Climate change and water challenges

Threats coming from 4 directions

- River discharges
- Groundwater
- Eutrophication
- Sea level rise
SLR threats NL

59% of land is at or below sea level

70% GDP produced in flood-prone areas

IPCC mid-level projections:
--20 cm by 2050
--85 cm by 2100
NEW ORLEANS
FLOODED CITY
NEW ORLEANS
LINES OF DEFENSE
NEW ORLEANS
LIVING IN A BASIN: WALLED CITY
NEW ORLEANS
DRAINING THE SWAMPS
NEW ORLEANS
WATER MANAGEMENT PARADIGM SHIFT

PIPE
PUMP
DRAIN

SLOW
STORE
DRAIN
(when necessary)
NEW ORLEANS
BAYOU ST. JOHN
NDRC: NEW ORLEANS
DELTA ADAPTATION

PAST

CURRENT

FUTURE
NDRC: NEW ORLEANS
DILLARD WETLAND
NDRC: NEW ORLEANS
BLUE-GREEN NETWORK
NEW ORLEANS NDRC
IMPACT ON WATER ASSIGNMENT

DPS #12
1,000 CFS

DPS #4
4,409 CFS

DPS4 Storage Assignment:
369.2 ac-ft
Project Reduction:
49%

DPS12 Storage Assignment:
333.7 ac-ft
Project Reduction:
45%

DPS #3
4,260 CFS

DPS3-N Storage Assignment:
99.1 ac-ft
Project Reduction:
28%

DPS3-S Storage Assignment:
168.5 ac-ft
Project Reduction:
9%
NEW ORLEANS NDRC
GROUNDWATER MONITORING NETWORK

LEGEND
groundwater wells
monitoring network

1 mile

Data Source:
USDA SSURGO
Customhouse, 1807-1819. Benjamin H. Latrobe, architect; Robert Alexander, Builder. This first U.S. Customhouse built in New Orleans stood on the site of the present building facing the river. Latrobe was also designer of the Federal Capital in Washington, D.C. (Courtesy of The Historic New Orleans Collection, 533 Royal Street)
NEW ORLEANS
U.S. CUSTOM HOUSE, MARBLE HALL
NEW ORLEANS
MADAME JOHN’S LEGACY
NEW ORLEANS
MADAME JOHN’S LEGACY
MODEL FOR THE SOUND
FORCES OF WATER

RIPARIAN
- RIVER/WATERSHED_restoration
- STREAM daylighting
- STREAM_capacity_enhancement
- PARK-to-RIparian_corridor_connections

URBAN
- GREEN_drainage
- CSO_separation
- FLOOD-proof/elevated_buildings
- CROSS-CITY_connections/networks

COASTAL
- SHORELINE_stabilization_and_enhancement
- BERMS_and_STORM_SURGE_barriers
- CRITICAL_FACILITIES_PROTECTION
- RELocation_of_flood_plain_development
BRIDGEPORT
UNCOVERING THE PEQUONNOCk
SOUTH END
PROTECTING THE COMMUNITY

- Harbor Generating Station
- Freeman Houses
Little Liberia

OLDEST SURVIVING HOMES IN CONNECTICUT BUILT BY AFRICAN-AMERICANS

Original 1848 Houses Being Restored by
ABCD - Action for Bridgeport Community Development, Inc.
The Bridgeport Community Historical Society
Historical Collections, Bridgeport Public Library
The Walters Memorial AME Zion Church
City of Bridgeport

ON THE CONNECTICUT FREEDOM TRAIL

SIGN DONATED BY MURPHY INC., OUTDOOR ADVERTISING

INTEGRATED LINES OF RESILIENCE
GREEN EDGES

- Pequotnock Crossing Plan (P2)
- Inland Waterways Daylighting
- Flood Plain Extension (P2)
- Upper Floodwall (D2)
- Onshore Outfall Park (S1)
- Living Shoreline (S2)
- Seaside Park
- Beach Enhancement at Pleasure Beach
NDRC: CONNECTICUT
BRIDGEPORT

Flood Protection Berm and Greenway

Stormwater Outfall
Wetland Treatment Park

Raised Street Ties into New Development and Flood Protection Berm

Rebuild by Design Illustrative plan of South End showing catalytic development potential and NDRC Projects.
“The costs come before the benefits.”

Inscription at the Amsterdam Stock Exchange
Environmental + Social Value:
$5.2 Million

Reduced Damage from 5 Year Flood:
$20.1 Million

Road Maintenance Cost Reduction Associated with Subsidence:
$123.8 Million

Increased Property Values:
$392.5 Million

Benefit Cost Ratio:
3.6 to 1