2015 Learning Objectives – Urban/Community Forestry

Key Topics

1. Understand what sustainable urban & community forestry is and why it is important.

2. Understand of the numerous benefits of urban/community forests to society, often referred to as ecosystem services.

3. Understand the costs associated with urban/community forests.

4. Understand what an urban forest management plan is and why it is an essential tool.

Learning Objectives

1. Describe the economic, social, and environmental benefits of urban/community trees to local communities.

2. Comprehension of the effects of urban/community trees on air quality and water quality.

3. Knowledge of research showing that trees contribute to our health, well-being and quality of life.

4. Understanding of threats to urban/community forests such as invasive species, insect and diseases, climate change, fire, air pollution, lack of management capability and development pressures.

5. Understand what a tree inventory is and what it is used for.

6. Understand the components of an urban/community forest management plan.

7. Basic knowledge of models and tools used to calculate the value of tree canopy functions.

2015 Learning Objectives – Soils, Wildlife, Forestry, Aquatics

Key Topics

1. Wildlife damage, wildlife controls and challenges wildlife managers face in urban areas.

2. How is resource forestry affected by urban areas, looking at insects, diseases and invasive species.

3. How do humans impact our aquatic resources and why karst areas are more sensitive to these impacts.

4. Evaluation of urban soil problems and using soil ratings to evaluate urban uses.

Learning Objectives

1. Understand popular methods of wildlife control in urban areas and which types are effective with local problem species.

2. Understand warm-season grassland management and how small game responds to management.

3. Identify insect and diseases that are current problems in southwest Missouri.

4. Identify the effect on Ozark forests from ice storms and tornadoes.

5. Understand Karst features and how they affect water quality.

6. Understand biomonitoring basics of streams.

7. Be able to use charts to determine soil interpretations and productivy.

8. Be able to identify redoximorphic features in the soil profile.

9. Understand how soils are affected by development in urban areas.

Urban and Community Forestry

It is mostly a matter of size that determines whether you use the term urban forestry or community forestry where you live. Small, rural-oriented municipalities may not relate well to the word "urban", so community forestry is the preferred term. In large towns and cities, urban forestry is entirely appropriate. To cover all bases in a single expression, urban and community forestry is widely used. Urban and Community Forestry can be defined as the planting and care of amenity, or landscape, trees, collectively, in human settlements. Urban and community forests broadly include urban parks, street trees, landscaped boulevards, public gardens, river and coastal promenades, greenways, river corridors, wetlands, nature preserves, natural areas, shelter belts of trees and working trees at industrial brownfield sites.

Benefits of Urban Forests

Urban forests are dynamic ecosystems that provide needed environmental services by cleaning air and water helping to control stormwater, and conserving energy. They add form, structure, beauty and breathing room to urban design, reduce noise, separate incompatible uses, provide places to recreate, strengthen social cohesion, leverage community revitalization, and add economic value to our communities.

The value of trees in our community is often overlooked but trees make human habitats more livable. As we busily go about our days, we don't always stop to think about how trees soften the many harsh aspects of our built environment. Here is a list of some of the benefits that our community forest provides:

Economic Benefits

•Trees are great for saving on energy costs. They provide shade in the heat of summer which means less need for air conditioning. If they are deciduous (meaning they lose their leaves in winter), trees allow for sun exposure during the winter season.

•Trees add to assessed property values, especially mature trees and fruit trees.

•Trees are a good investment because they return more benefits than the cost.

Environmental Benefits

•Trees sustain the long-term environmental health of the community.

•Trees help moderate the effects of harsh climate. They help filter the intensity of the sun and they regulate temperature, wind, and snow and rain.

•Forested areas have less water runoff and erosion.

•Trees provide a natural filter to stormwater and reduce flooding.

•Groundwater recharge is enhanced in forested areas.

•Trees improve air quality by absorbing carbon and producing oxygen. Trees also filter pollutants from the air.

•Trees provide habitat for birds and other wildlife.

Community Benefits

•Urban trees make walking places safer as they safeguard pedestrians from traffic.

•Trees provide screening and privacy.

•Trees reduce glare and reflection.

•Trees buffer sound, reducing noise pollution.

Aesthetic Benefits

•Trees add to the beauty and peace of our surroundings.

•Trees contribute positively to our quality of life.

•Trees can serve as a source of community pride.

Health Benefits

•Studies have shown that forested areas like parks can reduce blood pressure and benefit the overall emotional and psychological health of individuals.

•Trees help create recreational areas that can be enjoyed by walkers, runners, cyclists, and more.

Sources:

International Arboriculture Society
Sustainable Urban & Community Forestry
U.S. Forest Service

Oral Presentation Scenario (2015)

Springfield Public Schools is Missouri's largest school district with more than 24,000 students enrolled. The district consists of 56 school properties and 12 administrative and/or maintenance properties, bringing the total to 68 properties residing on approximately 750 acres of land. The Springfield School district features slightly over 3,000 trees on its property. The trees at Springfield Public Schools (SPS) are not only a major part of the infrastructure, providing the traditional values of aesthetics and shade, but also provide numerous environmental benefits as well. The trees and landscape surrounding the schools are seen as a reflection of the quality of education taking place inside the classroom. This vital part of the infrastructure contributes greatly to the quality of life in the Springfield area.

In recent years the Springfield community has expressed a much greater interest and appreciation for the urban forest; as a result of this, much more attention has also been given to the management and maintenance of the trees that reside in the Springfield area. The Springfield School district has also placed a greater amount of importance on the management of the trees on district property and recently completed a tree inventory of its 3,000 plus trees. The tree inventory information gathered included the digital mapping of each tree with GPS coordinates, a unique identification number, species identification, size (DBH & crown diameter), condition, risk rating, defects observed, and maintenance needs. The school district is tentatively planning on dedicating two full time employees to work on their trees year round and have provided these two employees with the tools and equipment that they believe will be adequate for the task. This includes: chainsaws and trimming tools, bucket truck, stump grinder, and access to a shared dump truck and skid loader when needed. The district does not have an established budget for this tree work or additional related expenses (e.g. more equipment, more staff, and/or contracted services), but this could be a possibility.

You and your team are tasked with creating a district wide Tree Management Plan and will be making a presentation to the school board asking them to formally adopt this management plan. You will need to reiterate the many reasons trees are an important part of the district's infrastructure and highlight the topics below. The list of topics below is not an all-inclusive list of the topics that could be covered in a tree management plan, but does highlight many important aspects of tree management.

• Environmental benefits

• Tree risk assessment and mitigation

• Tree maintenance – pruning cycles, mulching, watering, monitoring for insects and disease problems

• Tree planting

• Species Diversity

•   Politics/Authority – who has the final say in all tree management related decisions

•   Budget/Staff level – estimated requirements to properly maintain 3,000+ trees

You will be provided the tree inventory data from one of the larger school properties and can use this data as representation of the entire school district tree population for the purpose of creating the tree management plan.