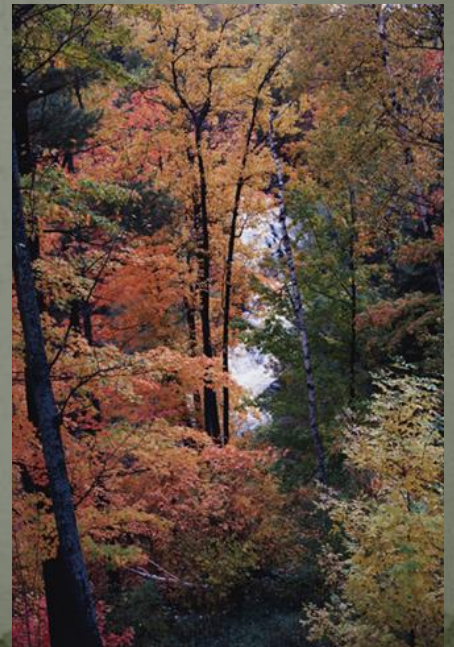


Tree Preservation

Protecting Tree Resources
within the
Kansas City Region



Overview

- National Perspective
- Functional Value of Trees
- Economic Value of Trees
- Assessing Trees Resources
- Mechanisms for Preservation
- Next Steps



National Perspective

- Interagency Urban “Livability” or “Sustainable Communities” Agenda
- Cooperative, Landscape-scale, Interjurisdictional Conservation & Restoration Efforts
- Valuation of Ecosystem Services



Functional Value of Trees

- Pollutant Reduction
- Air Quality Enhancement
- Energy Conservation
- Green Infrastructure
- Increased Traffic Safety
- Wildlife Habitats
- Public Benefits
 - Mental Health
 - Social – Aesthetics, Decreased Stress



Functional Value of Trees

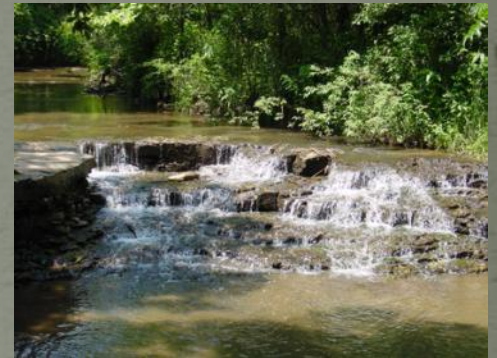
- Carbon Sequestration
 - Single Mature Tree Can Absorb CO₂ at Rate of 48 lbs/yr
 - US Forest Service Estimates All US Forests Combined Sequestered a Net of 309 Million Tons of Carbon/yr from 1952-1992, Offsetting 25% of Human Caused Emissions During the Same Period
- Climate Change in Kansas City Region
 - By 2020, GHG Emissions in KCMO are Expected to Rise to 11.3 Metric Tons of CO₂ Equivalents
 - Goal of City's Climate Protection Plan – 120,000 Trees
 - By Expanding Urban Forestry Program Estimate GHG Reduction of 67,600 Million Tons for Community

Economic Value of Trees

- Economic Valuation
 - Direct – Savings in Energy Costs; Increased Property Value
 - 30-50% cooling; 20-50% heating, 10% increase in value
 - Indirect – Benefits Available to Community or Region
 - Less Energy Use, Fewer Facilities, Reduced Fossil Fuel Use, Less Stormwater Runoff to Manage
- Environmental Costs – Engineered Infrastructure
- Hedonic Pricing
 - Local Good Can Have a Ripple Effect on Adjoining Properties and Commerce
- Human Health – Measure Deferred Costs

Economic Value of Trees

- Over 50 Year Lifetime, One Tree Generates
 - \$31,250 Worth of O₂
 - \$62,000 Worth of Air Pollution Control
 - \$37,500 Worth of Water Recycled
 - \$31,250 Worth of Soil Erosion
- Tree Price Tags
 - Quantify in Dollars the Benefits of Trees
 - 100 Tags Were Placed Around Kansas City
 - Elm in Kansas City, MO \$10,203
 - Ginko in Belton \$18,948
 - Pin Oak in Fairway \$25,804
 - Bald Cypress in Wyandotte Co. Park \$37,101
 - Bur Oak in Blue Springs \$49,700



Assessing Tree Resources

- Assess Existing Tree Resource
- Review Tree Management Practices
- Identify Needs
- Establish Goals



Discussion



Mechanisms for Preservation

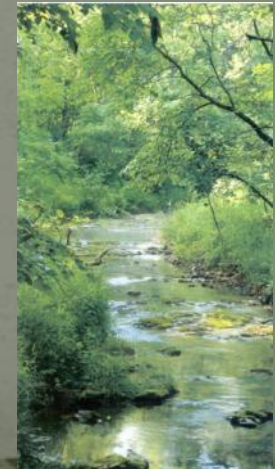
- Non-Regulatory

- Planning

- Comprehensive Plans
 - Watershed Plans
 - Transportation Plans
 - Utility Plans
 - Park Plans
 - Promotion of Smart Growth and Low Impact Development

- Two Keys

- Integration
 - Avoid Construction Future Liabilities Ethic



Mechanisms for Preservation

- Regulatory
 - Wetland Mitigation
 - Avoid
 - Minimize
 - Mitigate
 - Tree Preservation Ordinance
 - Natural Resource Overlay Zoning
 - Stream Buffer Regulation
 - Flood Plain Protection
 - Land Disturbance/Sediment Control
 - Agriculture as a Bona-fide Land Use

Mechanisms for Preservation

- Opportunities to Integrate Green Infrastructure
 - EPA Phase II – Recognize Trees in Model Stormwater Permit Guidance, Especially for Post-Construction Runoff
 - Carbon Trading – Bill Introduced into Senate that Would Establish Market-Based Trading System
 - GASB 34 – Trees as Municipal Asset – Report Assets on Accrual Basis to Account for Monetary Value of Infrastructure

Management – The Next Frontier

- Management Plan
 - Inventory existing trees
 - Identification of planting sites
 - Prioritized planting plan
 - Standards for tree selection
 - Scheduled maintenance
 - Inspection Program
 - Tree Friendly construction guidelines
 - Integrated disease and pest management
 - Reforestation plans
 - Plans for utilization of waste wood

Next Steps – MARC

- Regional Assessment of Community and Urban Forests (Supported by KFS/MDC)
- Evaluation of Policy, Planning and Management Opportunities to Address Multiple Issues (e.g. Energy, Air Quality, Water Quality, Carbon Sequestration, Floodplain Management, Biodiversity)
- Community Education and Professional Development



Next Steps – MDC

- Community Forestry Programs – TRIM
- Purpose: To promote sustainable community forestry
 - **Eligible Applicants**
 - All units of government
 - Public Schools
 - 501(c)(3) groups with appropriate project permission
 - **Criteria**
 - Projects must be located on publicly owned property
 - Approved projects must be completed by May
 - **Funding**
 - Cost-share ranges from 60-75 percent
 - Maximum per project is \$10,000; minimum is \$1,000

Next Steps – MDC

- Community Tree Planting Plans
- Purpose: To provide a professionally designed tree plan that indicates trees to be removed and trees to be planted, including species, size, and location.
- Eligible Applicants
 - Any unit of government including cities, counties, schools
 - Criteria:
 - The plans must be for public property
 - There is no time limit for implementing the plan

Discussion



Thank You!

