Trekking through the Trees: Forest Succession at the Trinity River Audubon Center

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Trinity River Corridor Project, Jan. ‘15

http://www.trinityrivercorridor.com/maps/TRC-project-map.pdf

Trinity River Audubon Center

1995: Deepwood Dump

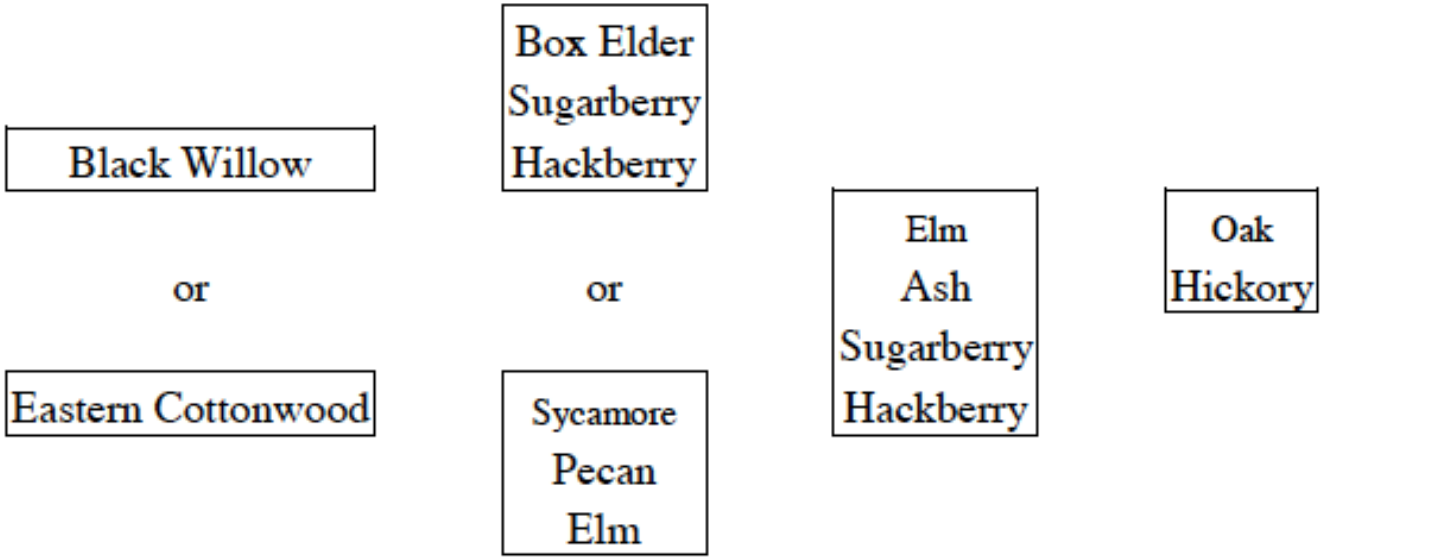
Source: City of Dallas

Now: Nature Center & Trails

Source: Audubon Texas

Bottomland Hardwood Forest Succession

- After a disturbance, how the forest grows back over time
- Tree species association can indicate successional stage (forest age)

