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Planning the Urban Forest: Ecology, Economy and Community Development

Framing the Issues with Green Infrastructure

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Framing the Issues…

- Urban Decay- outdated and overwhelmed sanitary sewer-storm sewer systems- How to revitalize cities?
- Natural disasters-hurricanes, floods, ice, fire- How to rebuild?
- Urban Growth-Urban Sprawl- How to grow more sustainably?

Reframing the Issues… with Green Infrastructure

From urban sprawl to Smart Growth

From natural disaster clean-up to building resiliency into the environment

From traditional development to conservation development

From engineered infrastructure to non-engineered best management practices

From compliance to incentive recognition

From single issue to systems approach

Reframing the Issue With Green Infrastructure…

From Urban Sprawl to Smart Growth

City of Detroit Greenways

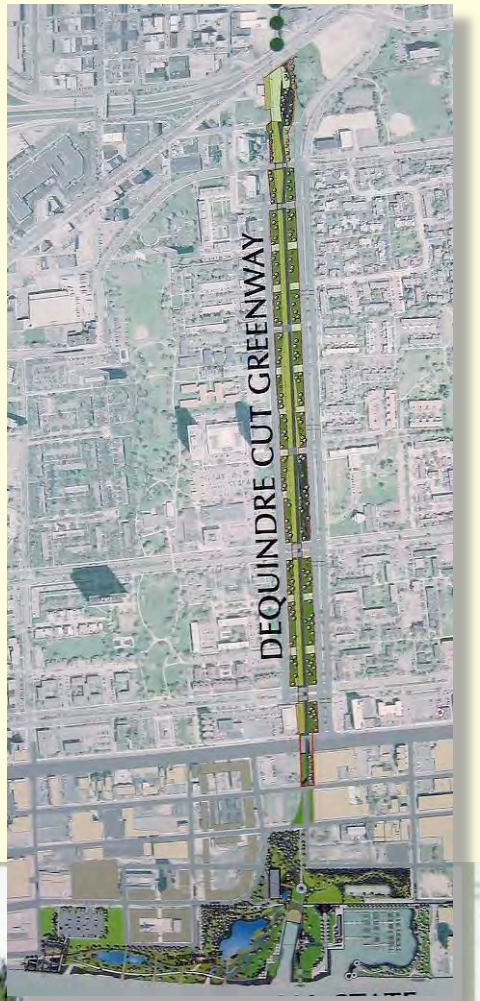
City of Detroit

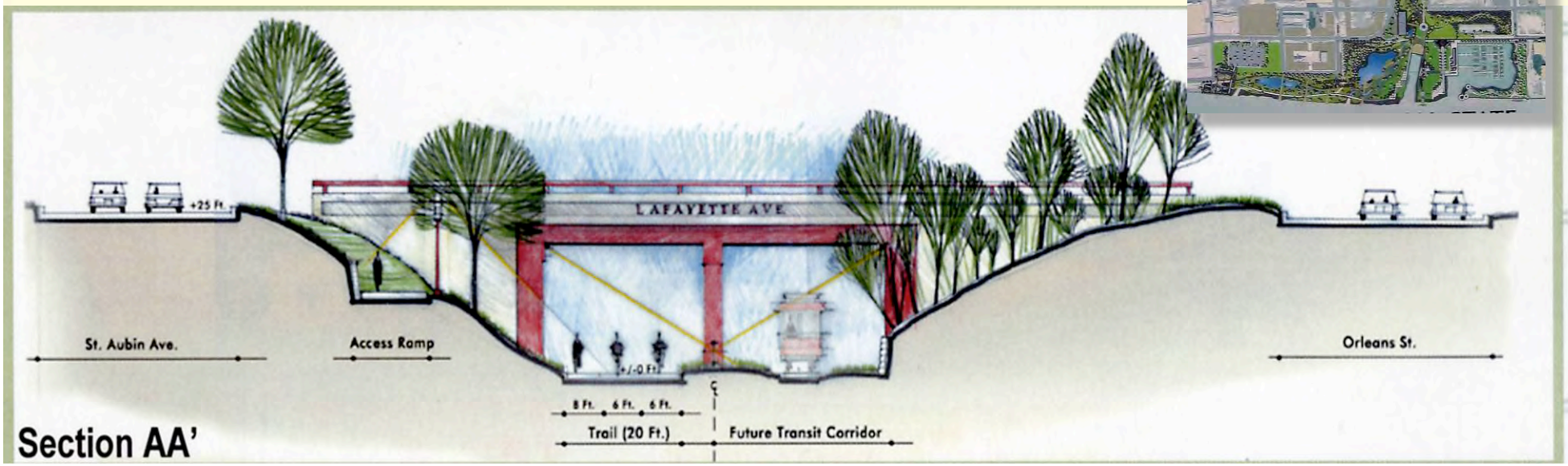
Detroit has 66,000 vacant lots =4600 acres of land as development shifts to suburbs

