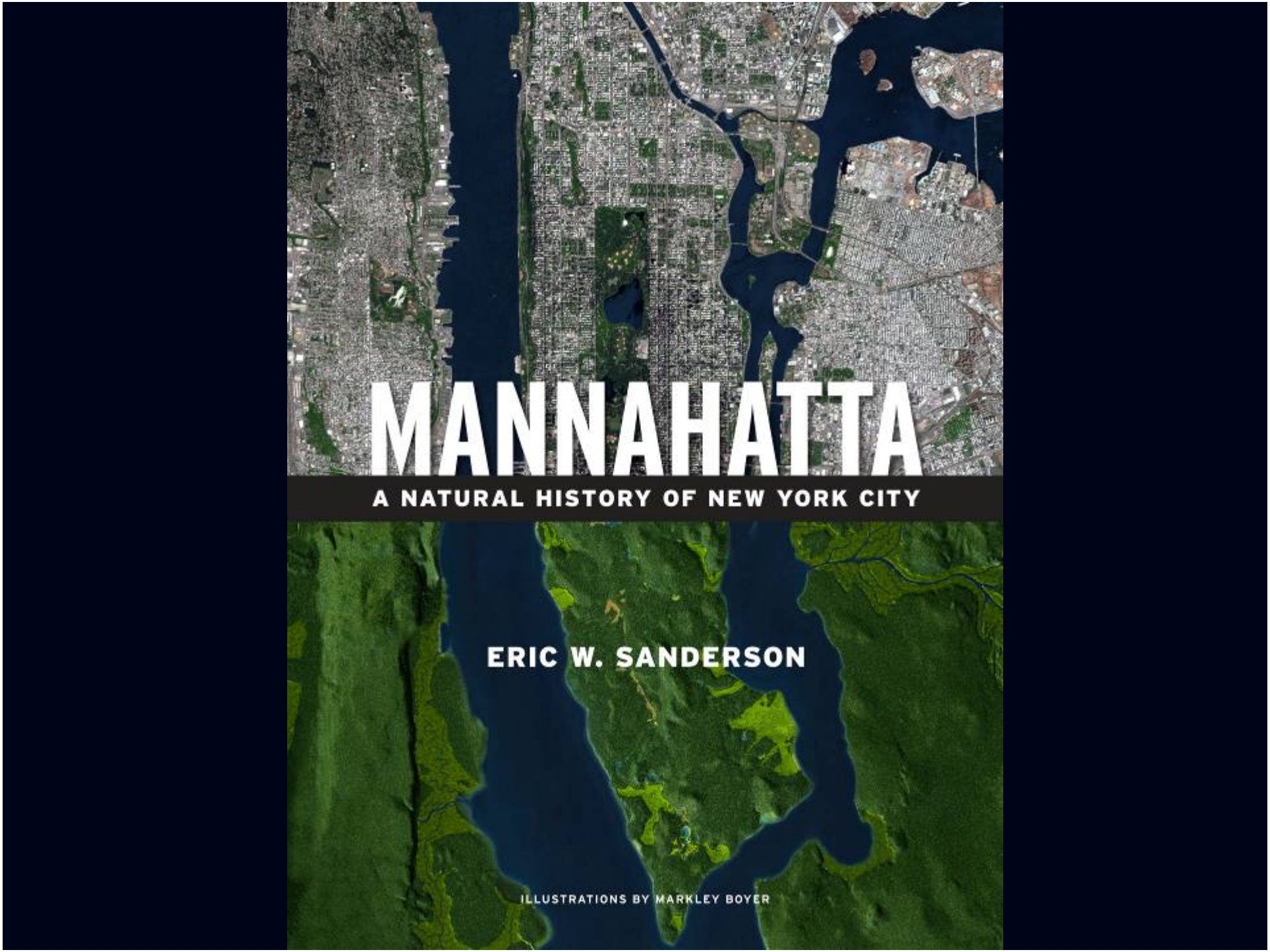
Mannahatta 2409:

