

# Analyzing tree damage from August 2020 Derecho storm in Chicago

By Annalise Nordgren

## Research Questions:

- 1) Can virtual imagery be used to detect obvious tree defects that may lead to storm failure?
- 2) Can virtual imagery help with high-level maintenance prioritization to minimize tree loss?
- 3) What species and size of trees were lost in Northern neighborhoods of Chicago during Derecho storm?

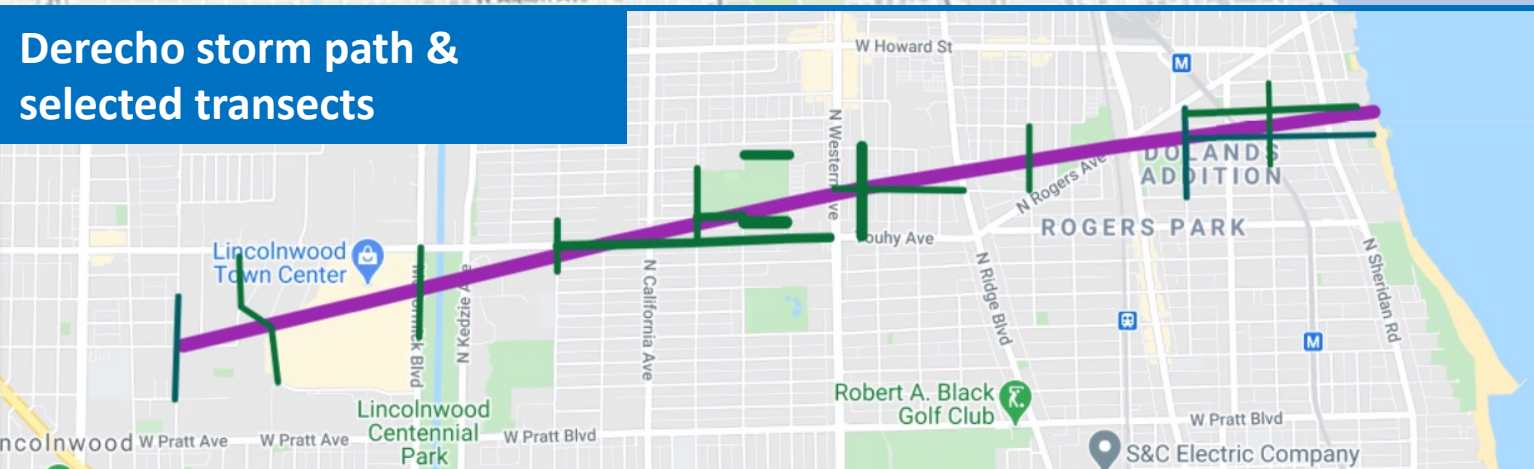
## On-the-ground Field Survey (n=840):

- Nov. 12<sup>th</sup> – Dec. 22<sup>nd</sup>
- 16 total transects (7 EW, 9 NS)
- Record visible structural and biological defects & storm damage