Between 1950-1990 Detroit lost ½ tree canopy to Dutch Elm Disease. Currently lost 16 million trees to Emerald ash borer.

Dequindre Cut

Greenway Design



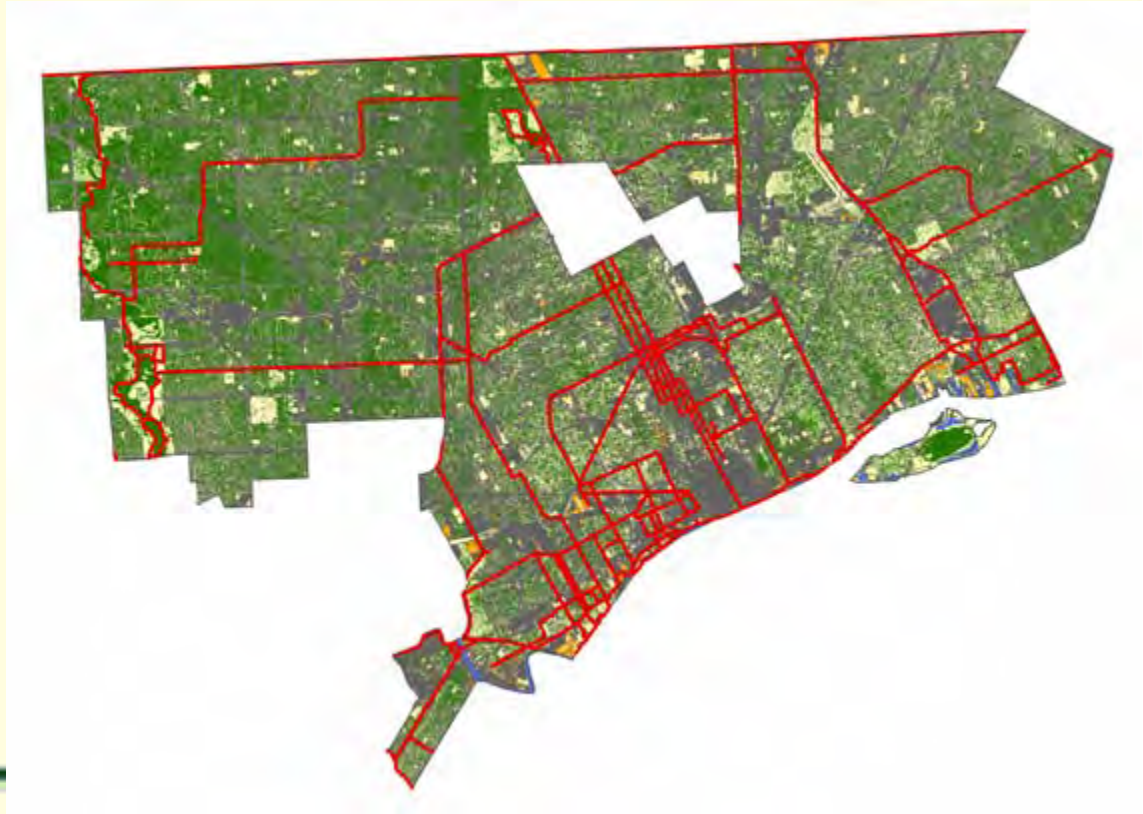


If All Envisioned Greenways Were Built…

The greenway system's tree canopy currently provides:
$7.6 million in stormwater mgt. value

- **3,251 acres (150 ft. vegetation buffer)**
- **Currently has a 19% tree canopy**