planning the ecological future of Manhattan

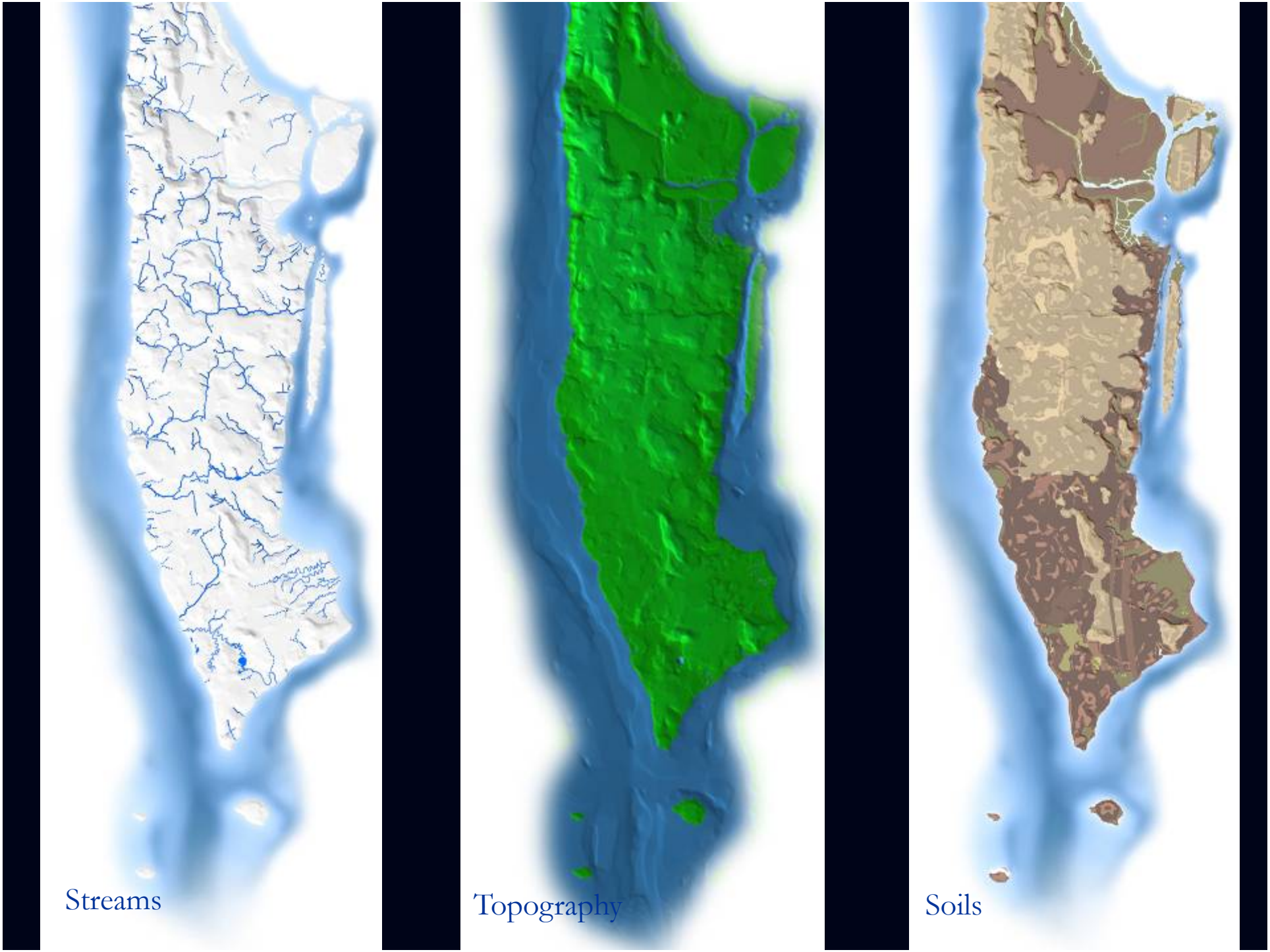
Eric W. Sanderson

Wildlife Conservation Society

October 25, 2012


MANNAHATTA
A NATURAL HISTORY OF NEW YORK CITY
ERIC W. SANDERSON
ILLUSTRATIONS BY MARKLEY BOYER

The National Archives, UK


Streams
Topography
Soils

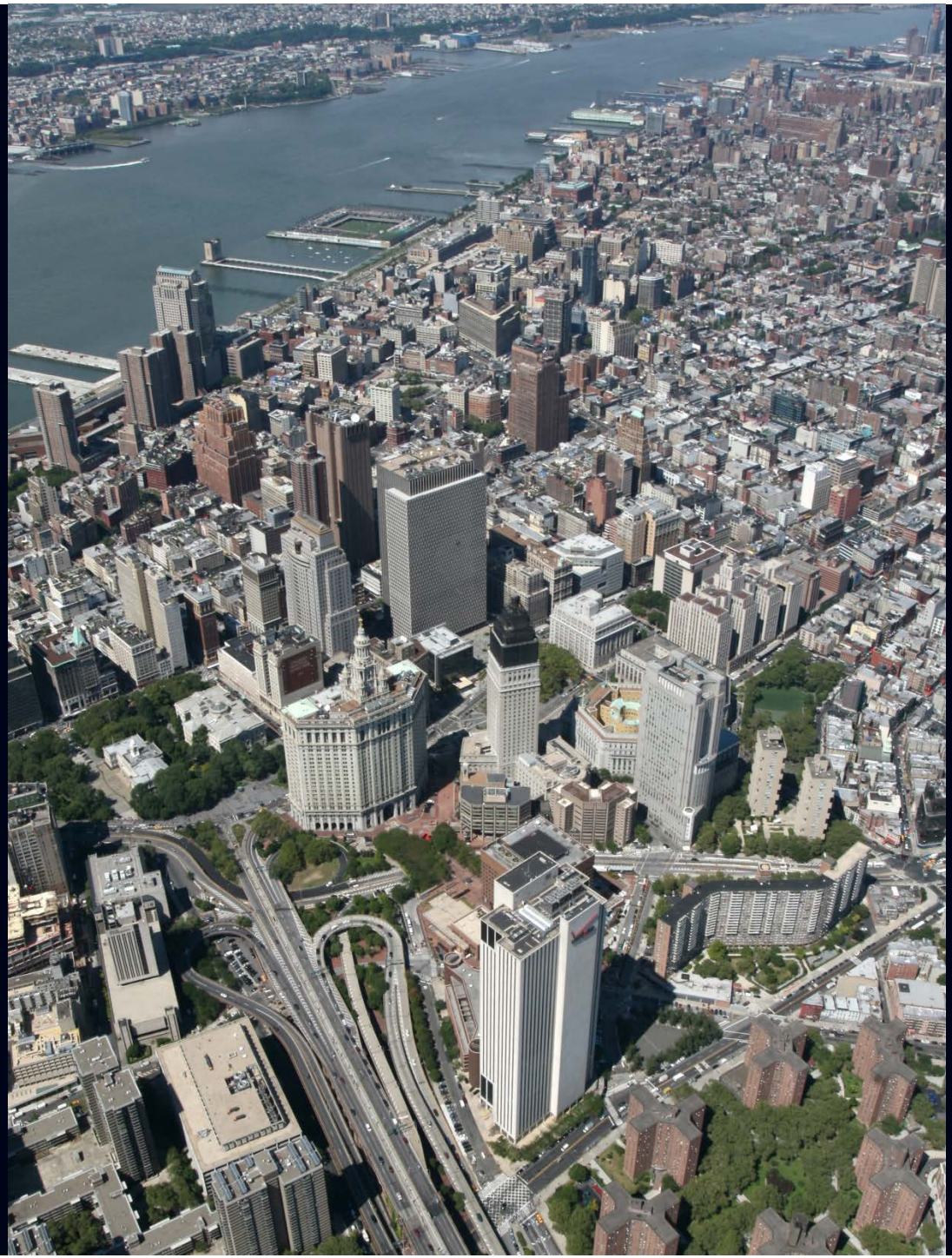