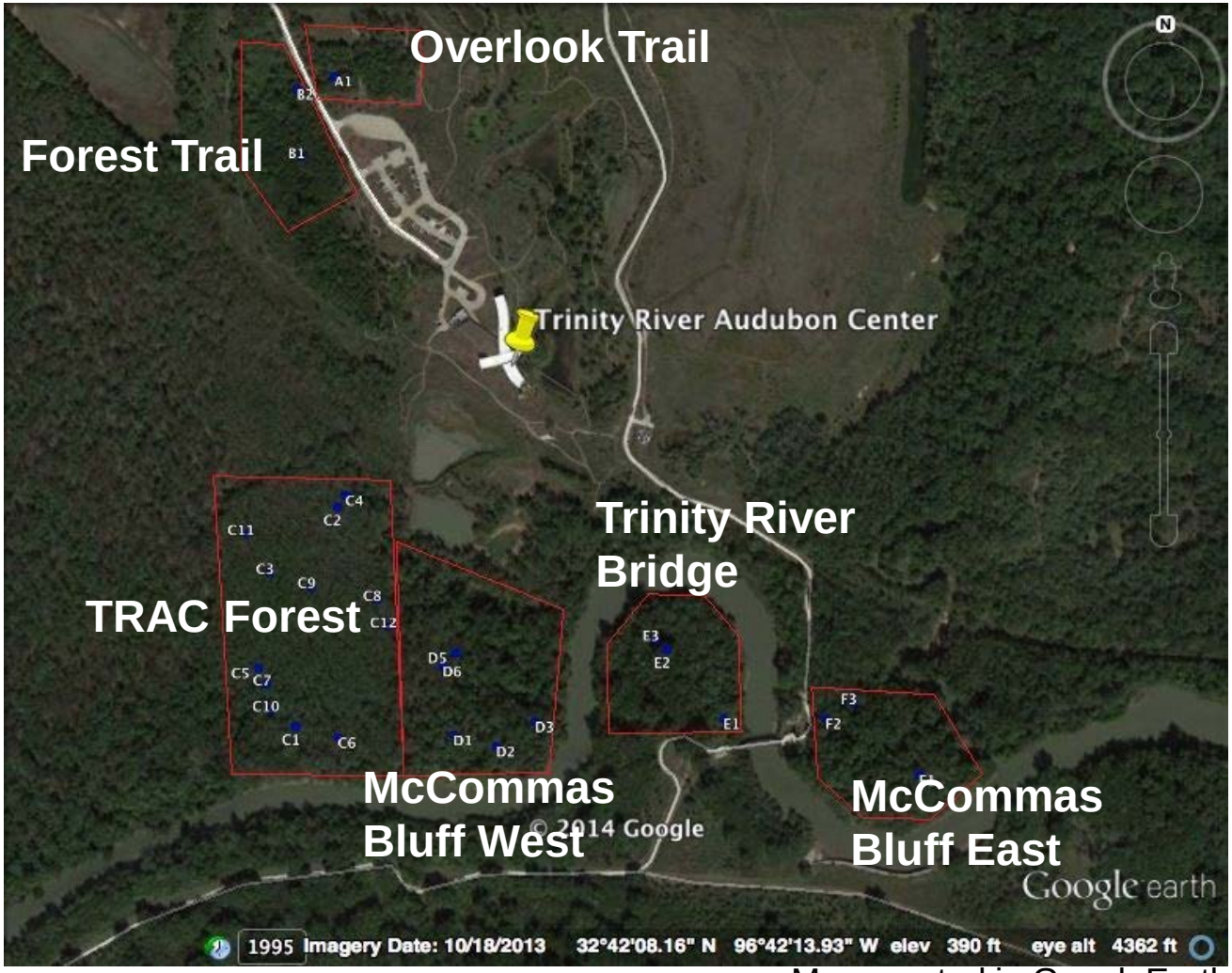


(adapted from Hodges, 1997)

Figure 1. Ray Roberts Greenbelt tree species associations, in order of general successional pattern.

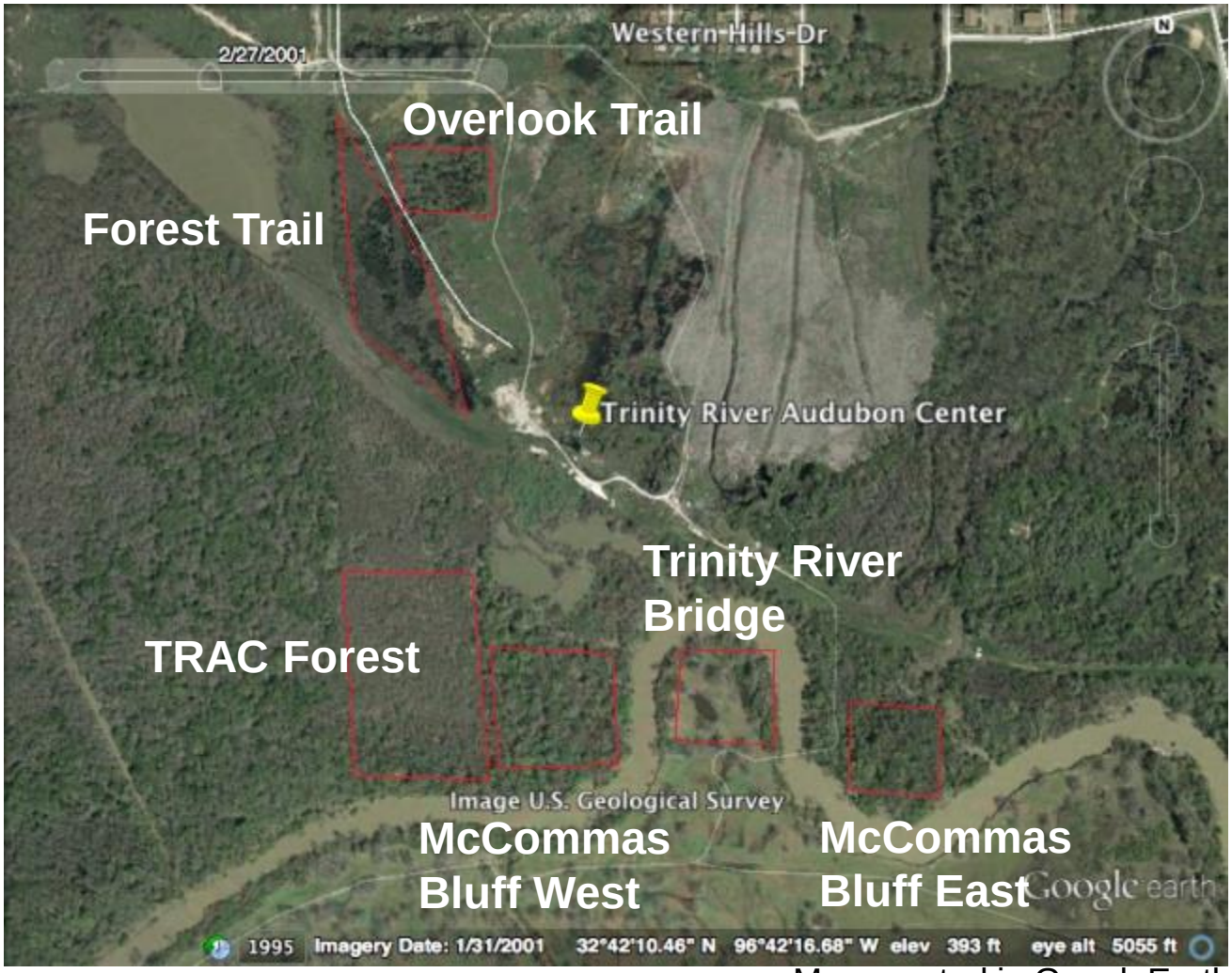
Sheralyn S. Holcomb Master's Thesis for UNT, 2001

