

**MINUTES  
MIDDLESEX COUNTY  
WATER RESOURCES ASSOCIATION/WATERSHED MANAGEMENT GROUP MEETING  
HELD AT THE  
MIDDLESEX COUNTY BOARD OF CHOSEN FREEHOLDERS MEETING ROOM  
March 11, 2019  
1:30 P.M.**

The meeting was called to order by Mr. Williams at 1:30 p.m. Notice of this meeting, pursuant to the Open Public Meetings Act, N.J.S.A. 10:4-10 and the NJ Water Quality Management Planning Rules, N.J.A.C. 7:15-9.3(b)7, have been complied with and are entered into the minutes of this meeting. A salute to the flag was observed prior to the start of today's meeting.

**I. Roll Call**

Attendance was as follows:

William Robins	Borough of Dunellen	Not present
Theodore Chase, Jr.	Township of Franklin	Present
Freeholder Charles Kenny	Middlesex County Board of Chosen Freeholders	Not present
Alan Godber	Lawrence Brook Watershed Partnership, Inc.	Present
Sewell Peckham	Borough of Helmetta	Not present
Dawn Mc Donald	Borough of Spotswood	Present
Margaret Drozd		Not present
Michael Hill	Freehold Soil Conservation District	Not present
Brandon Goldfine	Middlesex Water Company	Present
Donald Newton	Borough of Sayreville	Not present
Dawn Corcoran-Gardella	Township of Piscataway	Not present
Jason Friedman	Middlesex County Planning Board	Not present
Siegfred Hubak	Township of Woodbridge	Present
Alice Tempel	Borough of South Plainfield	Present
Brian Racin	Borough of South River	Present
Bryan Bidlack	Township of South Brunswick	Present
Leigh Jones	Township of East Brunswick Water and Sewage	Not present
Ron Yake	Township of Plainsboro	Not present
Les Varga		Present
Robert Noel	Monroe Township Utility Dept.	Present
Doriann Kerber	Borough of Milltown	Present
George Ververides	Middlesex County Office of Planning	Present
Louis Greenwell		Present
Mirah Becker		Present
Laurie Sobel		Not present
Nicholas Tufaro		Present
Lori Kahel		Present
Alex Zakrewsky		Not present
Roma Patel		Present
Sharon Martens	Middlesex Cty. Office of Public Health –	Not present
Gary Rojek	Environmental Division	Not present
Ronald Sendner	Middlesex County Office of Engineering	Not present
Edward Kuchie		Not present
Kyle Clonan	NJ Water Supply Authority	Not present

**I. Roll Call (continued)**

Richard Fitamant Kevin Aiello	Middlesex County Utilities Authority	Not present Not present
Daria Ludas	Borough of Jamesburg	Not present
Allan Williams	Highland Park Environmental Commission	Present
Rick Lear	Middlesex County Office of Parks and Recreation	Not present
Michele Bakacs	Rutgers Cooperative Extension	Not present
Sara Malone	Rutgers Sustainable Raritan Initiative	Not present
Suzan Colon	Old Bridge Twp. Environmental and Open Space Committee	Not present
David Hall	Township of Old Bridge	Not present
Heather Fenyk	Lower Raritan Watershed Partnership	Not present
Bill Schultz	Raritan Riverkeeper	Present
Brandon Goldberg Scott Tarnoski	City of New Brunswick	Not present Not present
Joseph Meyer	SUEZ Water	Not present
Maximo Vazquez Maritza Rodriguez Bryan Cardenas	City of Perth Amboy	Not present Not present Not present
Edward Segotta	Borough of Carteret	Not present
Greg Remaud	NY/NJ Baykeeper	Not present
Tom Boccino	Somerset County	Not present
Steve Gottlieb	East Brunswick Township	Not present
Sean Kaplan	Borough of Middlesex	Not present
John Kranz	Middlesex County Mosquito Extermination Com.	Not present
Denise Marabello	Township of Cranbury	Not present
Chris Gianotto Thomas Vigna	Township of North Brunswick	Not present Not present
Karen Lowrie	Rutgers University	Present
Jay Kruse Jim Majewski Henry Kent-Smith	ESE Consultants Toll Brothers Fox Rothschild	Present Present Present

**II. Approval of the Minutes of the January 14, 2019 Meeting**

The minutes of the meeting of January 14, 2019 were distributed prior to today's meeting. A motion was made by Mr. Bidlack, seconded by Ms. McDonald and approved with abstentions from Mr. Varga and Dr. Chase to adopt the minutes as presented.

**III. Presentation – Proposed Site-Specific Amendment – “Cranbury Dey Road Property”**

Ms. Becker explained that the Cranbury Dey Road project proposes the development of a major residential subdivision of existing farmland located in the Township of Cranbury, Middlesex County, NJ (Block 25, Lot 1). The project will consist of 174 age-restricted single-family homes, a clubhouse with recreational amenities, internal roadways, utility infrastructure, and stormwater management facilities.

### **III. Presentation – Proposed Site-Specific Amendment – “Cranbury Dey Road Property”**

Currently, the property is not within an assigned sanitary sewer area. The purpose of this site-specific amendment application is to expand the coverage of the Lower Raritan-Middlesex County Wastewater Management Plan to include the property. Wastewater treatment services will be provided by the Middlesex County Utilities Authority (MCUA) Central Treatment Facility (NJ0020141).

A resolution dated May 24, 2018 from MCUA states that it “has no objection to the proposed reclassification and acceptance of the wastewater flows to the MCUA Central Treatment Plant. The MCUA Central Treatment Plant currently has the capacity to handle the proposed flow from the project that totals 42,060 gpd. There are currently no stormwater management systems on site. Surface runoff flows to Cedar Brook, located along the southern property boundary line. There will be no improvements or land disturbance within the flood hazard area. A NJDEP Natural Heritage database search was undertaken where no rare faunal or floral occurrences on or near the subject site were found. As the site is not constrained by Rank 3, Rank 4 or Rank 5 wildlife habitat patches or wildlife habitat occurrences, there were no species to evaluate. There will be no impacts to wetlands from the development. The project only requires a NJDEP Freshwater Wetlands General Permit #11 for stormwater discharge into the wetlands along the Cedar Brook. Ms. Becker indicated that the application was administratively complete.

This application came before the WRA in May 2017. At that time the flows were going to be sent to Suez Water, but the plan was not viable. The application has been amended and flows will now go to MCUA.

Mr. Smith further explained that Toll Brothers worked with Cranbury on a plan to rebuild Petty Road. Mr. Kruse shared an exhibit which highlighted the locations of the proposed pump station and force main. Cranbury Township has an agreement with the County and South Brunswick for sewer flows and are within the contracted amounts. A contribution will also be made to the Cranbury Township Affordable Housing Trust Fund. Questions from the members were entertained by the applicant.

Mr. Williams asked if the application received township Planning Board approval. Mr. Smith responded that the concept plan and settlement have been approved by Cranbury Township. Dr. Chase asked about the location of the pump station and detention basins. The plans that were shared are conceptual only. The actual locations will be chosen during the site plan and subdivision design. Mr. Williams asked about the change of service area? Mr. Smith explained that Suez Water is a private franchise that services Plainsboro Township. There was a dispute in the interpretation of the agreement. There was a viable alternative and it was decided to take the MCUA route. Ms. Becker added that Suez recently submitted a WMP amendment application for expansion of their service area. Suez is planning to build a new plant. Ms. Patterson has been notified that service for this project should be removed from Suez’s expansion plans.

Mr. Williams indicated that it appeared that the applicant had met all NJDEP and County requirements. A motion was made by Ms. Kerber, seconded by Mr. Racin and approved to endorse the Cranbury Dey Road Property Amendment with abstentions from Mr. Bidlack and Mr. Varga.

**IV. Presentation – Dr. Karen Lowrie, Planning Healthy Communities Initiative**

Dr. Karen Lowrie from Rutgers University's Edward J. Bloustein School of Planning and Public Policy made a presentation on Health Impact Assessment: How to Integrate Health into Decision-Making. A copy of Dr. Lowrie's presentation is attached.

The Planning Healthy Communities Initiative partners with communities to create safe and healthy places in which to live, work, and play. The Initiative integrates researchers and practitioners in planning, public health and public policy to raise awareness of how the built environment influences health and to champion measures that improve health outcomes and quality of life. See attached handout for more information. Visit <http://phci.rutgers.edu/> for more information.

**V. Lawrence Brook Watershed Partnership (LBWP)**

Mr. Godber reported on LBWP activities. On March 19 at 7:30 p.m. Dr. Stephanie Murphy, Chair, Rutgers Soil Testing Laboratory will be speaking on "Soil Care for Sustainable Landscapes and Climate Mitigation". In February, LBWP members attended East Brunswick Planning Board meetings regarding the proposed residential development off Harts Lane and Tices Lane, "Hidden Oak Woods". The East Brunswick Planning Board voted to reject the application. LBWP members were pleased at the Board's decision as they felt that the residential project was wrong for that location in an industrial area and on land which has considerable environmental value. It was bad for the environment in many ways, including possible deterioration of the Lawrence Brook drinking water supply.

In January, LBWP members attended a meeting in East Brunswick to inform the public about recent problems or odors and other concerns at the Middlesex County Landfill. As a result, LBWP decided that they should begin informing the public how to do composting at their homes and how that would reduce the amount of trash handled by the County and provide considerable benefits to homeowners.

Please see the LBWP handouts (attached) for more information on upcoming activities.

**VI. Lower Raritan Watershed Partnership (LRWP)**

No report.

**VII. Manalapan Brook Watershed Protection and Restoration Plan (Freehold Soil Conservation District)**

Ms. Becker recently attended a meeting regarding the project. The hold has been lifted and some funds will be used to naturalize a basin in Monroe Township. A second \$500,000 grant has been awarded for additional projects.