Tishcohan


Midtown

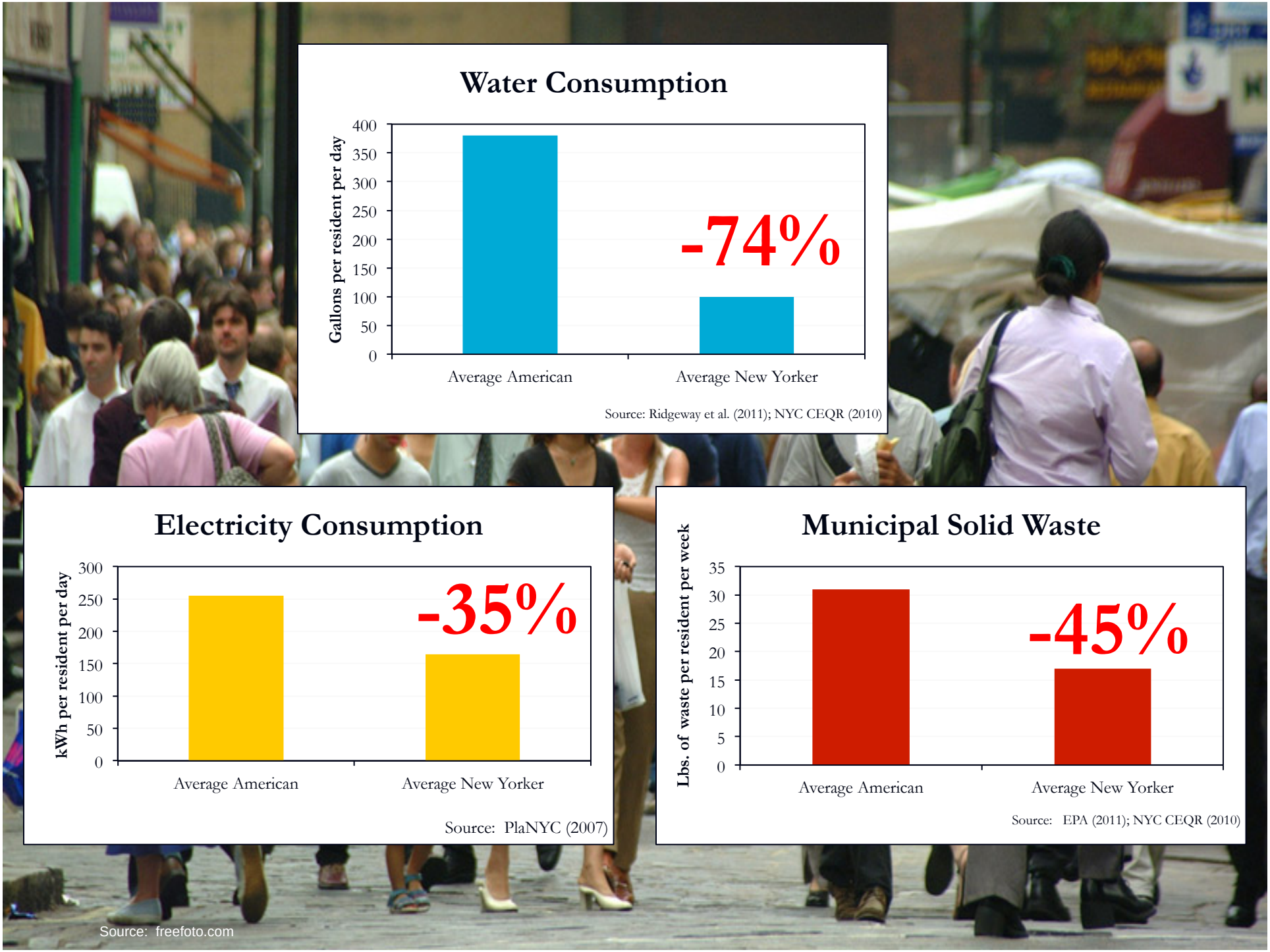

Lower East Side


Times Square


Lower Manhattan




Can a city perform as well as forest?
especially in a time of changing climate?


Water Consumption
Gallons per resident per day
400
350
300
250
200
150
100
50
0
-74%
Average American
Average New Yorker
Source: Ridgeway et al. (2011); NYC CEQR (2010)
Electricity Consumption
kWh per resident per day
300
250
200
150
100
50
0
-35%
Average American
Average New Yorker
Source: PlaNYC (2007)
Municipal Solid Waste
Lbs. of waste per resident per week
35
30
25
20
15
10
5
0
-45%
Average American
Average New Yorker
Source: EPA (2011); NYC CEQR (2010)
Source: freefoto.com

