

NJ Watershed Watch Network

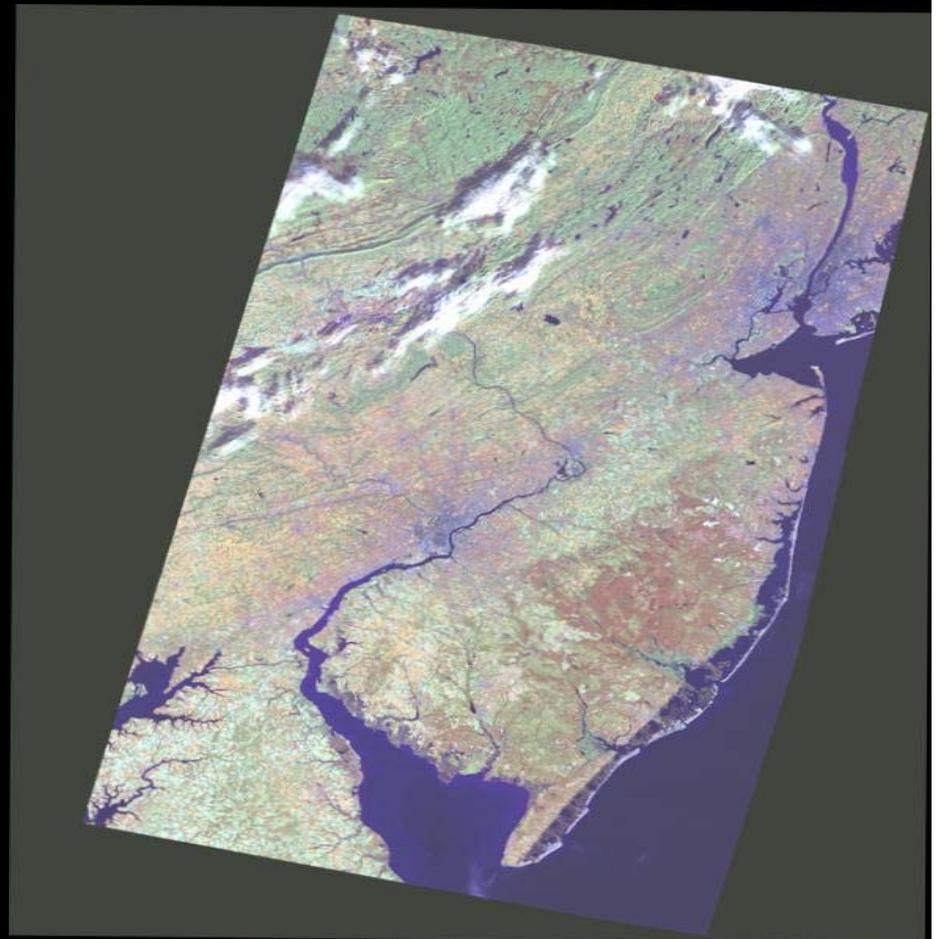
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Program Coordinator*

Katherine Axt, Assistant
Monitoring Coordinator

Presented at: NJ Water Monitoring Council Meeting
September 30, 2009



NJDEP Water Monitoring & Standards



Overview of Today's Discussion

- Volunteering
- Volunteer Water Monitoring in NJ
- Local Volunteer Efforts
- Citizen Scientist efforts beyond Water Monitoring
- Upcoming Events



America's Other Favorite Pass Time

Using Independent Sector's estimate \$18.04 an hour, a standard measurement for the value of a volunteer's time, the value of the 8.2 billion hours annually donated by Americans equates to \$147.6 billion, a powerful economic impact of volunteering to the entire nation.

Youth Adult Konnections, August 30, 2006

Cooperative Weather Observer Program

1849 Joseph Henry, Secretary Smithsonian Institution establishes volunteer weather observers network

- By 1890, Congress establishes the **Weather Bureau** and network of volunteer weather observers every 25 miles
- Today, more than 11,000 Volunteer Observers take readings in 50 states.