## Street-level virtual Survey:

- Feb. 12<sup>th</sup> – Present
- Treetective inventory tool

## Derecho storm path & selected transects







On-the-ground field inventory



Treetective inventory



Tree Inventory for Street View

Chicago, IL, USA

04/08/2021

Imagery from August 1, 2019

Talman Ave

N Talman Ave

W Jarvis Ave

+

-

Step 3 of 3: Details

Back

Measure and describe

Done

Diameter

Address

Genus

Species

Condition

27

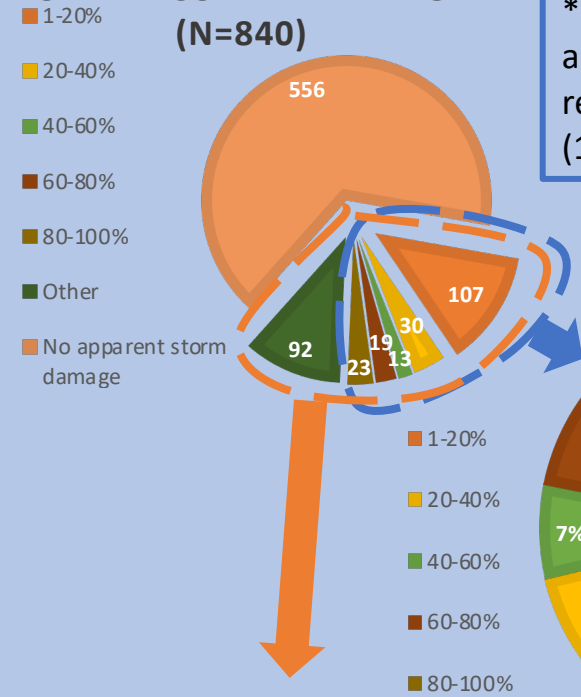
7400 N Talman Ave, Chicago, IL 60645, USA

☐ Injured, damaged, or infested



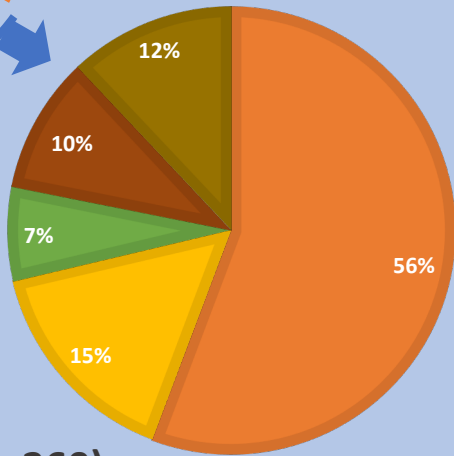
# Preliminary Field Data Results

## TOTAL RECORDED DAMAGE (N=840)

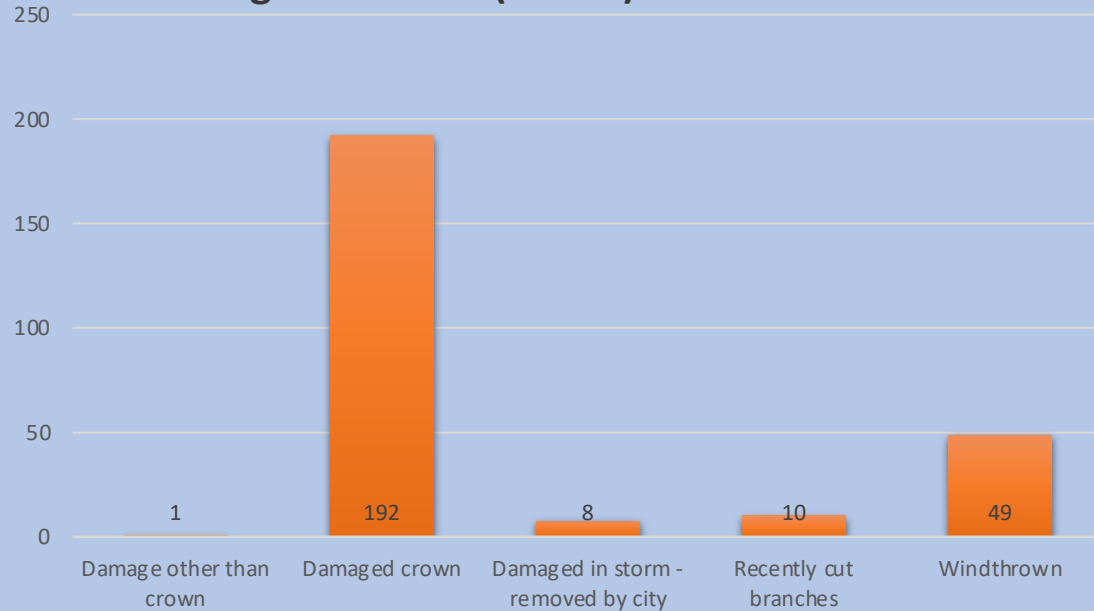


\*Complete damage rating of all entries. 31% (260) received storm damage, 23% (192) received crown damage