Bronx River Restoration

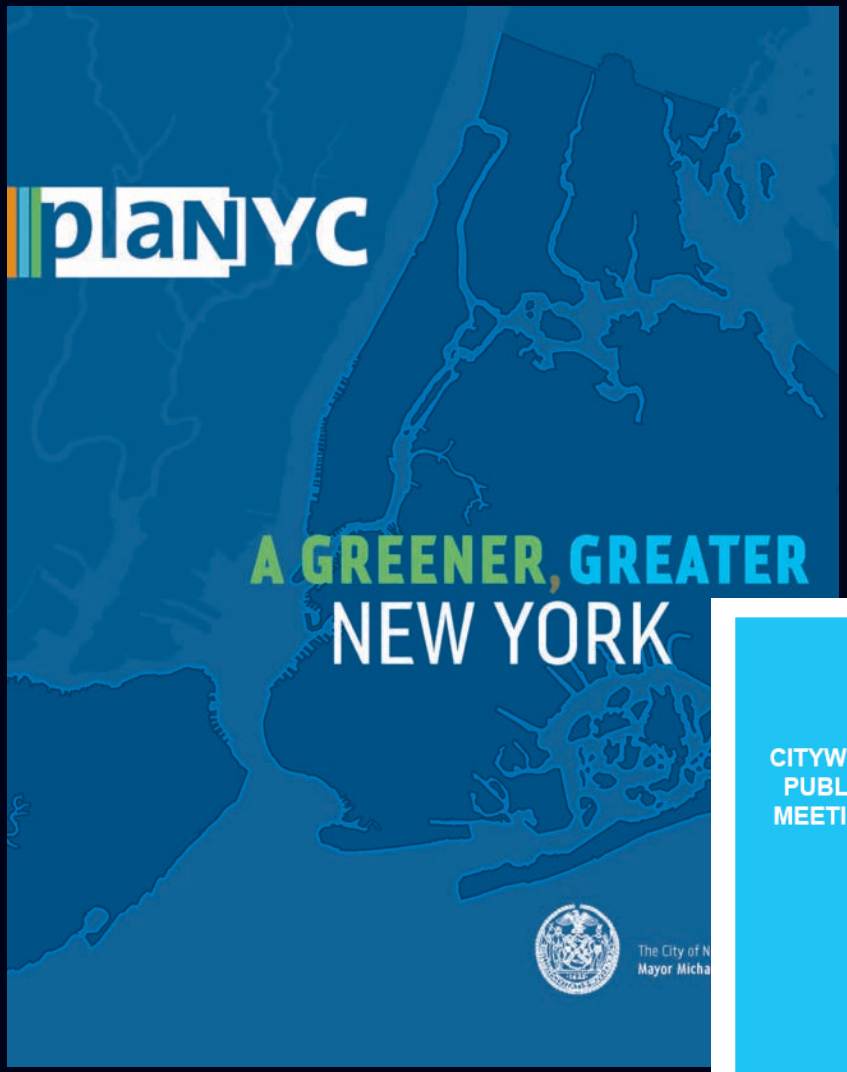
Muskrat Cove, Bronx River

Jose, the Beaver

Photos courtesy Bronx River Alliance

Million Trees NYC

New York Times


planYC
A GREENER, GREATER
NEW YORK


NYC GREEN INFRASTRUCTURE PLAN
A SUSTAINABLE STRATEGY FOR CLEAN WATERWAYS
planYC
NYC Environmental Protection
Michael R. Bloomberg, Mayor
Cas Holloway, Commissioner


CITYWIDE PUBLIC MEETING
OCT. 12, 2010
VISION 2020
NEW YORK CITY COMPREHENSIVE WATERFRONT PLAN
NYCPLANNING
DEPARTMENT OF CITY PLANNING CITY OF NEW YORK
This material was prepared for the New York State Department of State, with funds provided under Title 11 of the Environmental Protection Fund

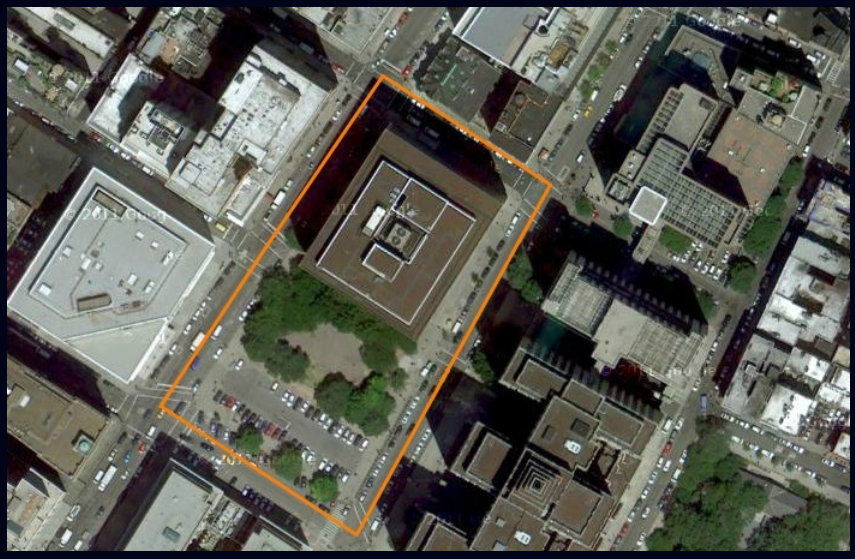
What effects environmental performance?

What effects landscape performance?