#### **VIII. Middlesex County Flood Control Commissions**

- **South Central Middlesex County Flood Control Commission**

No report.

- **Green Brook Flood Control Commission (Middlesex County)**

No report.

#### **IX. NJ Water Supply Activities/Projects (NJWSA)**

- **Raritan Basin Watershed Plan/Raritan Basin Watershed Alliance**
- **D & R Canal Tributary (Franklin) Project**
- **Cedar Grove Brook (Franklin) Project**

No report.

#### **X. Raritan Riverkeeper**

Mr. Schultz announced that spring is upon us. He stated that young harp seals have been sighted along the Bayshore in Perth Amboy, South Amboy and New Brunswick. The birds are starting to migrate.

#### **XI. Rutgers Cooperative Extension (RCE)**

Ms. Bakacs had a conflict and could not attend today's meeting. In her absence, Mr. Tufaro presented a report on RCE activities. The Manalapan project is up and running again and she is actively working on the detention basin videos. Please visit [www.tinyurl.com/ManalapanWatershed](http://www.tinyurl.com/ManalapanWatershed) to view the most recent watershed restoration videos.

There are several events happening at the EARTH Center which may be of interest to the towns. Composting workshops will be held on the April 6<sup>th</sup> and April 10<sup>th</sup>. You can register by calling 732-745-4170. Several other gardening related workshops will be happening throughout the spring. You can text EXTENSION to 56512 to be notified about these events.

Rutgers is actively seeking partners to work on green infrastructure projects – mainly rain gardens. Rutgers has been meeting with Monroe and Metuchen in addition to others. If you are a town within the Lower Raritan Basin, please contact Michele Bakacs if you are interested in putting in rain gardens. There is funding available to design, plan, and install rain gardens but sites need to be chosen within the next few months. Don't delay!

Mr. Tufaro shared a map which showed where Green Infrastructure Planning Tools are available (attached). Impervious cover assessments and reduction action plans are available for municipalities in watershed management areas 9 and 10. For more information on these tools please contact Chris Obropta at [Obropta@envsci.rutgers.edu](mailto:Obropta@envsci.rutgers.edu).

RCE in partnership with LRWP is planning a green infrastructure tour for July 15. Stay tuned for more details.

**XI. Rutgers Cooperative Extension (RCE) (continued)**

Lastly, Thompson Park Spruce Up Day will be held on May 11. Volunteers are invited to help maintain the rain garden, shoreline restoration project, and other projects within the park.

**XII. Sustainable Raritan River Initiative**

No report.

**XIII. Middlesex County Wastewater Management Plan**

Ms. Becker provided a brief update on the Wastewater Management Plan. Staff has responded to all NJDEP comments. The NJDEP Reviewer wants to make sure all the back up data is consistent with the numbers in the appendices. Ms. Becker asked for everyone's patience while staff gets all the issues resolved.

**XIV. NJDEP NJ Resilient Program**

Mr. Tufaro announced that Middlesex County had been chosen to receive a NJDEP NJ Resilient Program grant. A regional resiliency action plan will be developed by a consulting team being chosen by NJDEP. Perth Amboy, Woodbridge, South River, Sayreville, and Old Bridge will be participating in this effort.

**XV. Sustainable Raritan River Initiative**

No report.

**XVI. Correspondence**

There was no Correspondence presented at today's meeting.

**XVII. Old Business**

- **WRA By-laws**

In the interest of time, the by-laws discussion was tabled until the next meeting.

**XVIII. New Business**

- **Spring Environmental Clean Ups**

Mr. Racin invited everyone to a River Clean Up sponsored by LRWP and the South River Environmental Commission scheduled for March 16 from 10 a.m. to 1 p.m. Dr. Chase also invited everyone to the Clean-Up of Mild Run Brook with the Franklin Township, New Brunswick Environmental Commission, and LRWP scheduled for April 13 from 10 a.m. to 12 noon. Mr. Williams invited everyone to a Multi-Site clean-up of Highland Park's Mill Brook, followed by a community picnic-celebration on May 12 from 10 a.m. to 1 p.m. Details on these events can be found on the LRWP website at <http://lowerraritanwatershed.org/>.

**XIX. Public Comment**

There was no Public Comment at today's meeting.

**XX. Next meeting, date, time and place**

The next WRA meeting will be held on May 13, 2019 at 1:30 p.m. in the Freeholder Meeting Room, County Administration Building.

**XXI. Adjournment**

A motion was made, seconded, and approved to adjourn the meeting at 3:26 p.m.

lak



## Health Impact Assessment: How to Integrate Health into Decision-Making

**Karen Lowrie, Ph.D.**  
 Associate Director  
 Environmental Analysis and Communication Group  
 Planning Healthy Communities Initiative  
 Bloustein School of Planning and Public Policy  
 Rutgers University



## Planning Healthy Communities Initiative (PHCI)

Promoting the integration of **health** into **planning and decision-making** about projects and policies.

- Community-based Planning & Technical Assistance
- Policy Analysis
- Training
- Research




## Session Objectives

- Get thinking about planning and development decisions in the context of **health determinants and outcomes**
- Describe the concept of **Health in All Policies** and how **Health Impact Assessment** can be a tool to promote Health in All Policies approaches
- Share how **HIA** has been used to inform planning decisions outside of New Jersey.

## WHAT IS HEALTH?

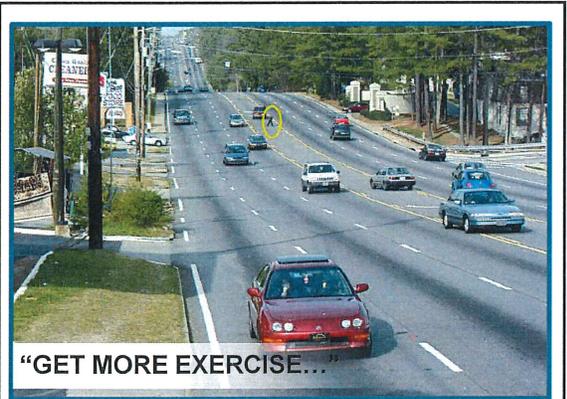
Health is "a state of complete physical, social and mental well-being, and not merely the absence of disease or infirmity."

Furthermore, health is the ability of an individual or group "to identify and to realize aspirations, to satisfy needs, and to change or cope with the environment."



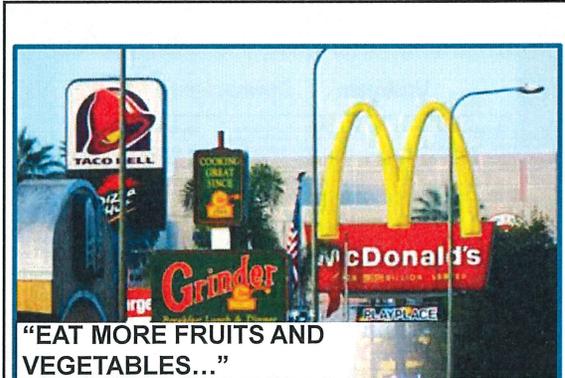
1948 World Health Organization Constitution and the 1986 Ottawa Charter for Health Promotion

Slide courtesy of Health Impact Project



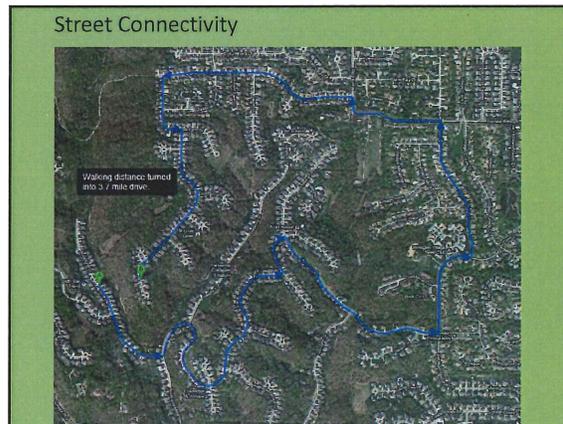
"GET MORE EXERCISE..."

Source: Wenham, A. Health Impact Project. [http://www.healthimpactproject.org/resources/presentations\\_webinars](http://www.healthimpactproject.org/resources/presentations_webinars)



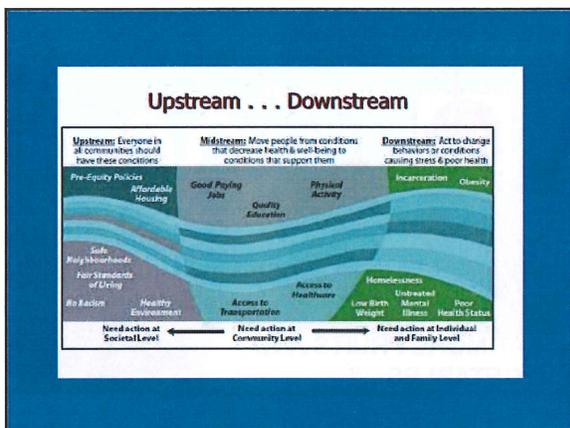
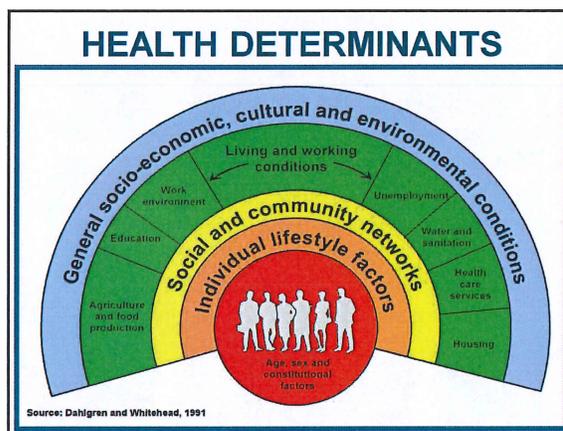
"EAT MORE FRUITS AND VEGETABLES..."

