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INVESTING IN NATURE-BASED SOLUTIONS FOR A RESILIENT CONNECTICUT

GC3 Finance Subcommittee Presentation

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Save the Sound leads environmental action in the Long Island Sound region. We fight climate change, save endangered lands, protect the Sound and its rivers, and work with nature to restore ecosystems.

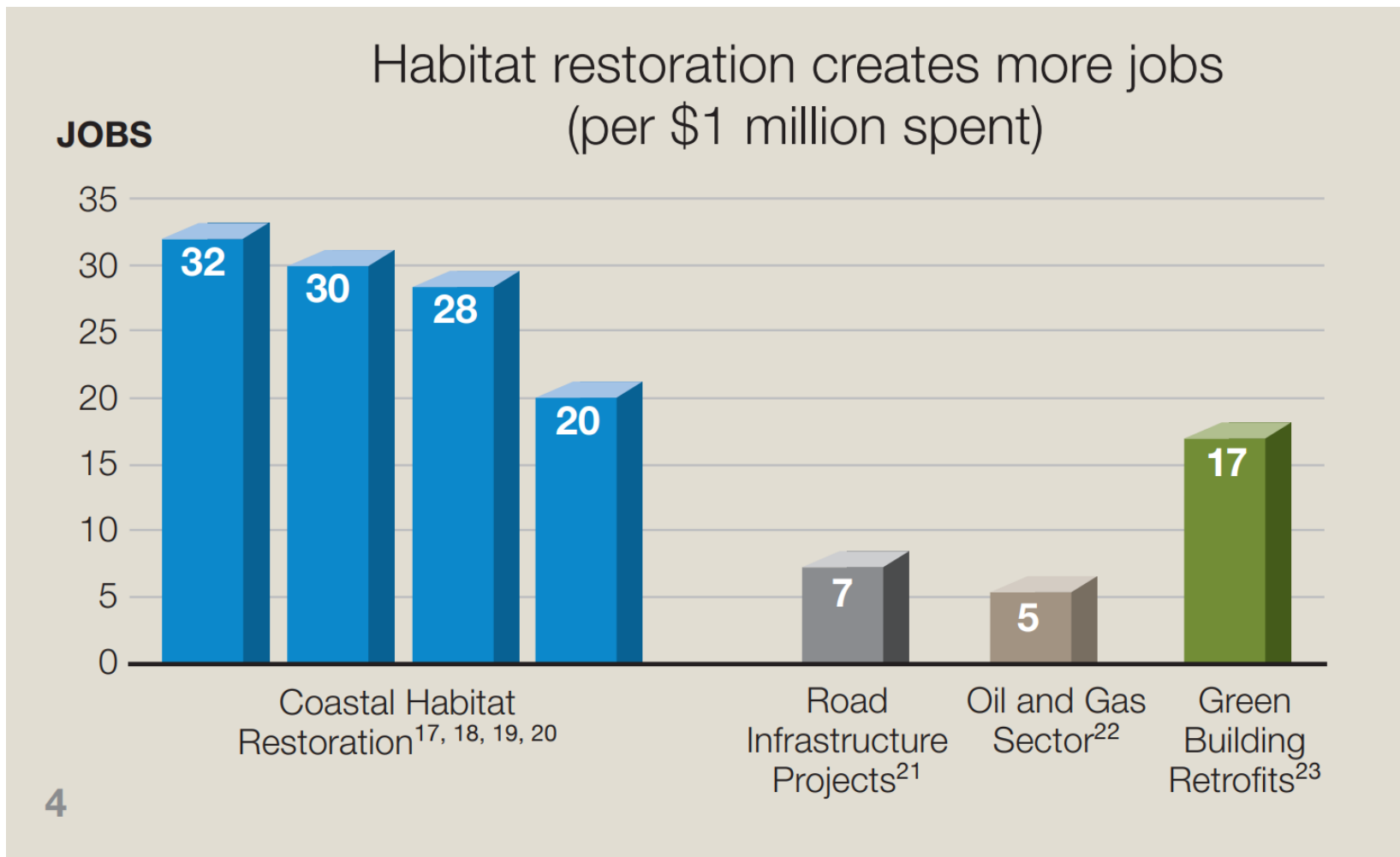


Nature-based Solutions

Substantial state funding is needed as keystone financing of nature-based solutions. These solutions provide significant co-benefits and Return on Investment.