- Landscape Composition: the pattern and distribution of ecosystems

- Lifestyles: the beliefs, actions and choices of individual citizens

- Climate: Temperature, precipitation, sea level rise



Skyscraper XXXX

Single Family House XXXX

Apartment Building XXXX

Green Roof XXXX

Bioswale XXXX

XXX Forest

XXX Wetland

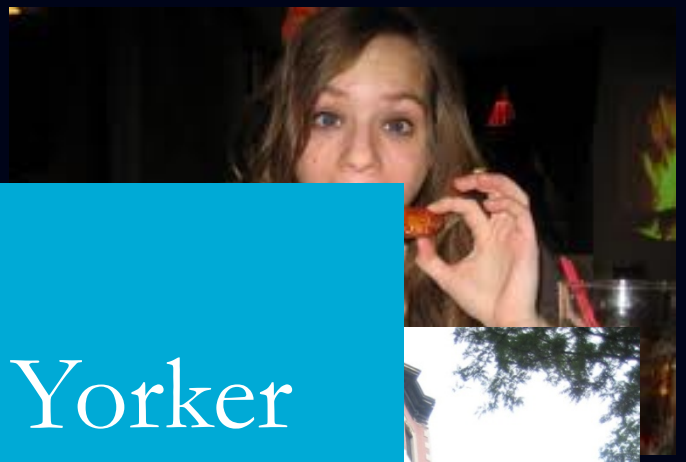
XXX Beach

XXXXXX Estuary

Base ecosystems: Buildings, transportation, forests, wetlands

Modifiers: trails, green roofs, compost bins

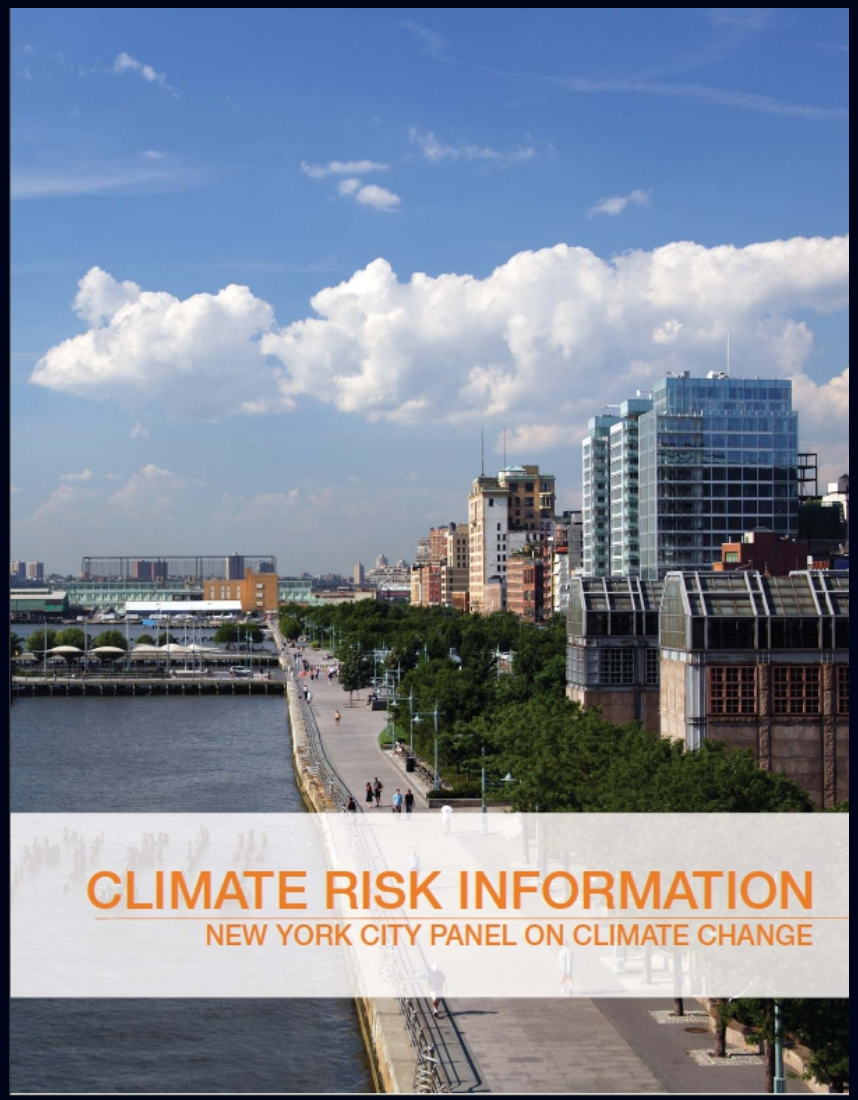
Lifestyle Selections



Lifestyles

- Average New Yorker
- Average American
- Average Earthling
- "No-Impact Person"
- Lenape Person