Robert Carlson, Kent University

Mathew Fontaine Maury (1806-1873)

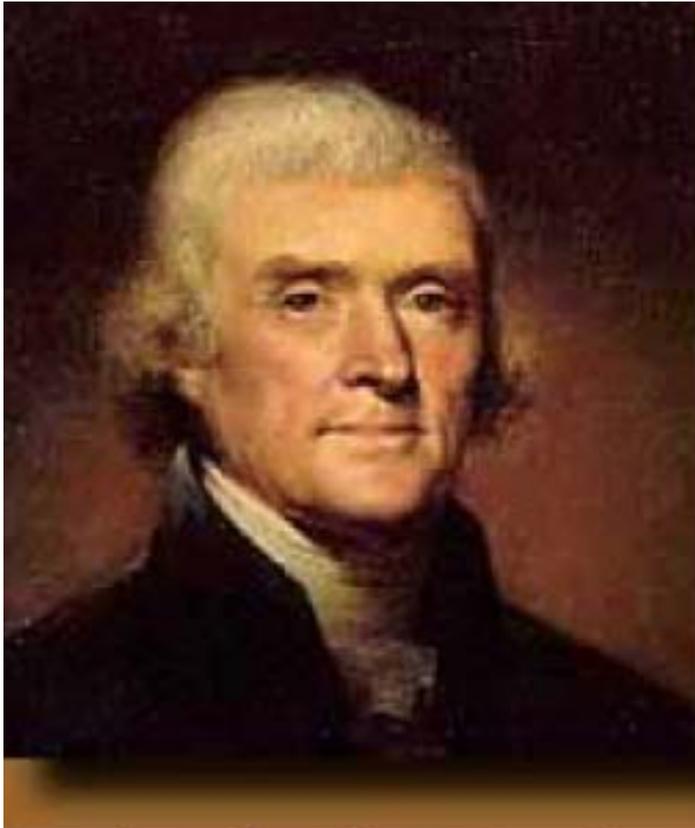
**“Father of Oceanography”
Volunteer Coordinator**



Mapped

- Ocean currents,
- Sea surface temperature and surface winds

Using data from volunteers



**Thomas
Jefferson
Volunteer
Monitor**

Some Famous Volunteers

**Philadelphia,
Thursday,
July 4, 1776**

Temperature:

6 AM 68

9 AM 72

1 PM 76

9 PM 73

CoCoRaHS

Community Collaborative Rain, Hail, Snow Network



NJ Volunteer Water Monitoring Community

- 30 River/Stream Monitoring Organizations
 - 800 active river monitors
 - Over \$466,000 out-of-pocket
- 58 Lake Monitoring Organizations