Source: Wenham, A. Health Impact Project. [http://www.healthimpactproject.org/resources/presentations\\_webinars](http://www.healthimpactproject.org/resources/presentations_webinars)



### The Problem

So many daily policy decisions made outside of the health sector have significant health implications that go unrecognized because health is just not on the radar screens of decision makers.



### HEALTH IN ALL POLICIES (HiAP)

A strategy that strengthens the link between health and other policies, creating a supportive environment that enables people to lead healthy lives.

Slide courtesy of Health Impact Project

## HEALTH IN ALL POLICIES

- Considers the intentional or unintentional impact of non-health policies on individual or population health
- Non-health sectors can include Education, Housing, Transportation, Economics, and others...



Slide courtesy of Health Impact Project

## HEALTH IN ALL POLICIES RESOURCES



Association of State and Territorial Health Officials (ASTHO)

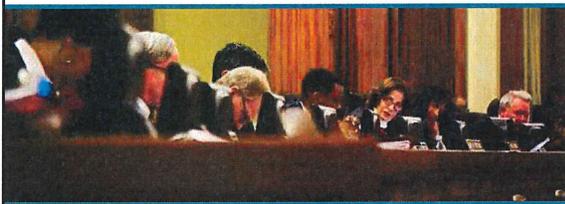
National Association of County & City Health Officials (NACCHO)

The Public Health Institute (CA)

Slide courtesy of Health Impact Project

## HiAP & HIA

- Health impact assessment (HIA) is one of the key strategies for moving toward a health in all policies perspective.



Slide courtesy of Health Impact Project

## What is HIA?

A structured, but flexible, process that:

- **Predicts** anticipated health outcomes of a proposed decision/project
- **Translates** that information into recommendations for balance, well-informed policies
- Helps you **weigh trade-offs** and understand the **direct and indirect health impacts** of your work
- HIA's purpose is to **improve** health, track **unintended consequences** and **mitigate risk**

[ 16 ]

## HIA Addresses Determinants of Health

How might the proposed project, plan, policy

affect

- Housing
- Air quality
- Noise
- Safety
- Social networks
- Nutrition
- Parks and natural space
- Private goods and services
- Public services
- Transportation
- Livelihood
- Water quality
- Education
- Inequities

And potentially lead to predicted health outcomes?

Slide courtesy of Human Impact Partners

## What an HIA is not . . .

- It's not used to make the case for why a policy, program or project should be proposed.
- It's not an assessment to understand the impacts of a program or policy once it has been implemented.
- It's not a community assessment tool (i.e., MAPP & CHA), but those are used during assessment stage of HIA.
- HIA is the framework that translates that data into well-informed policies.

## The Core Values of HIA

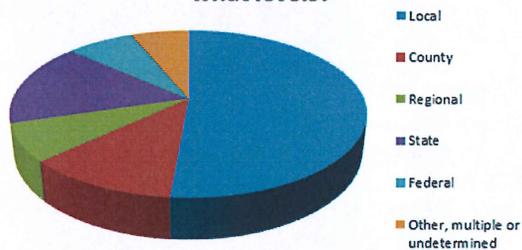
- Democracy
- Equity
- Sustainable Development
- Scientific & Robust Practice
- Holistic Approach to Health

## Diversity in the Applications of HIA

- Types of decision making
  - **Policy Decisions** (bills by state legislature, city council decisions, local school board policy)
  - **Policy Implementation** (weigh various implementation options for a policy once it is passed)
  - **Project Specific** (siting, permitting, construction, design)
  - **Comprehensive Plans** (neighborhood plan, regional growth plans, master planning documents)

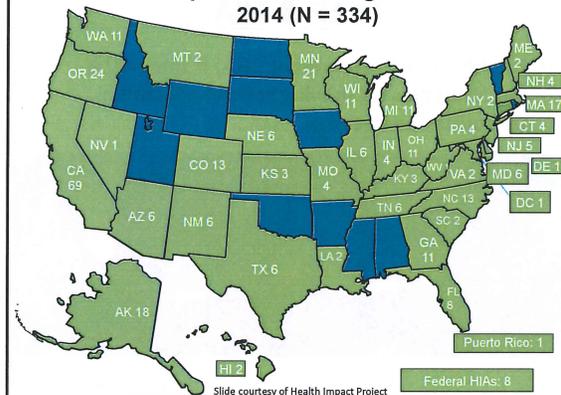
## The Level of Decision Making

HIA's are used to inform decisions at what levels?



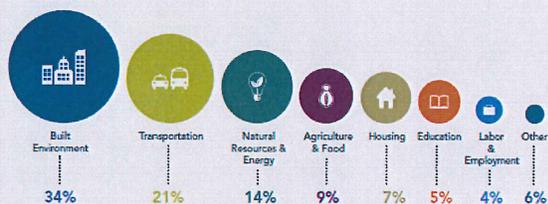
Slide courtesy of Health Impact Project

## Completed and In Progress HIA's 2014 (N = 334)



Slide courtesy of Health Impact Project

## What topics have HIA's addressed?



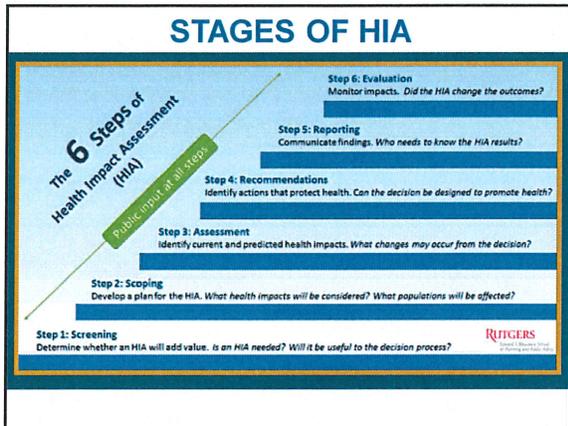
Slide courtesy of Health Impact Project

## HIA in the USA



[www.healthimpactproject.org](http://www.healthimpactproject.org)

THE PEW CHARITABLE TRUSTS



### Post Sandy Recovery – Little Egg Harbor

### Middlesex Greenway Access Plan

## HIA – NJ Examples

#### USE AND ACCESS PLAN

#### HEALTH IMPACT ASSESSMENT

New Jersey Health Impact Collaborative

**RUTGERS**  
School of Public Health and Community Health

### Mystic Island Voluntary Buyout Health Impact Assessment

Assessing Health Outcomes of Post-Sandy Decision-Making  
May 2016

#### COMPLETE COORIDOR PLAN

#### HEALTH IMPACT ASSESSMENT

New Jersey Health Impact Collaborative

**RUTGERS**  
School of Public Health and Community Health

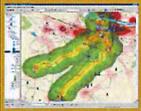
## Identify Health Issues

### Scoping

- Research questions guide entire project
- Health pathways diagrams

### Scoping Outcomes

1. Identify main goals for the HIA
2. Select geography and time-frame
3. Describe impacted population
4. Identify stakeholder concerns
5. Identify participants & decision-makers
6. Summarize possible health pathways



### Middlesex Greenway HIA Questions

**Physical Activity:** How does trail use affect physical fitness? Are there particular types of people or subgroups in the community who are more likely to benefit from using the trail?

**Safety:** What potential personal safety risks (crime and injuries) are associated with using the Greenway?

**Environmental Exposures:** How will trail use affect environmental exposures to allergens, animal vectors and air pollution?

**Local Economic Development:** How does or could use of the Greenway benefit the local community?

**Social Cohesion:** How does use of the Greenway improve social interaction?

### Bloomfield Ave. HIA Questions

**Safety:** What are the safety (collisions) impacts for pedestrians, bicyclists and drivers, including vulnerable subpopulations, when a road diet is implemented?

**Environmental Health:** What are the mental health impacts (stress, noise) of a road diet for drivers and other road users?

**Local Economic Development:** What are the economic impacts along or near a street that undergoes a road diet?

**Social Cohesion:** What are the impacts to social cohesion for communities along a street that undergoes a road diet?

**Physical Activity:** What are direct physical health impacts (physical activity, pollution) of a road diet for pedestrians, bicyclists and drivers, including vulnerable subpopulations?

**Access:** What are the impacts to access to services, transit, and healthy food along roads with a road diet?

### Identify Health Issues

Connection to Health Outcomes



Middlesex Greenway Health Impact Assessment, 2014

RUTGERS **Mystic Island**

### Scope of the HIA

- **Decision/Decision-maker:** Support a voluntary residential buyout program? / Township Council and Mystic Island residents
- **Geography:** Mystic Island / Egg Harbor Township (fiscal)
- **Focus:** Residential buyout program to mitigate impacts of future inundation from storm surge and sea level rise
- **Program Alternatives:**
  - 100 Property Voluntary Buyout
  - 350 Property Voluntary Buyout
  - 500 Property Voluntary Buyout
- **Temporal Scope:** Short-term (> 5 yrs. / Long-term (up to 35 yrs.)
- **HIA Timeline:** Sep 2014 – Aug 2015
- **Impacted populations & potentially vulnerable groups:**
  - Mystic Island property owners and residents
  - Elderly and Disabled
  - Lower income



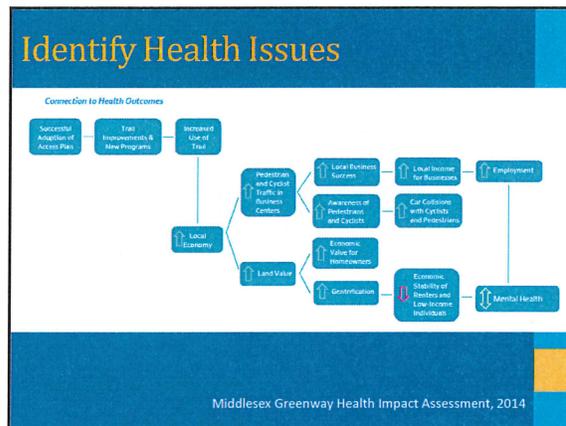
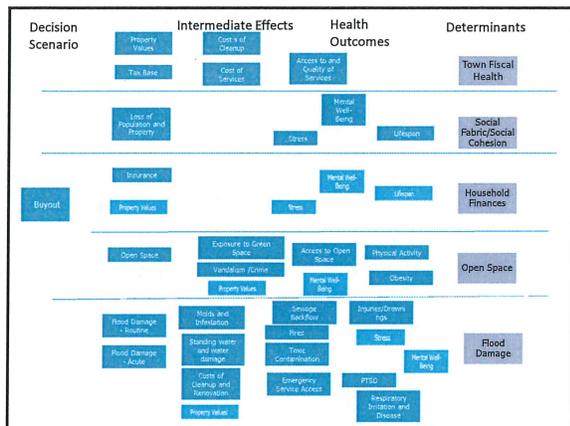
RUTGERS **Mystic Island**

### Research Questions

**What are the mental and physical health impacts of voluntary buyout scenarios for the residents of Mystic Island?**

Sub-questions related to health determinants:

- What are the impacts related to **flooding** (routine due to SLR, storm events)?
- What are the **household economic** impacts?
- What are the **municipal fiscal** impacts?
- What are the impacts to **social fabric and cohesion**?
- What are the impacts related to **open space**?