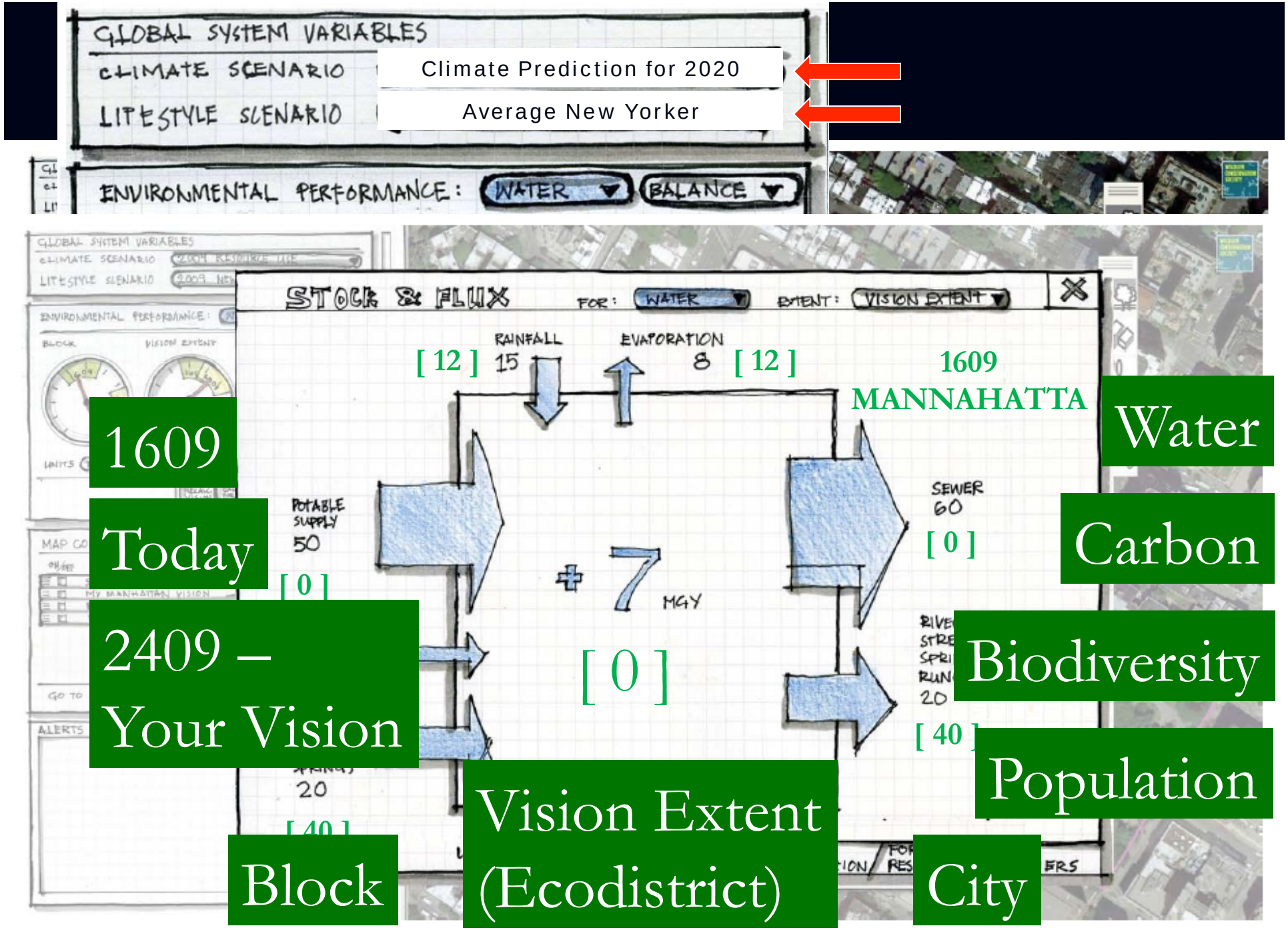
Climate Change Scenarios



- New York City's climate is changing
  - Climate 1859 - 1970
  - Climate 1970 - 2000
  - Predictions for 2020
  - …2050
  - …2080
- Sea Levels too!

MANNAHATTA 2409.ORG

A Synthetic View of Environmental Performance for New York City


GLOBAL SYSTEM VARIABLES
CLIMATE SCENARIO
LIFESTYLE SCENARIO
Climate Prediction for 2020
Average New Yorker
ENVIRONMENTAL PERFORMANCE:
WATER
BALANCE
STOCK & FLUX
FOR:
WATER
EXTENT:
VISION EXTENT
RAINFALL
15
EVAPORATION
8
[12]
[12]
1609
MANNAHATTA
POTABLE SUPPLY
50
[0]
SEWER
60
[0]
+ 7
MGY
[0]
20
[40]
[40]
1609
Today
2409 –
Your Vision
Block
Vision Extent
(Ecodistrict)
City
Water
Carbon
Biodiversity
Population