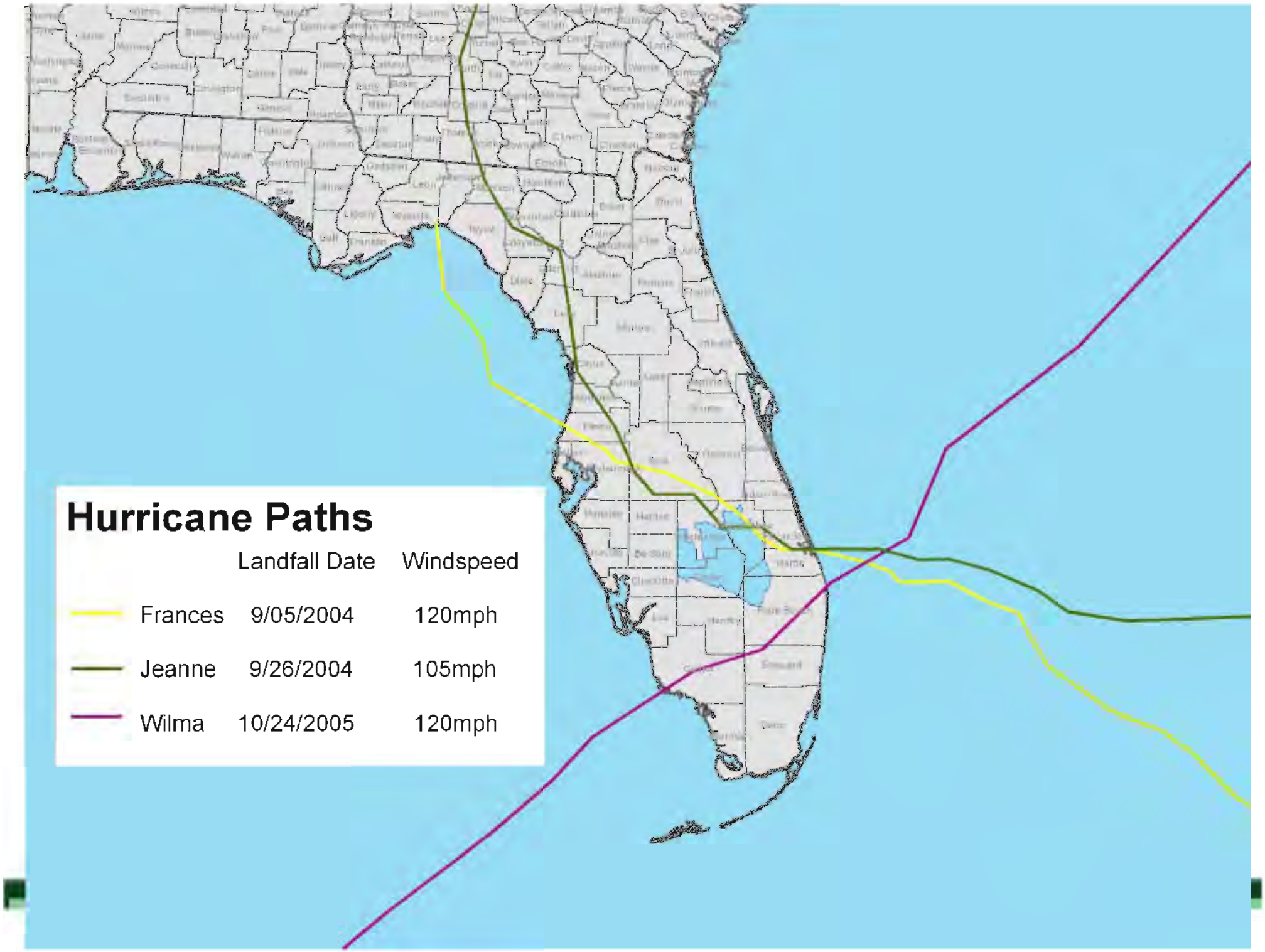
If tree canopy increased to 25%:
Would save an additional $2 million in stormwater mgt. value



