

Site Assessment



Right Tree-Right Place Florida Urban Forest Council



Robert J. Northrop
Extension Forester



Seeing the forest for the trees and visa versa



City In the Forest

*Urban and Community Forestry
The Landscape Spectrum*



Site Assessment Varies by Geographic Scale

- Single tree
- City
- Ecological region



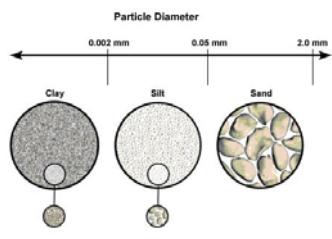
Site Assessment Single Tree – Below Ground

1. Soil pH
2. Soil texture
3. Soil drainage
4. Soil volume
5. Soil bulk density
6. Built infrastructure



Site Assessment Single Tree – Below Ground

Soil texture



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Site Assessment Single Tree – Below Ground

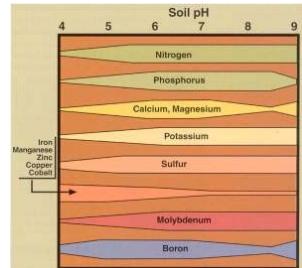
Soil volume

TREE SIZE AT Maturity	TOTAL SOIL AREA*
SMALL Height: shorter than 30 ft	10 ft x 10 ft
MEDIUM Height or spread: height over 30 ft	20 ft x 20 ft
LARGE Height or spread: greater than 30 ft	30 ft x 30 ft



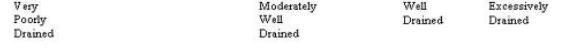
Site Assessment Single Tree – Below Ground

Soil pH



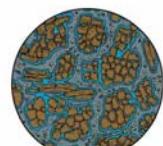
Site Assessment Single Tree – Below Ground

Soil drainage

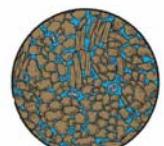


Site Assessment Single Tree – Below Ground

Soil bulk density



Lower bulk density
Lower weight
More pore space

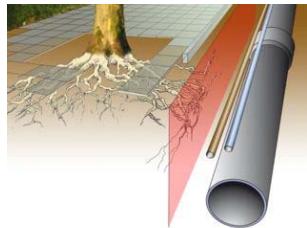


Higher bulk density
Higher weight
Less pore space



Site Assessment
Single Tree – Below Ground

Below ground
urban infrastructure



Site Assessment
Single Tree – Above Ground

1. Buildings and other structures
2. Overhead utility lines
3. Signs and lights
4. Paved surfaces

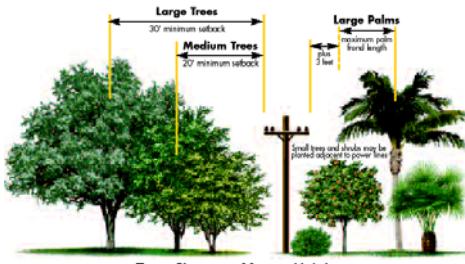
Site Assessment
Single Tree – Above Ground

Buildings and other
structures



Site Assessment
Single Tree – Above Ground

Overhead utilities



Site Assessment
Single Tree – Above Ground

Signs and lights



Site Assessment
Single Tree – Above Ground

Paved surfaces



Site Assessment Single Tree – Environment

1. Cold hardiness
2. Available sunlight
3. Artificial light
4. Amount and periodicity of rainfall
5. Prevailing wind patterns
6. Strong storms
7. Air pollution
8. Salt