Job Creation and Retention



- 20 jobs/\$1M
- Visible, public projects
- Opportunities for unique financing (after initial state investment)
 - Stormwater authority
 - Revolving loan
 - Fed/local bridge program
 - Creative tax districting



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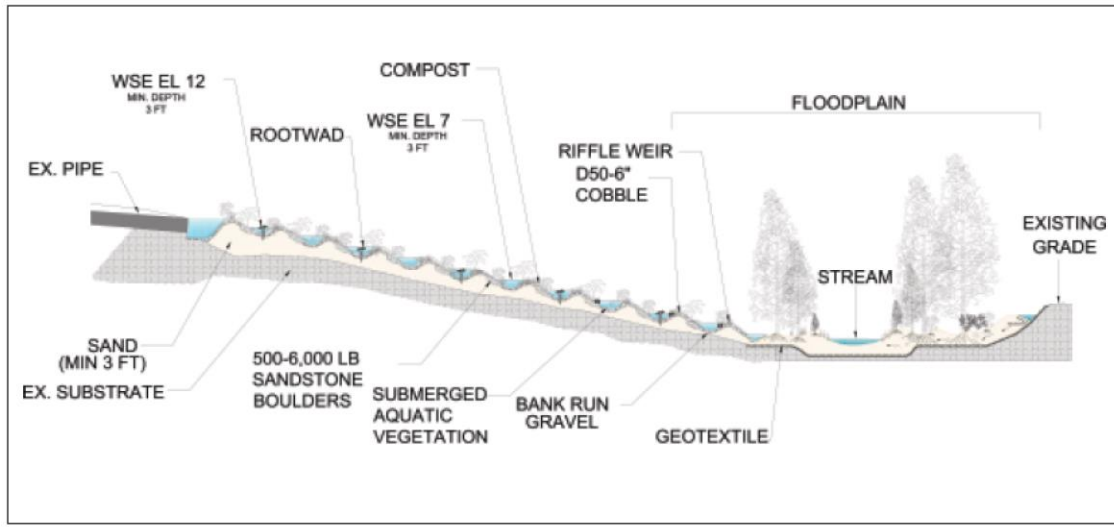
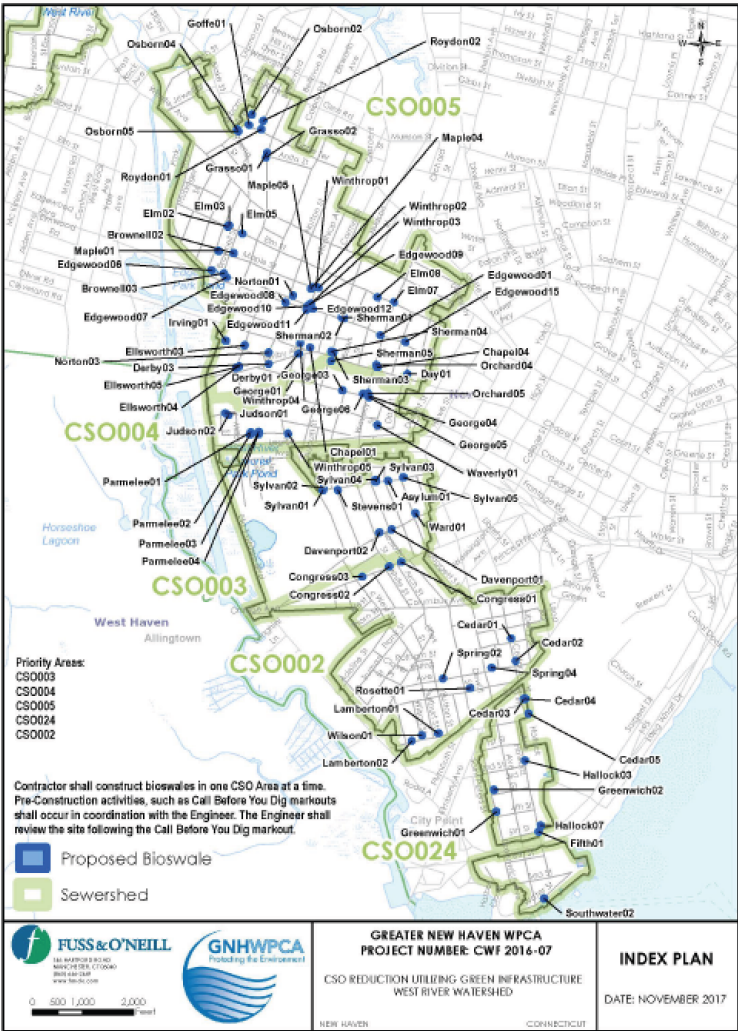
Green stormwater infrastructure