Service Provider Network

Technical Assistance

- QA Planning
- Study Design
- Reporting
- Special Projects

Mentoring Assistance

- Reviewing plans, study designs
- Answering questions
- Field Visits

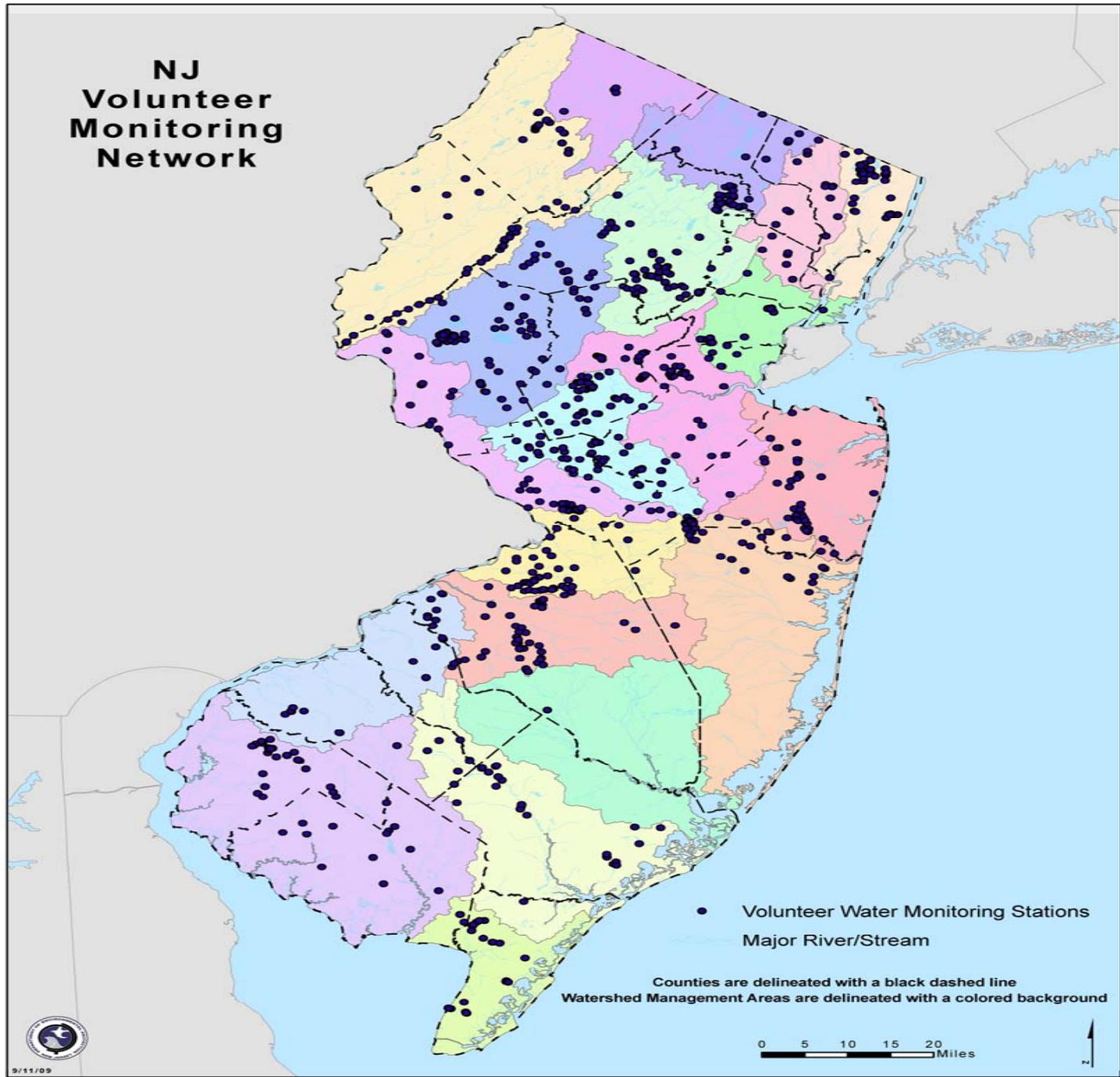


Service Provider Network

- Training
 - Communication Planning
 - QA Planning and Study Design
 - Habitat Monitoring
 - Biological Monitoring
 - Stream School
- Conference and the Summit



NJ Volunteer Monitoring Network



● Volunteer Water Monitoring Stations
Major River/Stream

Counties are delineated with a black dashed line
Watershed Management Areas are delineated with a colored background

0 5 10 15 20 Miles



9/11/09

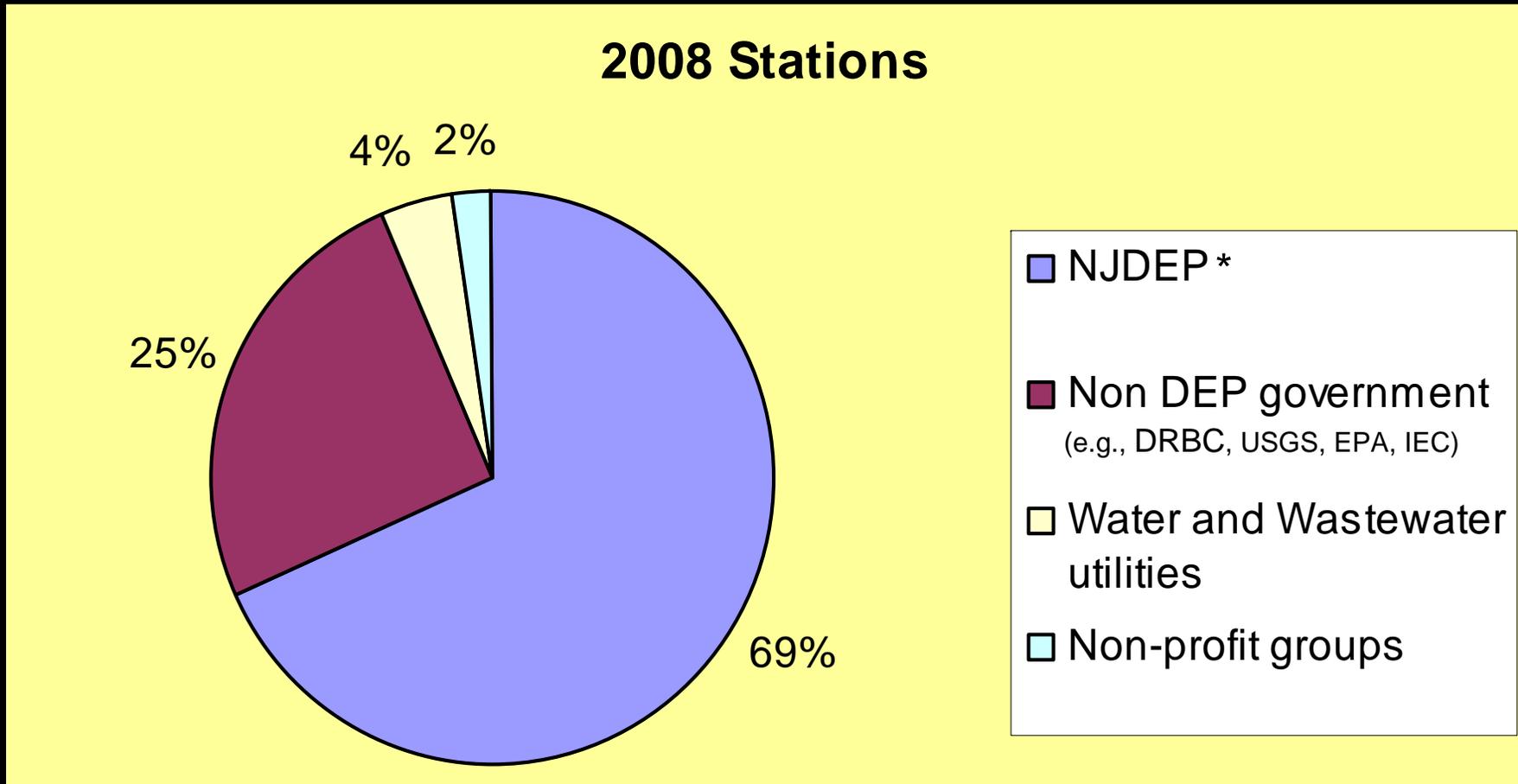
Sources of Data Used for the 2008 Draft Integrated Report