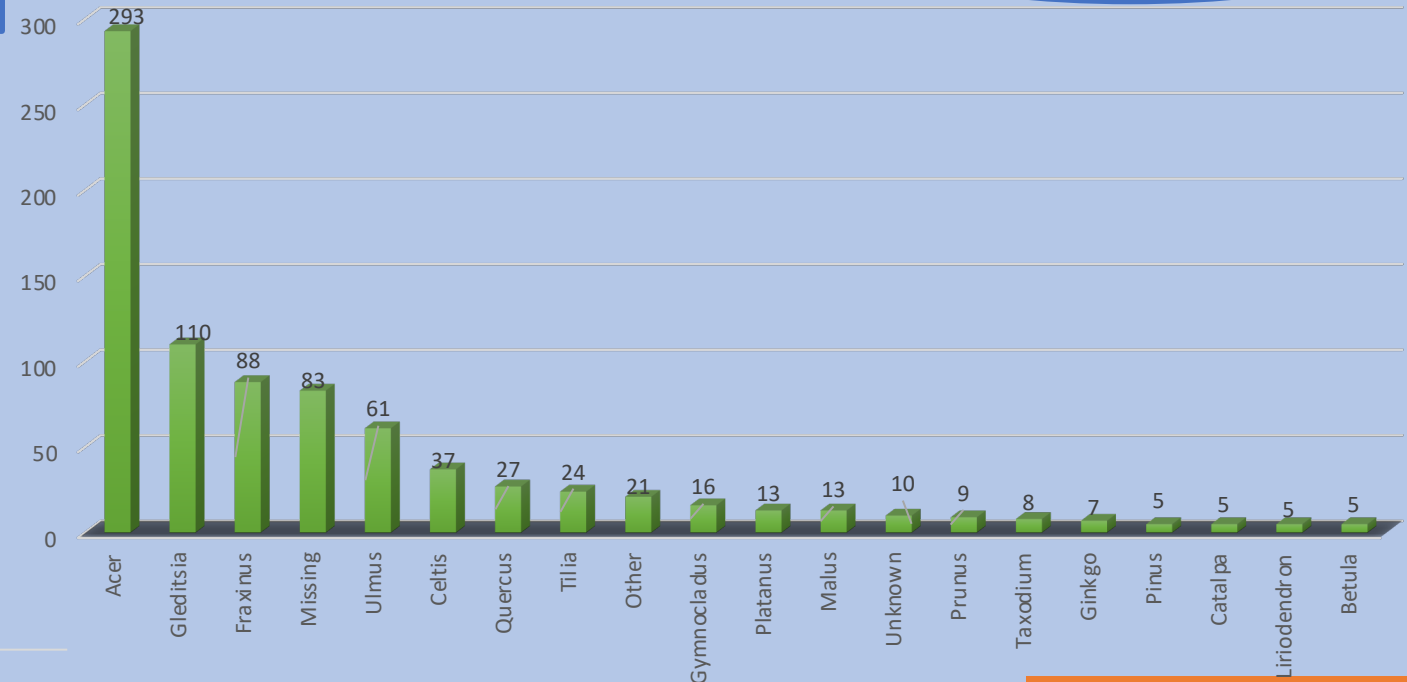
## PERCENT CROWN LOST (N=192)



## Damage Recorded (n=260)



## Genus (n=840)



## Next steps:

- Complete virtual inventory (about 250 more trees)
- Analyze, analyze, and analyze!

## Questions?

- [www.lufa-depaul.org/virtualinventory](http://www.lufa-depaul.org/virtualinventory)
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