- Problem exacerbated by frequent storms
- Reduce impervious surface, improve recharge
- New MS4 Requirements
- Co-benefits
 - Environmental Justice
 - Water quality
 - Habitat Restoration





ROI – Green stormwater infrastructure



- Opportunities for alternative funding model (following initial state investment)
- Green Jobs
- Capture federal infrastructure funding for projects that include:
 - Peak flow reduction
 - Nitrogen removal
 - Pollutant removal
 - Regenerative design



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High-Hazard Dam Removal

- 400+ state-owned dams
- Co-benefits:
 - Fish restoration
 - Sediment transport
 - Flood resilience
 - Permanent solution (no maintenance)
 - Stream temperature reduction



Before



After



ROI – High Hazard Dam Removal

- Cost of damage in Michigan est. **\$175 MIL**
- Cost of dam maintenance: \$2k per year, \$10-\$500k per repair
- Public and private problem
- Federal action by Dam Safety (citation)
- Results (e.g. Mass DER)



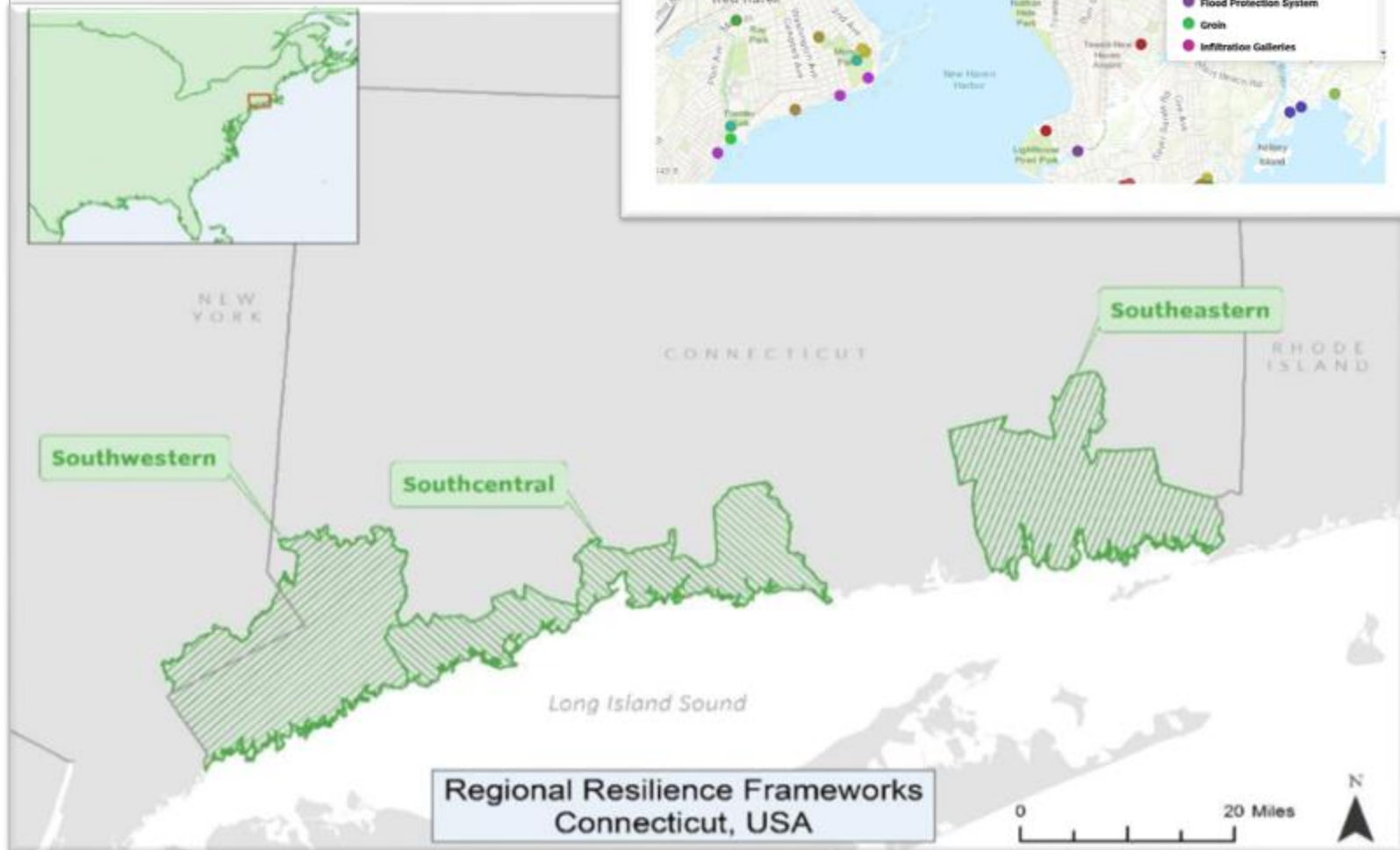


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Coastal Resilience

- 30+ municipalities and 4 COGS
 - Collaborative resilience
 - Prioritized projects
- 400+ “Resilient Triple Bottom Line” projects
 - Reduce Risk
 - Enhance Ecosystems
 - Improve Public Amenity