Cold hardiness

Site Assessment Single Tree – Environment



Site Assessment Single Tree – Environment

Available sunlight



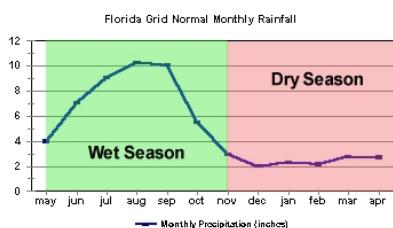
Artificial light

Site Assessment Single Tree – Environment



Site Assessment Single Tree – Environment

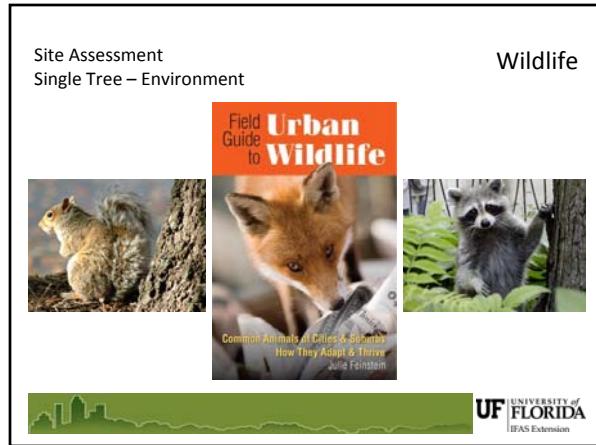
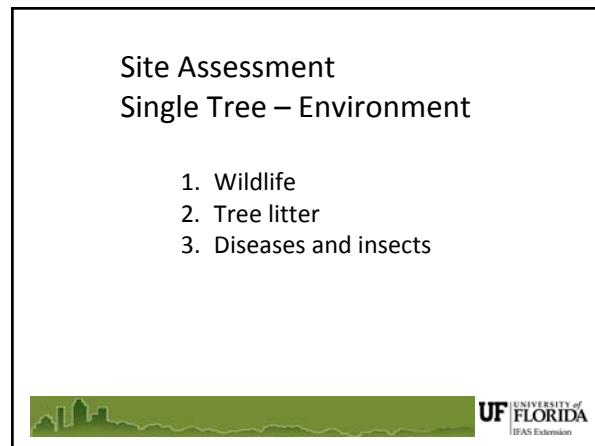
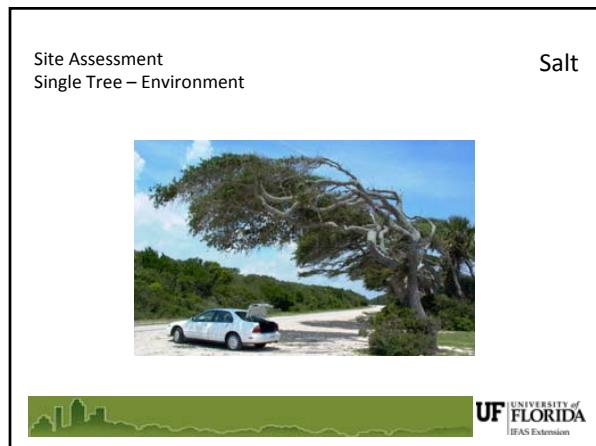
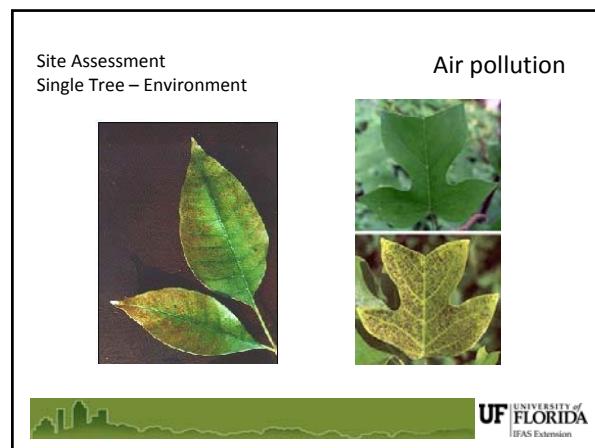
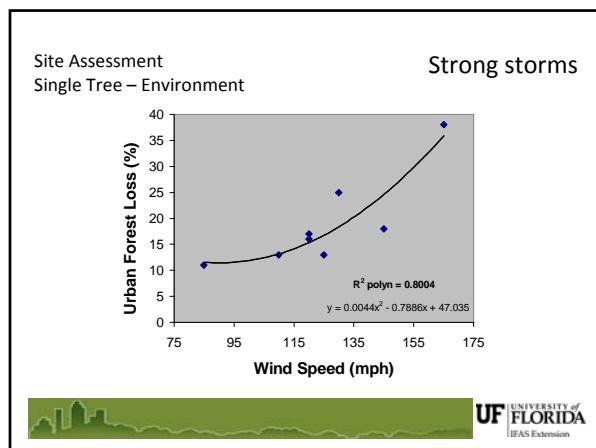
Amount and periodicity of rainfall



Site Assessment Single Tree – Environment

Prevailing wind patterns





Site Assessment
Single Tree – Environment

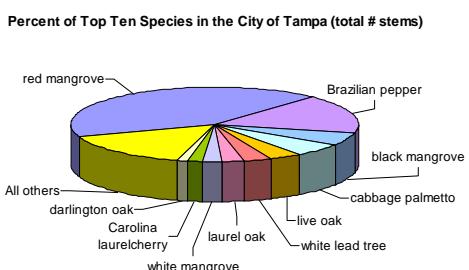


Diseases and insects



Site Assessment
Citywide

Diversity vs monocultures



Site Assessment
Citywide

1. Diversity vs. Monocultures
2. Native vs. exotic
3. Invasive species
4. Transportation corridors



Site Assessment
Citywide

Transportation corridors



Site Assessment
Ecological Region

Conservation of
regional biological
diversity



Natural Design and Urbanization?



The future of our forest ecosystems

- Vigorous and diverse
- Actively regenerating
- Nutrient assimilating
- Temperature regulating
- Deliberately patterned
- Resistant and resilient



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