Study Areas



Map created in GoogleEarth

2001 Aerial Image



Map created in GoogleEarth

Field Work & Data

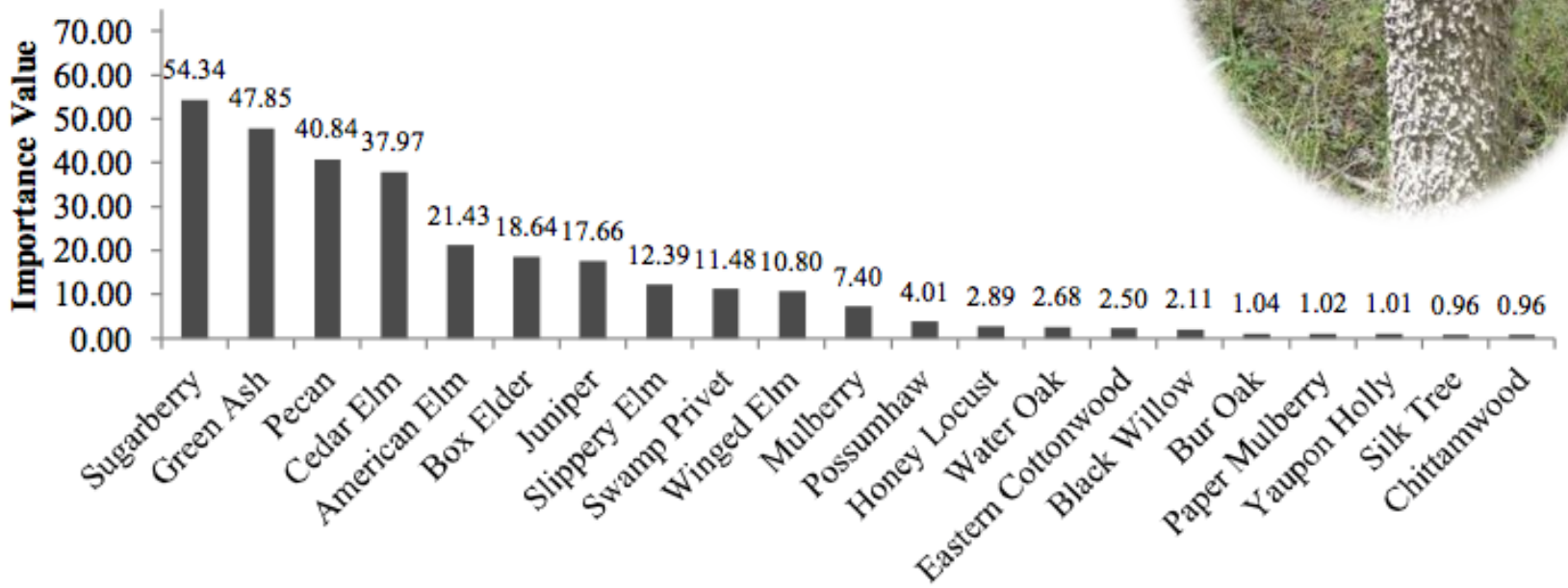
- GPS coordinate
- Diameter at breast height
- Species ID
- Importance Values
- Diversity

Importance Values

- Importance Value = relative frequency + relative density + relative dominance
  - Species frequency = plots observed / total plots
  - Species density = trees / hectare
  - Species dominance = basal area / hectare
- Value ranges from 0 to 300
  - Larger value indicates higher importance of the tree species

Results

Figure 2. Important Trees in the Forest near the Trinity River Audubon Center



Results

Overlook Trail

Forest Trail

TRAC Forest

McCommas Bluff West

Trinity River Bridge

McCommas Bluff East

Results

A. Cedar Elm (129)

B. Juniper (132)

C. Green Ash (118)

D. Sugarberry (72), Cedar Elm (69), Green Ash (52)

E. Pecan (124)

F. Sugarberry (90), American Elm (80), Green Ash (64)

What now?

Results can be applied to the Trinity River Audubon Center conservation strategy. Tree species information can be developed into educational materials, like a tree guide.