- “Regional Resilience Project APP”

Regional Resilience Framework





ROI – Coastal Resilience

DUNE RESTORATION – ENHANCEMENT •

Managed dune system with relatively restricted ability to expand laterally and horizontally. Opportunities for vertical movement and adjoining beach nourishment.

West Haven



Groton



- Storm surge and SLR protection
- Habitat enhancement
- Water quality improvement
- Shoreline erosion reduction
- Improved public amenity





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Inland Flood Resilience

- Undersized Roads/bridges
- Stream simulation design survived Irene better than traditional design (Gillespie et al)
- Co-benefits
 - Road infrastructure longevity/resilience
 - Wildlife habitat connectivity
 - Insurance cost reduction

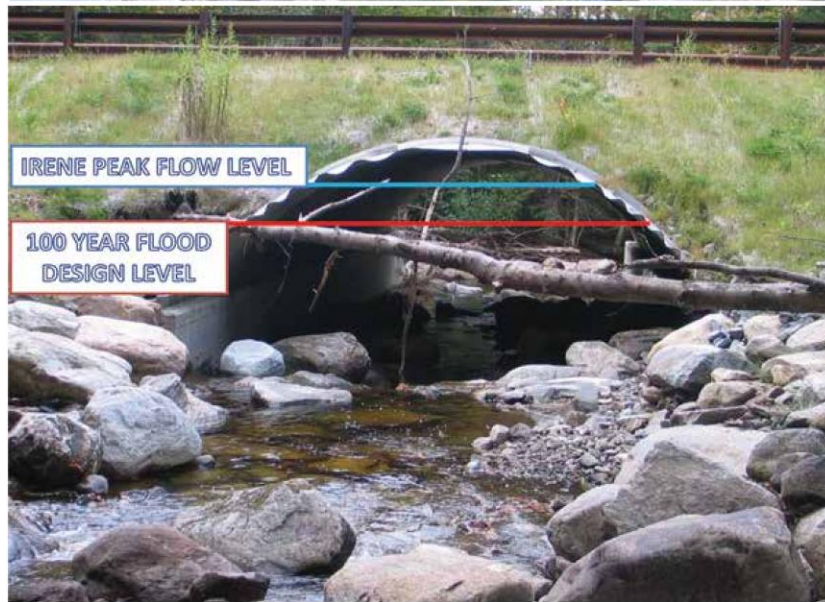




ROI – Inland Flood Resilience



- Community resilience planning, watershed planning
- Improved hydrologic connection (SLAMM)
- Cost/benefit analysis needs to account for:
 - Resilience
 - Environmental Justice
- Opportunities for unique financing (after initial state investment)
- Local planning: Naugatuck Valley, Meriden Green, Mill River Stamford





Key Funding Recommendations

We request that the sub-committee recommend a state investment of \$35 million/year in nature based solutions.