## HIA ASSESSMENT



1. Baseline profile of existing health and conditions of affected populations
2. Characterization of the anticipated or projected health effects of alternative decisions

## Part one: Baseline Data

Collect Information on existing conditions:

- Population health status
- Health indicators
- Vulnerable populations and equity issues
- Health determinants (physical and social environment)
  - Health Determinant: Access to public transportation**
    - Households within 1/2 mile access to public transit stops
    - Household income spent on transportation expense
  - Health Determinant: Neighborhood safety**
    - Number of violent crimes
    - Density of alcohol outlets
    - Residents' perceived safety

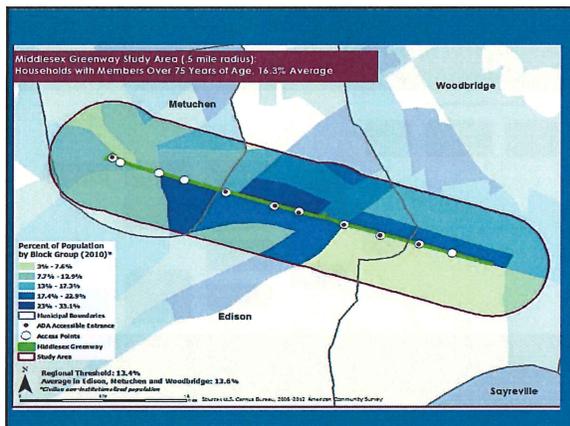
## Middlesex Greenway Access Plan HIA Location

Middlesex County, NJ

## Impacted Populations

- Nearby Residents
- Senior Citizens/Elderly
- Disabled
- Hispanic Population
- School Children (middle school located on Greenway)
- Local Businesses

Impacted Subpopulations of Special Interest	Middlesex Greenway 5 mile radius	Middlesex Greenway 1 mile radius	Middlesex County
Comparative Profile of Traditionally Disadvantaged Populations			
Percent Hispanic	16.90%	26.40%	18.40%
Percent Elderly Persons (75+ Years)	16.3	6.50%	6.00%
Percent Persons with Disabilities	10.90%	8.70%	8.30%



## Baseline Health: Survey Respondents

### Physical Condition

- 42% advised to increase physical activity
- Over 12% with asthma
- Almost 10% with heart condition
- 70% physically active (4X month or more)

## Part Two: Projection Assessment

- Characterizes the potential health effects of alternative decisions **based on available evidence**.
- Scoping and assessment phases are often iterative.

The rigor of your data depends on the nature of your decision!

- Literature
- Interviews and Focus Groups
- Surveys
- Community Health Plans
- Measurement of environmental conditions
- Modeling and Mapping
- Expert opinion

## Survey Results

How much do you think your use of the Middlesex Greenway has increased your level of physical activity compared to before the trail was in place?

\$55,350 per year in medical cost savings

## Economic Benefit

In conjunction with your use of the trail, do you purchase any of the following?

Where do you purchase these items?

## HIA Analysis - Summary of Findings

### Impact of Increased Greenway Use on Health Determinants

Health Outcome or Health Determinant	Direction and Extent	Magnitude	Likelihood	Distribution
Security - Risk of Crime	Unknown	Medium	Possible	Trail Users, Homes, and Business Districts Surrounding the Greenway
Security - Perception of Crime	Positive	Medium	Possible	Trail users, residents of surrounding municipalities
Social Interaction	Positive	High	Likely	Trail Users
Physical Activity	Positive	High	Likely	Trail Users
Local Economy	Positive	Medium	Possible	Residents of Surrounding Municipalities
Safety (collisions)	Unknown	Medium	Unlikely	Trail users, users of area roads
Exposure to Green Space	Positive and Negative	Medium	Likely	Trail users

## Crash Reduction Analysis

- 19% Crash Reduction (FHWA)
- 163 Fewer Crashes (over 4 years)
- 57 Injuries Prevented (over 4 years)
- \$2-6 million in household income saved

NORTH JERSEY COUNTY PLANNING AND DEVELOPMENT  
BLOOMFIELD AVENUE CORRIDOR FROM BLOOMFIELD TOWNSHIP, GLEN RIDGE BOROUGH, & NORTH JERSEY STATE COUNTY  
PEDESTRIAN & BICYCLIST INJURIES & FATALITIES (PLAN QUARTER, 2009-2012)

## Sample Impact Predictions

- The project helps to reduce the growth of regional vehicle trips and regional vehicle air pollutant emissions.
- Expected pollution exposure was associated with a modest increased hazard of premature deaths, asthma hospitalizations, and lower respiratory symptoms.
- The project's mixed income housing along with integrated retail services and location near parks and schools is likely to contribute to ethnic and socioeconomic cohesion with potential indirect benefits on crime and safety.

## HIA Analysis – Summary of Findings

### Impact of Road Diet on Health Determinants

Health Outcome or Health Determinant	Direction and Extent	Magnitude	Likelihood	Distribution
Safety/Collisions	Positive	High	Likely	Drivers (resident and commuter), Pedestrians and Bicyclists using Corridor
Physical Activity	Positive	Medium	Possible	Residents of the four towns
Air Pollution	Negative	Low	Possible	Residents who live or work on Bloomfield Ave., Schools within a block of the Corridor
Stress	Positive	High	Likely	Drivers and commuters, shoppers, business patrons and pedestrians
Social Cohesion	Positive	Medium	Possible	Residents of the four towns
Economic Impacts	Positive	Low	Uncertain	Businesses and property owners along or near the Corridor, and the four towns (jobs, taxes)
Access to Services, Transit and Food	Unknown	Low	Uncertain	Lower income, disabled, elderly

RUTGERS

Table 22.  
Question: Since Hurricane Sandy, how much MORE do you fear rising waters and flooding compared to before the storm occurred?  
(n = 78)

Answer	%
A great deal	35%
Somewhat	37%
Not much	18%
Not at all	10%
Total	100%

RUTGERS

## Mystic Island - Findings

**Flooding**

- Clustered buyouts should reduce severity of routine and severe flooding and thus improve mental health.

**Household Finances**

- Buyouts should improve household finances

**Municipal Finance**

- Buyouts should have long-term positive effect
- Variables are cost of maintaining new space and property value enhancements

**Social Cohesion**

- Reduction in abandoned homes will improve neighborhood quality
- Recreation space can be gathering spot and spur local business.

**Open Space**

- Very positive health impacts - reduction of disease and mental

# HIA Recommendations

## Good Recommendations Are...

1. Responsive to predicted impacts
2. Specific and actionable
3. Experience-based and effective
4. Enforceable
5. Able to be monitored
6. Technically feasible
7. Politically feasible
8. Cost-effective
9. Unaccompanied by additional negative consequences
10. Implementable within the regulatory, administrative, or legislative framework of the proposal being considered



## Common Types of HIA Recommendations

<b>Mitigation</b>	Actions intended to mitigate adverse health impacts identified during assessment
<b>Enhancement</b>	Actions intended to improve health by amending the policy, plan, or project under question
<b>Adoption</b>	Actions for the decision-makers regarding whether or not to adopt one of the proposed scenarios

### Recommendations: Mitigation

<b>Definition:</b> <b>Mitigation</b>	Actions intended to mitigate adverse health impacts identified during assessment.
<b>Goal</b>	HIA of a rezoning from industrial to residential use in San Francisco. Mitigate "health-related noise and air-quality issues for the proposed residential units."

#### Mitigation Example

HIA recommended new standards for ventilation in the new development.

### Recommendations: Enhancement

<b>Definition:</b> <b>Enhancement</b>	Actions intended to improve health by amending the policy, plan, or project under question.
<b>Goal</b>	Increase use of Greenway by seniors

#### Enhancement Example

Installing benches in strategic locations would allow senior citizens and those with disabilities to benefit from use of the Greenway.

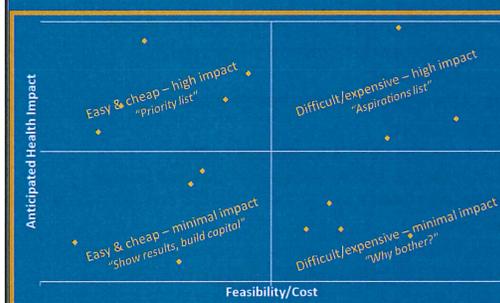
### Recommendations: Adoption

<b>Definition:</b> <b>Adoption</b>	Actions for the decision-makers regarding whether or not to adopt one of the proposed scenarios.
<b>Goal</b>	Identify potential health outcomes of proposed restrictions in the funding for the Massachusetts rental-voucher program for low income residents.