Audience

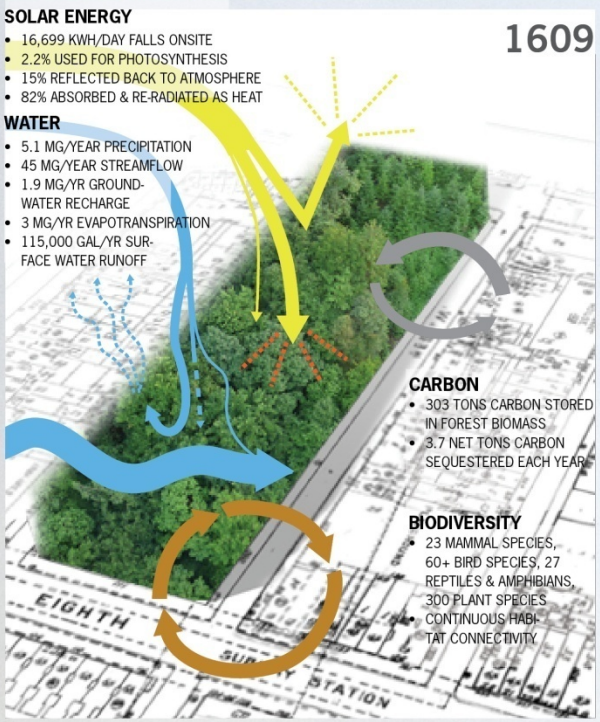
- **Urban Planners, Architects, Developers**
  - Quantitative assessments of the nature of the city
  - Can you make a city perform as well as a forest?
- **Schoolchildren, Teachers, Curriculum Makers**
  - Science, Technology, Engineering, Mathematics (STEM)
  - How do urban ecosystems work?
- **You, Me, and Other Folks (i.e. General Public)**
  - Share and discuss visions of future
  - What kind of city do you want to live in?

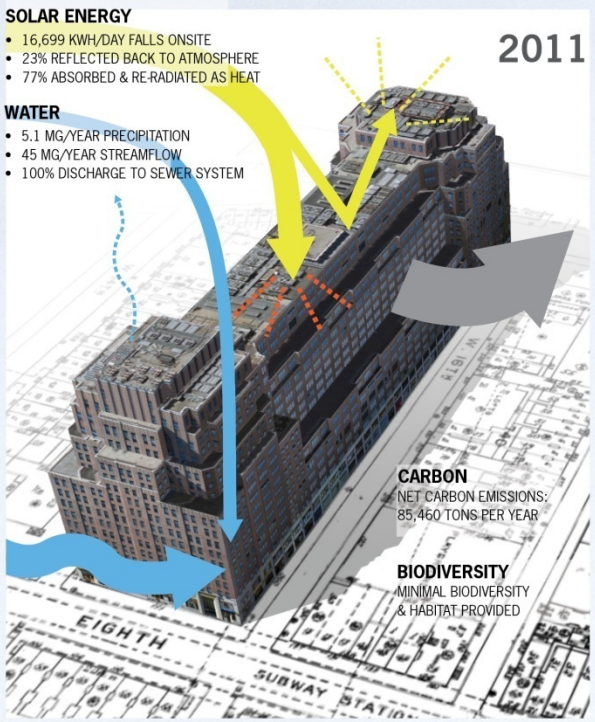
MANNAHATTA2409.ORG

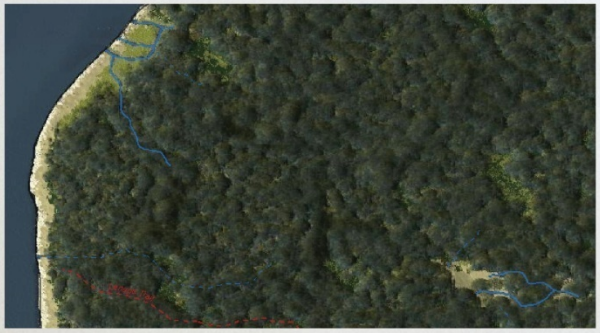
LAUNCH APRIL 2013

Eric W. Sanderson
Global Conservation Programs
Wildlife Conservation Society
Bronx NY 10460 USA
Phone: 718-220-6825
Email: esanderson@wcs.org

GREEN BUILDING







111 8TH AVENUE
MAPS OF MANNAHATTA
IMAGES COURTESY OF THE MANNAHATTA PROJECT

Triple bottom line

Center for Neighborhood Technology