Create a \$35 M CT Bond Resilience Grant Fund

- Grant funds are a core to neighboring state's resiliency funding
 - New York, Mass., Rhode Island
 - Range from \$1 billion to \$3 million





Support new Water/Resilience Funding Stream

River to Sound Resilient Fund

- Use MD flush tax model
- \$60/yr for toilet use/household
- Could generate \$50-\$70 M/yr
- Potential low income carve out
- Capitalization potential





\$35 M State Grant Fund is Equitable

- **Paid from future state-wide taxes** to provide future benefits
- **Provides scale** of funds needed to start meeting high demand (400 plus projects in section of coast)
- **Protect vulnerable communities** through program rules regarding prioritization and variable grant match ratios
- **Current CT Clean Water Fund Bonding Level - \$75 M/year** (12 year average)





\$35 Million State Fund: Incent/Match Local \$\$

- **Municipal Resilience Funds**
(authorized)
- **District Level Financing (TIF)**
(authorized)
- **Legislative Proposed Funding that GC3 should Support:**
 - Stormwater Authorities
 - Local Real Estate Conveyance Fees for Conservation and Resilience





\$35 M State Fund: Maximize Federal \$

- **Prepare for Opportunity:**
 - Direct 30% of funds toward complete design and permitted projects
 - Result: shovel ready pipeline
- **Federal \$\$ focus:**
 - Disaster Relief
 - Economic Stimulus during recessions
 - We need shovel ready projects today
- **Creates mix of completed and “shovel ready projects”**

Hurricane Sandy Impact Analysis - FEMA MOTF

Legend

Final High Resolution Storm Surge Extent

FINAL - High Resolution Storm Surge Extent

NYC - Final Very High Resolution Surge Area - Field-Verified February 14, 2013 (click on surge for details)

Final High Resolution Surge Area - Field-Verified February 14, 2013 (click on surge for details)

Hurricane Sandy Impact Analysis

US State Boundaries



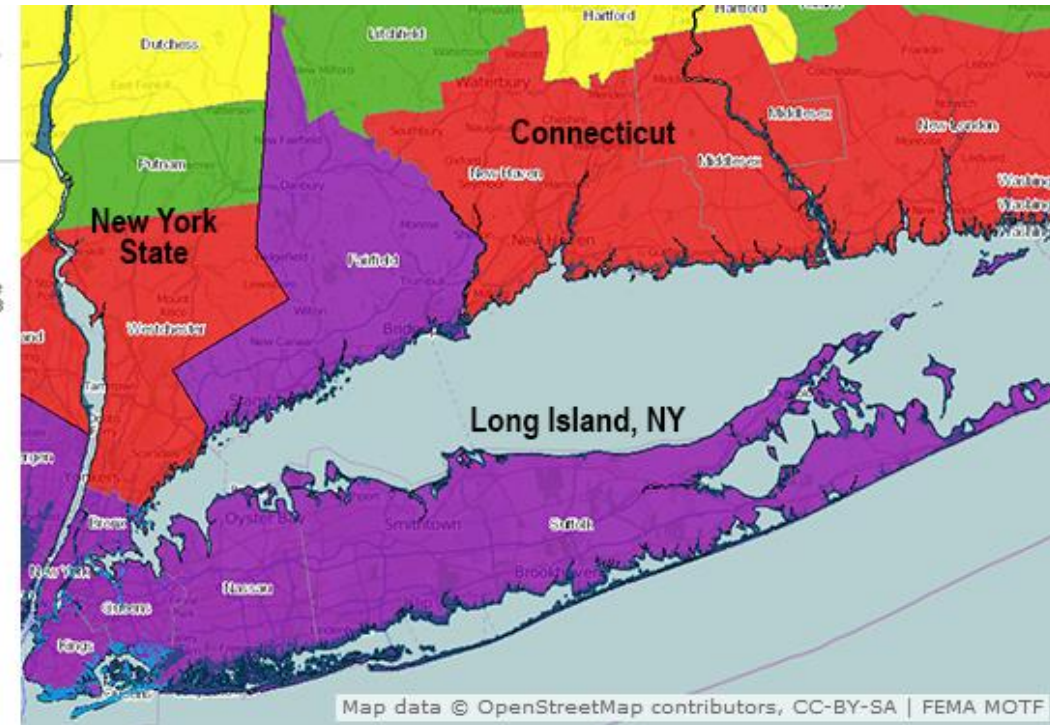
Hurricane Sandy - County Impact Analysis (click county for summary)

Low

Moderate

High

Very High





\$35 Million State Fund: Lessons Learned: Create Program Flexibility

- **Assure efficient and effective administration:**
 - Authorize 3rd Party Administration
 - Incorporate administration fee
- **Incubate the best techniques, work force opportunities, and regional implementation:**
 - Specifically authorize NGO's and COGs to apply for grants with municipal support





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Questions and Discussion – 30 minutes

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