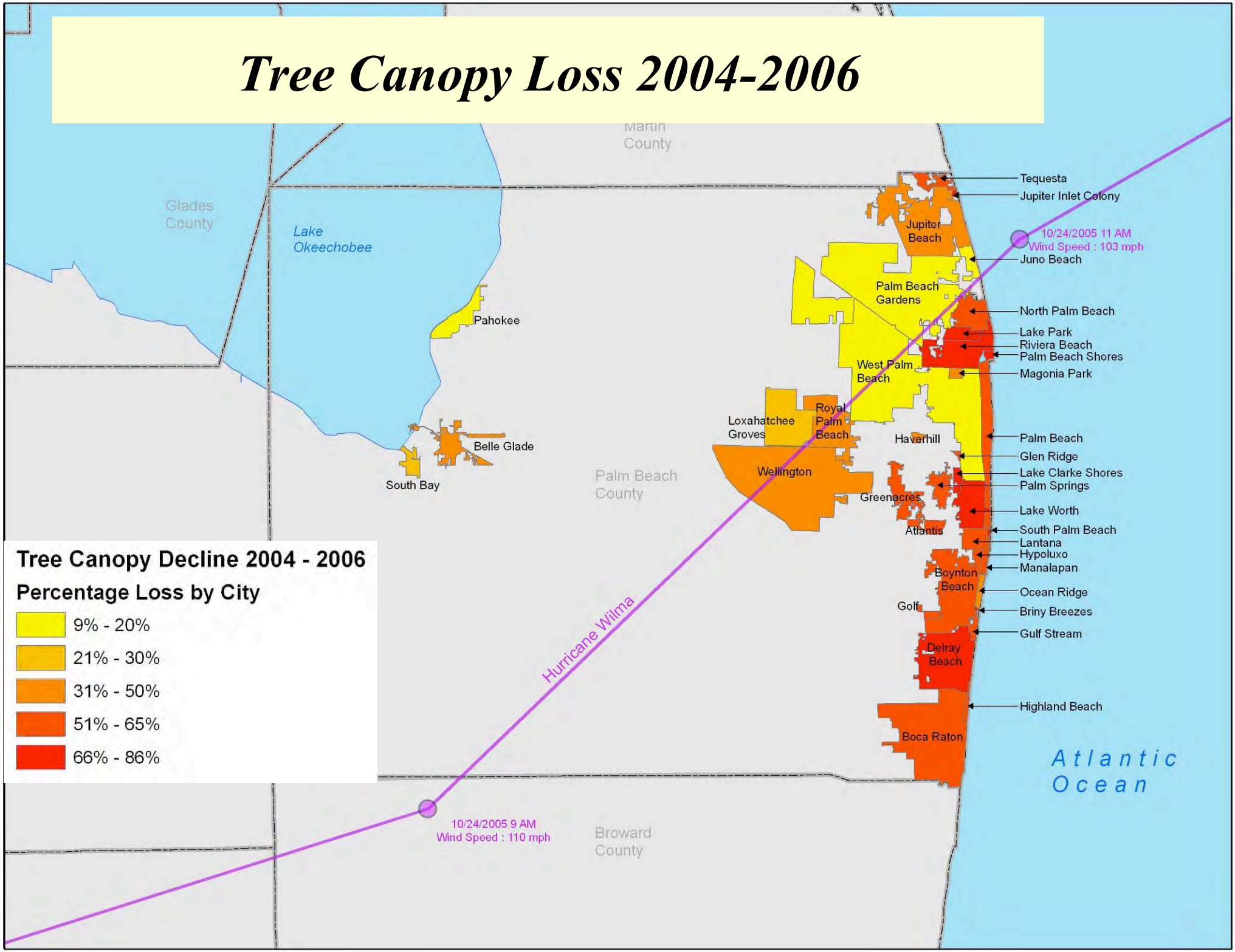
Reframing the Issues With Green Infrastructure…