#### Adoption Example

HIA team found that the funding restrictions could be harmful to health and recommended against adopting them.

## Prioritizing Recommendations



**RUTGERS** **Mystic Island**

### Draft Recommendations

- Encourage residents in most floodprone areas of Mystic Island to apply for voluntary buyouts.
- Use of the buyout space is important – needs to benefit the community
- Consider creative ways to cover cost of bulkhead and maintenance of passive recreation
- Social services, particularly access to mental health services, should be improved as a complement to buyout program.
- Consider vulnerable populations in disaster planning - duty of care and responsibility of health agencies post-event
- Study the effect of increased open space on resiliency

### The 6 Steps of Health Impact Assessment (HIA)

- Step 1: Screening**  
Determine whether an HIA will add value.
- Step 2: Scoping**  
Determine what to do for HIA.
- Step 3: Assessment**  
Identify current and proposed health impacts.
- Step 4: Recommendations**  
Identify actions that protect health.
- Step 5: Reporting**  
Communicate findings.
- Step 6: Evaluation**  
Monitor impacts.

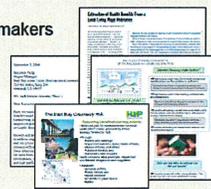
### What Makes a Good Report?

- Documents each step
- Provides succinct summary
- Discusses evidence, data sources and methods used for each health issue analyzed
- Provides specific and actionable recommendations
- Includes input from stakeholders
- Is accessible to multiple audiences



### HIA Report Formats

- Formal report
- Letter to proponents & decision-makers
- Comment letter on draft EIAs
- Public testimony
- Presentation
- Fact sheet / newsletter
- Peer-reviewed publication
- Website
- Video
- Media Outreach
  - Press release
  - Articles
  - Interviews
  - Op-eds



### Benefits of Evaluation

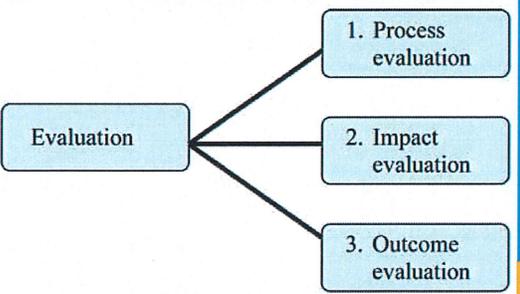


According to our evaluation, Jimmy's dad could most certainly beat up Tommy's dad.

freshspectrum.com

### Types of Evaluation

- 1. Process evaluation
- 2. Impact evaluation
- 3. Outcome evaluation



### Middlesex Greenway Initial Impact Evaluation

- Park benches
- Exercise stations at park
- Committee to develop signage
- Activity loops include Plan Open Space element.
- Launch "Greenway Prescription for Health" with local MDs
- Three towns and County Parks will present to County
- Already used to secure addition grant funding

### What difference can HIA make?

- **Middlesex Greenway:** Importance of elderly needs, and extrapolation of healthcare cost savings from increased fitness
- **Bloomfield Ave Complete Corridor:** Understanding crash reduction and related economic effects
- **RU Bikeshare:** Equity of impacts of program – overlay of socioeconomic with bike infrastructure
- **Hoboken Green Stormwater Management:** Equity of impacts of green infrastructure
- **Little Egg Harbor Voluntary Buyout:** "Lost" and severe impacts of disasters on mental health
- **HUD Healthy Homes:** Revisiting building code ventilation requirements for improving indoor air quality, Revised IPM model, roof-top garden programming
- **Public Access to the Raritan:** Mitigation of water safety hazards associated with riverfront access

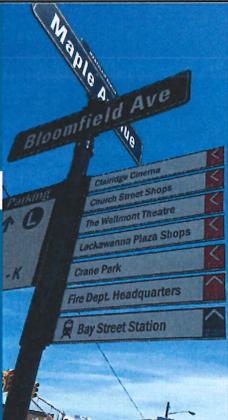
### Bloomfield Ave. Initial Impact Evaluation

- **New Research:** Cost and Benefits of a Road Diet Conversion on Bloomfield Avenue funded by NJ Department of Transportation

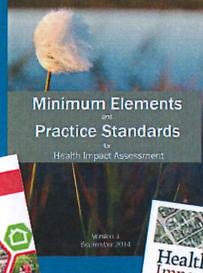


Partners for Health FOUNDATION

- Lights and safety vests to low income/low pay industry workers who use bicycles for work
- Speed limit signs or speed limit paint on the roadway at key locations
- Address crosswalks with short crossing times



### HIA Resources



### HIA Presents Challenges...

- Finding data & best practice
- Understanding strength and confidence of public health & planning basic sources (Master Plans, CHIP, CAN, etc.)
- Deciding when you have enough evidence
- Finding creative ways to fund HIA

### ...and Opportunities

- Builds inter-sector collaboration that can be sustaining
- Calls attention to inequities and ways to address them
- Can result in low-cost "quick wins" for health

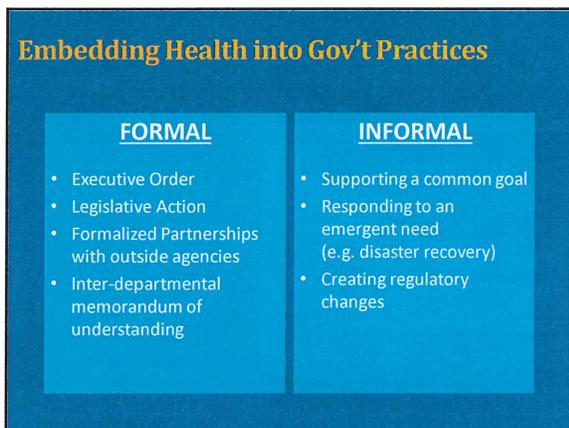
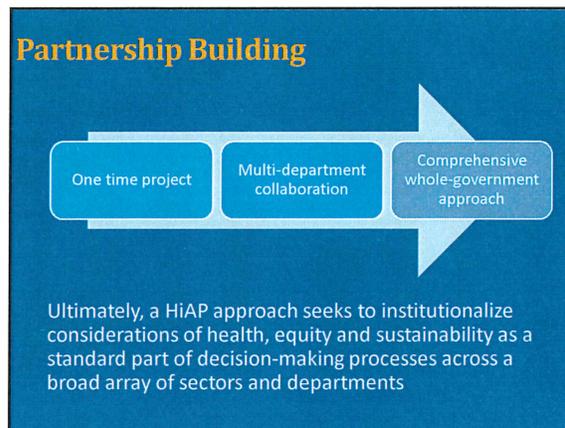
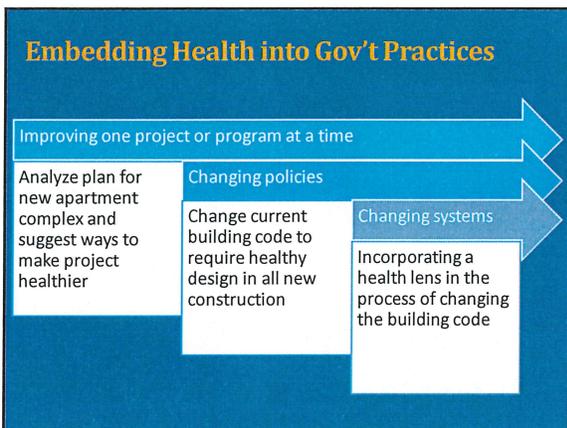
### Central Concept - Building a Culture of Health

HIA is a tool to help us to specifically think about health outcomes as we make decisions in other sectors. It is **flexible and scalable**.

Key over-arching concepts:

- Health should be **part of the decision-making** associated with upstream factors and **NOT AFTER** those decisions are made:
- We should inform decisions **based on the evidence** using the scientific and public health literature;
- We should use **local knowledge** which means engaging stakeholders, including those that are most vulnerable.

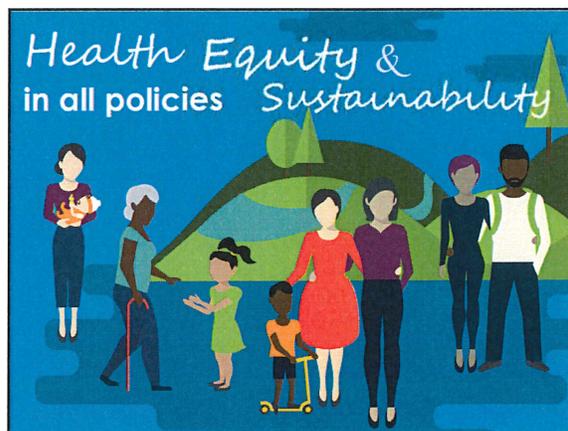
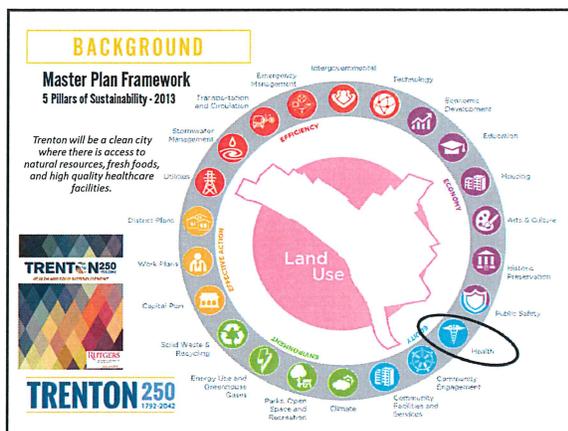
HIA-type approaches and HiaP embrace these same concepts and goals, ensuring healthier and more equitable outcomes.