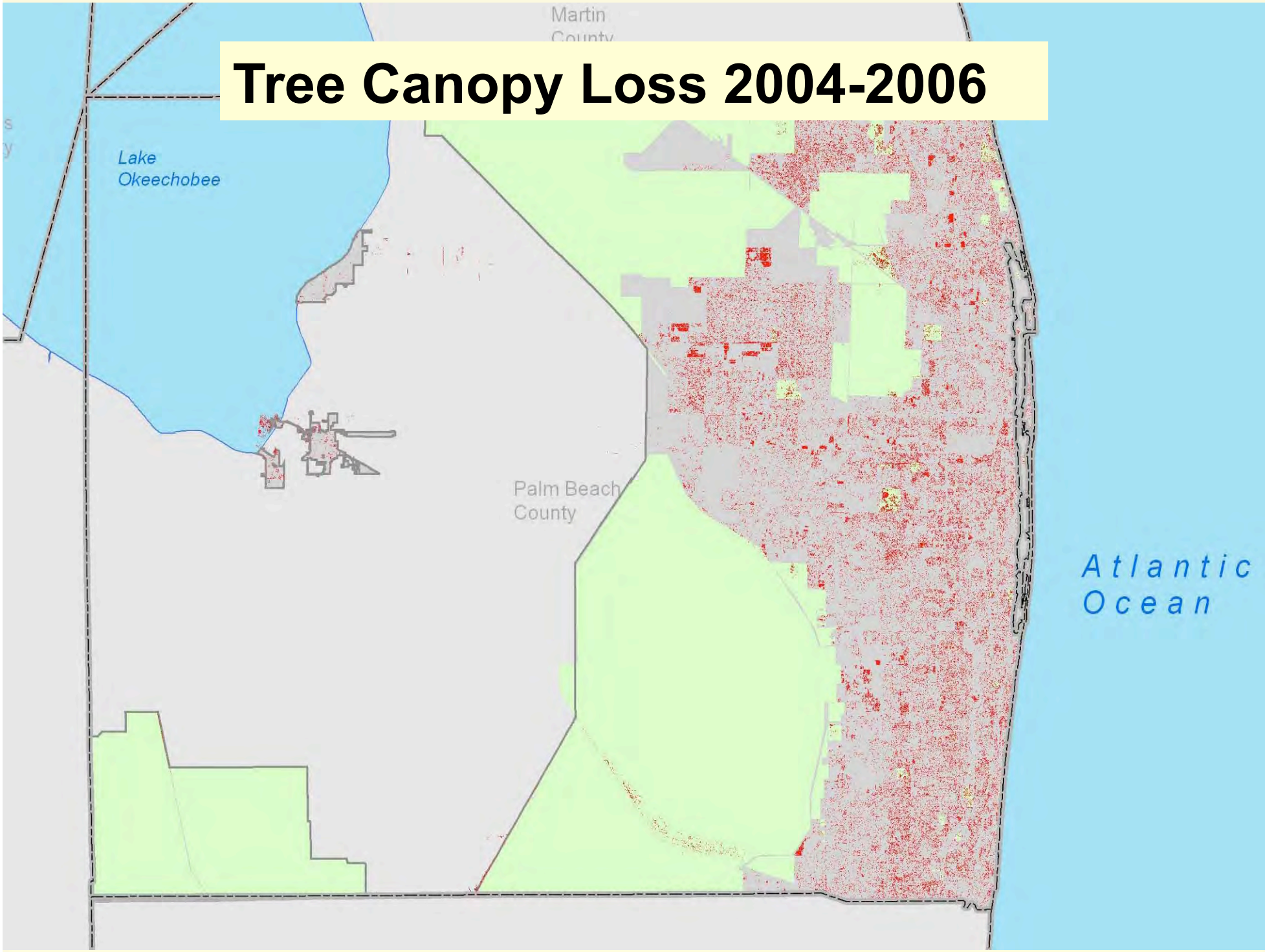
From natural disaster clean-up to building resiliency into the environment

Palm Beach, Florida


Hurricane Paths
Landfall Date
Windspeed
Frances 9/05/2004 120mph
Jeanne 9/26/2004 105mph
Wilma 10/24/2005 120mph

Tree Canopy Loss 2004-2006




Tree Canopy Loss 2004-2006
Martin
County
Lake
Okeechobee
Palm Beach
County
Atlantic
Ocean

Palm Beach County Landcover Changes 2004-2006

Landcover Changes:

- 6% increase urban
- 17% decrease tree canopy
- 9% increase open space

Impacts:

- Lost $157 million stormwater retention capacity
- Lost $12 million in air pollution removal/yr.
- Lost 1.8 million lbs. of carbon storage
- 8 measured water pollutants increased 2-4%

Building Resiliency

- Tangible evidence for tree habitat
- Public education replaces fear
- Demonstrates best species selection
- Ties ecosystem benefits of county natural areas into regulatory mandates Native vegetation

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From traditional development to **conservation development**

From natural disaster clean-up to **building resiliency**

From engineered infrastructure to **non-engineered solutions**

From compliance to **incentive recognition**

From single issue to **a systems approach**

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