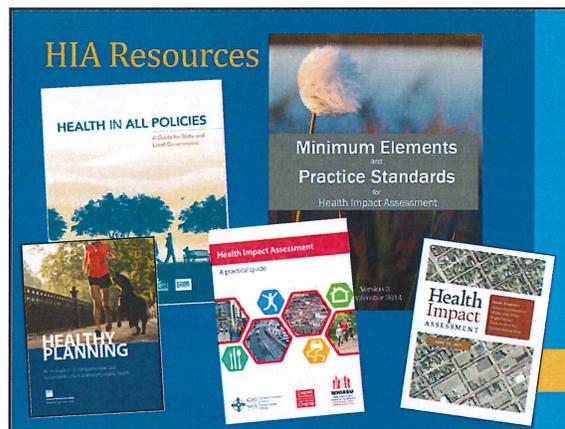
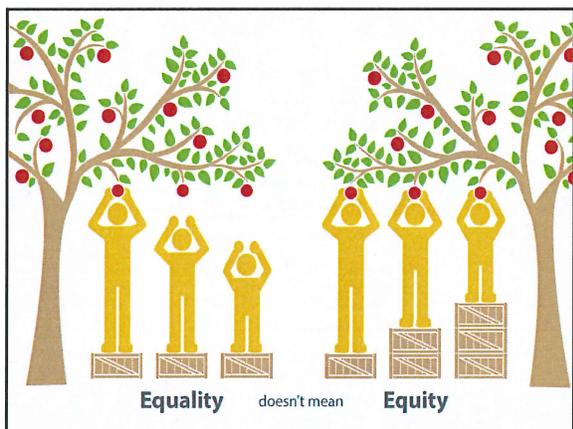


**TRENTON250**  
1792-2042  
HEALTH AND FOOD SYSTEMS ELEMENT

**RUTGERS**  
UNIVERSITY OF THE STATE OF NEW JERSEY

Trenton250  
Vision Principle:  
**Cultivate a Healthy City**  
*Trenton will be a clean city where there is access to natural resources, fresh foods, and high quality healthcare facilities.*





**The Team**  
Our team from the Bloustein School's Centers of practice and research has expertise in Health Impact Assessment, transportation and environment planning, stakeholder engagement, public policy analysis, and community action.

 <b>Jan A. Carrigan, AICP/FP</b> Executive Director Alan R. Franchino Transportation Center	 <b>Jennina Herb</b> Assistant Director Environmental Analysis and Community Action Group	 <b>Karen Lowrie, Ph.D.</b> Assistant Director Environmental Analysis and Community Action Group	 <b>Jennifer Senick, Ph.D.</b> Executive Director Long-Term Center for Green Building	 <b>Leigh Ann Von Hagen, AICP/FP</b> Executive Director Alan R. Franchino Transportation Center
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[phci.rutgers.edu](http://phci.rutgers.edu)

**RUTGERS** Planning Healthy Communities Initiative (PHCI)

**Thank You!**  
[phci.rutgers.edu](http://phci.rutgers.edu)

Leigh Ann Von Hagen  
[lavh@ejb.rutgers.edu](mailto:lavh@ejb.rutgers.edu)

Karen Lowrie  
[klowrie@rutgers.edu](mailto:klowrie@rutgers.edu)

Integrating Health into Decision-Making

**Welcome**  
The Planning Healthy Communities Initiative (PHCI) promotes the integration of public health into the planning and decision-making about projects and policies. PHCI addresses the potential health impacts Assessment projects seek to prevent, minimize and track to create the optimal long-term public health impact.

**Sign up for PHCI E-mail:**  
Email Address: \_\_\_\_\_

Planning Healthy Communities Initiative at the  
Edward J. Bloustein School of Planning & Public Policy

### *Integrating public health impacts into planning and decision-making*

The Planning Healthy Communities Initiative partners with communities to create safe and healthy places in which to live, work and play. The Initiative, based at Rutgers University's Edward J. Bloustein School of Planning and Public Policy, integrates researchers and practitioners in planning, public health and public policy to raise awareness of how the built environment influences health and to champion measures that improve health outcomes and quality of life.

#### Healthy Communities Provide:

- ◆ Healthy foods, clean air and water, and recreational opportunities that promote good nutrition and physical activity;
- ◆ Homes free of toxins and hazards that cause illness or injury;
- ◆ Quality schools and transportation choices that support quality jobs; and
- ◆ Vibrant and secure neighborhoods that support physical safety and physiological, mental and emotional health.



Photo credit: Bloomfield Avenue, Planning Healthy Communities Initiative

#### Advancing Health in All Policies

The Planning Healthy Communities Initiative develops and deploys best practices at the state, regional and local levels that result in tangible improvements in health.

- ◆ **Technical Assistance:** planning and policy projects that result in actionable strategies that integrate health into decisions affecting built infrastructure, community design and development, public investment, and economic development including Health Impact Assessments, Health Master Plan Elements for Municipal Comprehensive Plans, Zoning Ordinances and Design Standards, Community Health Needs Assessments, Community Health Improvement Plans, and Community Health Surveys.
- ◆ **Training and Community Capacity-building:** Health in All Policies and Health Impact Assessments continuing education workshops, community engagement facilitation, and strategic planning.
- ◆ **Research:** collection, development and analysis of data to support the healthy planning objectives of communities and decision-makers; resource identification and grant writing.

## Building Partnerships for Healthy Communities



## Projects

### Community-based Planning and Technical Assistance:

- ◆ Assisted the City of New Brunswick and Bound Brook/South Bound Brook with RWJF Culture of Health Blueprint for Action projects.
- ◆ Developed strategies to encourage older adults in the City of Elizabeth to engage in healthful activities.
- ◆ Evaluated potential health impacts of resilience strategies in the towns of Hoboken and Little Egg Harbor.
- ◆ Completed Health Impact Assessments on expansion of the Middlesex Greenway, establishment of a regional bikeshare in the greater New Brunswick area, and the design of a road diet in Essex County.



Photo credit: Middlesex County Greenway, Planning Healthy Communities Initiative

- ◆ Created New Jersey's first-ever health master plan element with the City of Trenton.
- ◆ Provided a Health in All Policies framework to guide the regional plan for northern New Jersey, southern Connecticut and New York City with the Regional Plan Association.
- ◆ Integrated health strategies into Together North Jersey regional plan for sustainable development.
- ◆ Continued policy analysis on health impacts of a changing climate.

### Training:

- ◆ Conduct continuing education training for credits on Health Impact Assessment that includes points for Sustainable Jersey action certification.
- ◆ Instruct local communities on conducting walking and bicycling condition assessments and related funding opportunities.



## The Team

Our team from the Bloustein School's Centers of practice and research has expertise in Health Impact Assessment, transportation and environmental planning, stakeholder engagement, public policy analysis, and communications.



**Jon A. Carnegie, AICP/PP**  
Executive Director,  
Alan M. Voorhees  
Transportation Center



**Jeanne Herb**  
Associate Director,  
Environmental Analysis and  
Communications Group



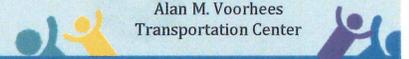
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Communication Group



**Jennifer Senick, Ph.D.**  
Executive Director,  
Rutgers Center for  
Green Building



**Leigh Ann Von Hagen, AICP/PP**  
Senior Researcher,  
Alan M. Voorhees  
Transportation Center



Dear Members,

March 8th, 2019

Our March membership meeting will be held on Tuesday, March 19th at 7:30PM at the Milltown Senior Center. Our speaker will be Dr. Stephanie Murphy, of Rutgers University, Director, Rutgers Soil Testing Laboratory. See 1 below.

I still do not have a house phone or e-mail but now do have a cell phone (732) 875-8632. I am sending this announcement from a friend's internet. If you need to get in touch, you may also contact Michael Shakarjian at mshakar@aol.com or (732) 828-3275 or at our website [www.lbwp.org](http://www.lbwp.org)

As soon as the weather gets warmer, we expect to restart Water Monitoring activity. See 2 below.

A number of us attended and spoke at the last two Planning Board meetings in East Brunswick, the last one being in February, related to the proposed residential development off Harts Lane and Tices Lane called "Hidden Oak Woods". Several experts from the public spoke against the project at the 2nd from last meeting and many members of the public spoke at the last meeting. The Board voted 8 to 1 to reject the application. We were pleased at the Board's decision as we felt that the residential project was wrong for that location in an industrial area and on land which has considerable environmental value. It was bad for the environment in many ways, including possible deterioration of the Lawrence Brook drinking water supply. It would also have seriously limited safe and desirable travel to and from the property for everyone living there.

We attended a January meeting in East Brunswick arranged by Mayor Cohen to inform the public about recent problems of odors & other concerns at the Middlesex County Landfill (formerly Edgeboro Landfill). As a result of that meeting we decided that we should begin informing the public how to do composting at their homes & how that would reduce the amount of trash handled by the County & provide considerable benefits to homeowners. We are planning a future membership meeting arranged jointly between Milltown EC, East Brunswick Township & the LBWP to inform anyone who would like to know about this process. That meeting will likely be late April or early May, date to be confirmed shortly. There will also be two related events in April at the EARTH Center in Davidsons Mill Pond Park. See A below.

Regards, Alan S. Godber  
Pres. LBWP.

1. **March Membership Meeting, Tuesday, March 19th, 7:30PM at the Milltown Senior Center. Speaker, Dr. Stephanie Murphy, Chair, Rutgers Soil Testing Laboratory.** The title of her talk is "**Soil Care for Sustainable Landscapes and Climate Mitigation**" How do we assess soil quality or soil "health"? How do soil conditions & management of soil influence climate? How can we improve soil for healthier landscapes, food production, & ecosystems? For biography of Dr. Murphy, please see the attachment.
  2. **Water Monitoring, New Program began in July, Macroinvertebrate Testing and some Chemical Testing.** Organized by Mr. Matt. Milburn. We will be gradually building a larger team to conduct this important activity for most of the year. If you are interested in getting involved, please contact Matt Milburn at [mmilburn92@gmail.com](mailto:mmilburn92@gmail.com)
  3. **Area Cleanups.** Likely to be in South Brunswick or New Brunswick in April on a Sunday, at 1PM. The 2019 Farrington Lake Cleanup is likely to be Late April or Early May on a Saturday morning.
  4. **Nature Walks.** Next walk is likely to be a Saturday in April, probably starting at 12 Noon.
- A. EARTH Center Spring 2019 Programs.** Events are from March 6th to April 20th and are free and located at the EARTH Center, unless noted otherwise. See [www.middlesexcountynj.gov](http://www.middlesexcountynj.gov) Call (732) 398-5262 to register. At 42 Riva Ave. South Brunswick in Davidsons Mill Pond Park. Two events we especially recommend:
- Backyard Composting Sat. April 6th, 10AM.**
  - Introduction to Vermi-Composting. Wed. April 10th, 6:30PM.**



# LAWRENCE BROOK WATERSHED PARTNERSHIP, INC.

*"Responsible Stewardship of the Lawrence Brook Watershed"*

85 Washington Avenue, Milltown, NJ 08850

Telephone: (732) 249-LBWP (5297)

[www.LBWP.org](http://www.LBWP.org)

March 8th, 2019

PLEASE REPLY TO:

Alan S. Godber, President, LBWP

Cell Phone (732) 875-8632 e-mail [agodber@turbousa.com](mailto:agodber@turbousa.com)

To: Members and Participants in the Lawrence Brook Watershed Partnership Inc.  
From: Alan S. Godber, President, Lawrence Brook Watershed Partnership Inc.  
SUBJECT: **MARCH MEMBERSHIP MEETING #151 OF LAWRENCE BROOK WATERSHED PARTNERSHIP INC. Tuesday, March 19th, 7:30PM, at Milltown Senior Ctr.**

Dear Members and Friends,

**Dr. Stephanie Murphy,**  
**Director, Rutgers Soil Testing Laboratory**

will give a presentation entitled

## **"Soil Care for Sustainable Landscapes and Climate Mitigation"**

**How do we assess soil quality or soil "health"?**

**How do soil conditions & management of soil influence climate?**

**How can we improve soil for healthier landscapes, food production, & ecosystems?**

at the March Membership Meeting of the Partnership which will be held **Tuesday, March 19th, 2019, 7:30PM, at Milltown Senior Center, 60 Violet Terrace, Milltown, NJ 08850.**

Dr. Murphy has a Bachelor of Science from the Ohio State University, majoring in agronomy. Also Master of Science in Soil Management & Conservation at Purdue University, completing research at the USDA-ARS Soil Erosion Lab on the Purdue campus. Ph.D. from Michigan State University's Department of Crop & Soil Sciences studying soil biophysics. She came to NJ in 1991; worked as post-doc researcher in the soil microbiology lab at Rutgers' Department of Environmental Sciences. Instructor of undergraduate soils courses (Soils and Water, Physical Properties of Soils). Responsibilities with the Soil Testing Laboratory were added later, which led to becoming the director of the Soil Testing Laboratory. She has a partial Cooperative Extension appointment and also teaches a course (Soils and Society) for the Dep't of Plant Biology. She has served on the NJ Dep't of Agriculture's State Soil Conservation Committee as Cook College/School of Environmental & Biological Sciences Executive Dean's representative for many years. She is a member of the American Society of Agronomy, the Soil Science Society of America, & the Soil & Water Conservation Society.

Everyone is welcome. Please let your friends & colleagues know of the event & please come and join us. If you need a map of how to reach Milltown Senior Center, please let us know. See Directions to Milltown Senior Center → Overleaf



**\*South Brunswick \* East Brunswick \* North Brunswick \* Milltown \* New Brunswick\***

## **Directions to Milltown Senior Center:**

### **From the South Brunswick, North Brunswick and New Brunswick Areas**

Travel via Rte. 1 & take Milltown Rd exit. (Traveling South this is three exits after Rte. 18, traveling North it is the next exit after Rte. 130 (follow signs at Rte.130 intersection for Milltown Rd. exit to the right). Enter Milltown from Milltown Rd., continue south to Nth. Main St. for approx. 3/4 mile to Mill Pond traffic light, junction with Washington Ave. (having crossed Lawrence Brook at Main St. bridge). Turn left (Hess Station on left), take first right turn into J.F.Kennedy Drive. Proceed approx. 1/4 mile to Violet Terrace & turn left. After 200 feet, building on right is the Senior Center, parking is to right & rear of the building.

### **From the South Brunswick and East Brunswick Areas**

From South Brunswick, take Cranbury Rd. to Ryders Lane & turn left on Ryders Lane. From East Brunswick, Rte. 18, take Rues Lane leading to Ryders Lane. Continue on Ryders Lane to Milltown Rd. then turn left. Cross NJ Turnpike & proceed for approx. 3/4 mile to Violet Terrace (first right turn after traffic light at Kuhlthau Ave), where turn right (one way street). Proceed across J.F.Kennedy Drive (four way stop). After 200 feet, building on right is the Senior Center, parking is to right & rear of building.

## **Other Announcements and Information**

### **VOLUNTEERS & MEMBERS NEEDED!!**

**If you haven't joined or renewed your membership for 2019, please do so now. Thank you to the many of you who recently joined or rejoined or sent donations. We very much appreciate your support.** We really welcome your donations to the work of the LBWP. We primarily need general operating funds. Projects such as public outreach, mapping equipment & the planned Education & Nature Center need funding. 2019 Membership dues are still \$35 & our brochure, available from the HQ or the website, recommends a range of donation levels. A Partnership tee shirt & cap is included for new members. The Partnership is a 501(c)(3) non-profit corporation, & your contributions are tax-deductible. If your employer has a matching plan, you could add their contribution to yours, which would help us achieve more.

We are still searching for a location in the watershed for our permanent Headquarters & Nature Center. We now have a very significant collection of mammals and birds in our taxidermied animal collection and we need a place to be able to exhibit these to provide education about nature. We also need help in this search and in raising funds to make this project happen. If you can help, please let us know. We are also interested in providing environmental education related to the collection.

## **Watershed-Friendly Resident Project**

This project aims to provide guidance and inspiration to residents of the watershed to make their homes, gardens and yards more friendly to Nature. We have a brochure which lays out a number of options for homeowners to fulfill these aspirations and to reward the achievement. If you can do or have done at least 20 of these activities, then we will provide you with a certificate of achievement and a canvas bag named for the project. We have previously held seminars to educate the residents about these issues and we are planning to do so again soon. If you would like to sign up for the project and for the seminars, please let us know soon. The project brochures are available from our HQ or can be requested by e-mail or phone.

## **Fish Ladders Feasibility Study**

A study, funded by the NY-NJ Harbor Estuary Program was started three years ago. A follow-up study was completed, a final report prepared & agreements with New Brunswick Water Utility have been in discussion. LBWP is managing the project and Princeton Hydro did the scientific study. We had stream gages installed in Lawrence Brook at New Brunswick, which measured the water height every 15 minutes. LBWP has monitored this data. We are now applying for funding for the next stage, design of the fish ladders, possible for later this year.

## **DATES FOR YOUR DIARY.**

Membership meetings in 2019 are likely to continue to be the Third Tuesday each month, or the possible alternative date of the Third Wednesday, with additional meetings if needed. Scheduled, March 19<sup>th</sup>, Likely April 16<sup>th</sup> and May 15<sup>th</sup>.

### Environmental Education

A new project to inform and educate the public about composting and its benefits to the whole environment. Educational support for the impervious surface studies and projects of the LBWP Collaborative, likely with local schools, including the Milltown School District and others in the next months. Our 2015 Rutgers intern created a brochure to educate homeowners and others in how to select native plants, trees, etc. to replace invasives. Our Spring 2016 Rutgers Intern created a new Watershed Map with detailed photographs and text about the watershed. Last summer, for the eighth year, we provided Environmental Education at Raritan Valley YMCA Summer Camp to young people from June to August.

### Nature Walks

Next walk is likely to be a Saturday in April, probably starting at 12 Noon.

### Environmental Cleanups

Next Cleanups are likely to be in South Brunswick or New Brunswick in April on a Sunday, at 1PM. The 2019 Farrington Lake Cleanup is likely to be Late April or Early May on a Saturday morning.

### Water Monitoring

Training for and conducting Water Monitoring on a regular schedule is in process. We need volunteers & experts to train volunteers, as well as to do the monitoring. Please let us know if you would like to volunteer for water monitoring, as we are planning further training of volunteers & water monitoring this month. Contact Matt Milburn at [mmilburn92@gmail.com](mailto:mmilburn92@gmail.com) to instruct or to volunteer.

### FUTURE MEMBERSHIP MEETINGS & TOPICS

**Composting & Vermicomposting Practices**  
**Protecting and Restoring the Watershed Environment.**  
**Sustainable Practices, Desirable & Undesirable Energy Practices**  
**Trout. Frogs.**

### VOLUNTEERS NEEDED for LBWP ACTIVITIES

- Water Quality testing, chemical, biological or stream assessment (*training provided*).
- Land Use, etc. mapping activities using GIS & GPS methods (*training provided*). • Designing Trails.
- Experts & informed volunteers in Biology, Botany, Zoology, Geology, Civil Eng. & Law.
- Developing Nature Center design. • Development of Master Plan and Strategic Plan.
- Studying land acquisition for Open Space preservation. • Spring Environmental Cleanups (**Apr. May**.)
- Environmental Advocacy issues in all Watershed communities (**currently 8+ issues**).
- Organizing watershed walks (**Apr. May**) • Improve current web site [www.lbwp.org](http://www.lbwp.org) & Facebook
- Planning/Org. table at Comm. Events (**Spring 2019**) • Planning Environmental Education Pgms (**Apr-Jun.**)
- Publication of 2019 Edition, LBWP Newsletter. Need writers, graphic designers.
- Developing Meetings Programs. • Meetings Arrangements.
- Presentations on Nonpoint Source pollution, "Green Construction" & watershed issues (*training provided*).
- **Membership development.** • Grant application research and writing. • **Fund Raising.**
- Attending environmental meetings & conferences to learn or speak on behalf of LBWP.
- Organizing activities at HQ - filing, cleaning, gardening.

For further information on any activity or to volunteer for any of the above, see our web site [www.lbwp.org](http://www.lbwp.org) or contact us at (732) 249-LBWP (5297), at e-mail [contact@lbwp.org](mailto:contact@lbwp.org) or Phone/FAX or e-mail listed above.

**Mar. 8th, 2019****Lawrence Brook Watershed Partnership Inc.****Membership Meeting #151,****7:30PM, Tuesday, 19th March, 2019,****at Milltown Senior Center, 60 Violet Terrace, Milltown, NJ 08850****DRAFT AGENDA**

1. Welcome and Introduction of Attendees.
2. Approval of Draft Agenda.
3. Upcoming Events.

4. **Dr. Stephanie Murphy,**  
**Director, Rutgers Soil Testing Laboratory**

will give a presentation entitled

**"Soil Care for Sustainable Landscapes  
and Climate Mitigation"**

How do we assess soil quality or soil "health"?

How do soil conditions &amp; management of soil influence climate?

How can we improve soil for healthier landscapes, food production, &amp; ecosystems?

**4.1 Q&A.**

5. Break for Refreshments and Conversation.
6. Approval of Draft Minutes of Previous Meetings.
7. Report of Nominating Committee for Election of Trustees.
8. Reports
  - 8.1 Membership, Michael Shakarjian & Alan Godber.
  - 8.2 Water Quality Monitoring & Training – Matt Milburn and Raleigh Kane.
  - 8.3 Community Outreach Activities. – Alan Godber.
  - 8.4 Watershed-Friendly Resident Project. – Raleigh Kane & Alan Godber.
  - 8.5 Flooding Mitigation & Watershed Restoration Collaborative. – Alan Godber.
  - 8.6 Environmental Education – Sindhu Pasricha & Alan Godber.
  - 8.7 Treasurer's Report. – Michael Shakarjian.
  - 8.8 Advocacy - Michael Shakarjian & Sindhu Pasricha.
  - 8.9 Liaison Reports.
9. Members Issues. Report by Attendees on Community Issues Around the Watershed, incl. Redevelopment in East Br.; Industrial Dev. In Sth. Brunswick, Milltown Ford Ave.
10. Any Other Business.
11. Date, Time and Location of Next Meetings.
12. Adjournment.

# Green Infrastructure Planning Tools for New Jersey Municipalities

- WMA 01 – Upper Delaware**  
 Alpha Borough  
 Branchville Borough  
 Byram Township  
 Greenwich Township  
 Hackettstown Town  
 Hampton Borough  
 Harmony Township  
 Hopatcong Borough  
 Lopatcong Township  
 Mount Arlington Borough  
 Mount Olive Township  
 Netcong Borough  
 Newton Town  
 Phillipsburg Town  
 Pohatcong Township  
 Sparta Township  
 Washington Borough

- WMA 02 – Wallkill**  
 Byram Township  
 Sparta Township

- WMA 04 – Lower Passaic and Saddle**  
 Belleville Township  
 Bloomfield Township  
 Bloomfield Township  
 Cedar Grove Township  
 City of Orange Township  
 Clifton City  
 East Newark Borough  
 East Orange City  
 East Rutherford Borough  
 Elmwood Park Borough  
 Fair Lawn Borough  
 Fair Lawn Borough  
 Garfield City  
 Glen Ridge Borough  
 Glen Rock Borough  
 Haledon Borough  
 Harrison Town  
 Hawthorne Borough  
 Kearny Town  
 Little Falls Township  
 Lodi Borough  
 Lyndhurst Township  
 Montclair Township  
 Newark City  
 North Arlington Borough  
 North Caldwell Borough  
 North Haledon Borough  
 Nutley Township  
 Passaic City  
 Paterson City  
 Prospect Park Borough  
 Rutherford Borough  
 Saddle Brook Township  
 Totowa Borough  
 Verona Township  
 Wallington Borough  
 West Orange Township  
 Woodland Park Borough

- WMA 05 – Hackensack, Hudson, and Passaic**  
 Bayonne City  
 Bayonne City  
 East Rutherford Borough  
 Guttenberg Town  
 Jersey City  
 Kearny Town  
 Lodi Borough  
 Lyndhurst Township  
 Newark City  
 North Arlington Borough  
 North Bergen Township  
 Ridgefield Park Village  
 Rutherford Borough  
 Union City

- WMA 06 – Upper Passaic, Whippany, and Rockaway**  
 Berkeley Heights Township  
 Bernards Township  
 Bridgewater Township  
 Cedar Grove Township  
 Denville Township  
 Mount Arlington Borough  
 North Caldwell Borough  
 Sparta Township  
 Summit City  
 Verona Township  
 Warren Township

- WMA 07 – Arthur Kill**  
 Bayonne City  
 Carteret Borough  
 City of Orange Township  
 East Orange City  
 Edison Township  
 Fanwood Borough  
 Jersey City  
 Metuchen Borough  
 Mountainside Borough  
 Newark City  
 Perth Amboy City  
 Plainfield City  
 Scotch Plains Township  
 South Plainfield Borough  
 Springfield Township  
 Summit City  
 West Orange Township  
 Woodbridge Township

- WMA 08 – North and South Branch Raritan**  
 Bernards Township  
 Branchburg Township  
 Bridgewater Township  
 Delaware Township  
 East Amwell Township  
 Flemington Borough  
 Franklin Township  
 Hampton Borough  
 Hillsborough Township  
 Mount Arlington Borough  
 Mount Olive Township  
 Raritan Borough  
 Raritan Township  
 Readington Township

- WMA 09 – Lower Raritan, South River, and Lawrence**  
 Berkeley Heights Township  
 Bernards Township  
 Bound Brook Borough  
 Branchburg Township  
 Bridgewater Township  
 Dunellen Borough  
 East Brunswick Township  
 Edison Township  
 Englishtown Borough  
 Fanwood Borough  
 Franklin Township  
 Freehold Borough  
 Freehold Townships  
 Green Brook Township  
 Helmsla Township  
 Highland Park Borough  
 Hillsborough Township  
 Jamesburg Borough  
 Manalapan Township  
 Manville Borough  
 Marlboro Township  
 Metuchen Borough  
 Middlesex Borough  
 Millstone Township  
 Milltown Borough  
 Monroe Township  
 Mountainside Borough  
 New Brunswick City  
 North Brunswick Township  
 North Plainfield Borough  
 Old Bridge Township  
 Perth Amboy City  
 Piscataway Township  
 Plainfield City  
 Raritan Borough  
 Sayreville Borough  
 Scotch Plains Township  
 Somerville Borough  
 South Amboy City  
 South Bound Brook Borough  
 South Brunswick Township  
 South Plainfield Borough  
 South River Borough  
 Spotswood Borough  
 Springfield Township  
 Summit City  
 Warren Township  
 Watchung Borough  
 Woodbridge Township

- WMA 10 – Millstone**  
 Bridgewater Township  
 East Amwell Township  
 Franklin Township  
 Hillsborough Township  
 Manalapan Township  
 Manville Borough  
 Millstone Township  
 Monroe Township  
 North Brunswick Township  
 South Brunswick Township

- WMA 11 – Central Delaware**  
 Delaware Township  
 East Amwell Township  
 Franklin Township  
 Frenchtown Borough  
 Hamilton Township  
 Millstone Township  
 Pohatcong Township  
 Raritan Township  
 Trenton City

- WMA 12 – Monmouth**  
 Eatontown Borough  
 Fair Haven Borough  
 Freehold Borough  
 Freehold Township  
 Keyport Borough  
 Long Branch City  
 Manalapan Township  
 Marlboro Township  
 Ocean Township  
 Old Bridge Township  
 Perth Amboy City  
 Red Bank Borough  
 Sayreville Borough  
 South Amboy City  
 Tinton Falls Borough  
 West Long Branch Borough

- WMA 13 – Barnegat Bay**  
 Lakewood Township  
 Millstone Township  
 Freehold Township

- WMA 14 – Mullica**  
 Berlin Township  
 Evesham Township  
 Medford Township  
 Hammonton Township  
 Winslow Township

- WMA 15 – Great Egg Harbor**  
 Berlin Township  
 Hammonton Township  
 Winslow Township

- WMA 16 – Cape May**  
 Lower Township

- WMA 17 – Maurice, Salem, and Cohansey**  
 Alloway Township  
 Bridgeton City  
 Elmer Borough  
 Fairfield Township  
 Lower Township  
 Mannington Township  
 Millville City  
 Pennsville Township  
 Pilesgrove Township  
 Quinton Township  
 Salem City  
 Upper Deerfield Township  
 Vineland City  
 Woodstown Borough

- WMA 18 – Lower Delaware**  
 Berlin Township  
 Camden City  
 Evesham Township  
 Gloucester City  
 Pilesgrove Township  
 Voorhees Township  
 Winslow Township

- WMA 19 – Rancocas**  
 Berlin Township  
 Evesham Township  
 Medford Township  
 Voorhees Township

- WMA 20 – Assiscunk, Crosswicks, and Doctors**  
 Hamilton Township  
 Millstone Township  
 Trenton City

- WMA 01**

- WMA 02**

- WMA 03**

- WMA 04**

- WMA 05**

- WMA 06**

- WMA 07**

- WMA 08**

- WMA 09**

- WMA 10**

- WMA 11**

- WMA 12**

- WMA 13**

- WMA 14**

- WMA 15**

- WMA 16**

- WMA 17**

- WMA 18**