85 volunteer monitored sites were added to
the Report this year

- Pequannock River Coalition
- Pompeston Creek Watershed
Association
- South Branch Watershed
Association
- Stony Brook Millstone
Watershed Association



Sources of Data Used for the 2008 Draft Integrated Report



2008 Environmental Quality Award US EPA Region 2

- Pequannock River Coalition
Environmental Education Award
River in the Classroom & Watershed Detectives
- Hackensack Riverkeeper
Non-profit Environmental Award
C1Stream & Community Awareness Program



Pequannock River Coalition

- Greenway Grows
- River Trails
 - Pequannock River
 - Ramapo River
 - Pompton River
- Restorations
- Invasive Species Removal
- Municipal Inventory Reports



Pequannock River Coalition

Why did we choose temperature monitoring?

Trout!

Much of the of the Pequannock River mainstem and many river tributaries are classified as “trout production” where temperature can be a major limiting factor.

First documented fish kill caused by high river temperatures in the West Milford area in 1994 .

River temperature reached 82F.



A second fish kill occurred in the same area in 2002.

River temperature reached 83F.

Ross Kushner, Pequannock River Coalition

- Electronic “data loggers” are placed in the river at known monitoring locations in early summer for the entire growing season

- Over 30 Fixed Monitoring Locations for diurnal Temp & DO



Ross Kushner, Pequannock River Coalition

Pequannock River Coalition Discharge from Quarry Federal Hill



Hackensack Riverkeeper

- Education Projects
 - Over 25,000 people have traveled Hackensack River on the *Robert H Boyle* or the *Edward Abbey*
- Oyster Restoration Project
 - Volunteer counted & measured over 18,000 within a 2 month period
 - Multi-partner effort
- Volunteer Water Monitoring Program





Hackensack Riverkeeper

- Meadowlands Stewardship Program
- Volunteer Water Monitoring Program
- Municipal Stormwater Seminars
- Paddling Center



Governor's Environmental Excellence Awards 2008

- Musconetcong Watershed Association
- Hackensack Riverkeeper Inc

Network members have won previous years too!



The Musconetcong Watershed



The Musconetcong River flows 42 miles from Lake Hopatcong to the Delaware River and is fed by numerous tributaries

Annual Clean Ups



Meet the River



River Watcher Monitoring Program



**Musconetcong Watershed Association
Gruendyke Mill Dam March 13, 2008**





Dam removal in the
Musconetcong Watershed...
one down many to go





Trout Unlimited

- River Clean up
- Restoration



Watershed Stewards

Trout Unlimited

- Water Monitoring Program
 - Diurnal Temp
- Trout in the Classroom (with NJ F&W)
- Fish Stocking



2009 Mini-Grant Program

Mini-grant Program w/
Watershed Institute
Great Swamp Watershed
Association

- Silver Brook restoration plan

South Branch Watershed
Association

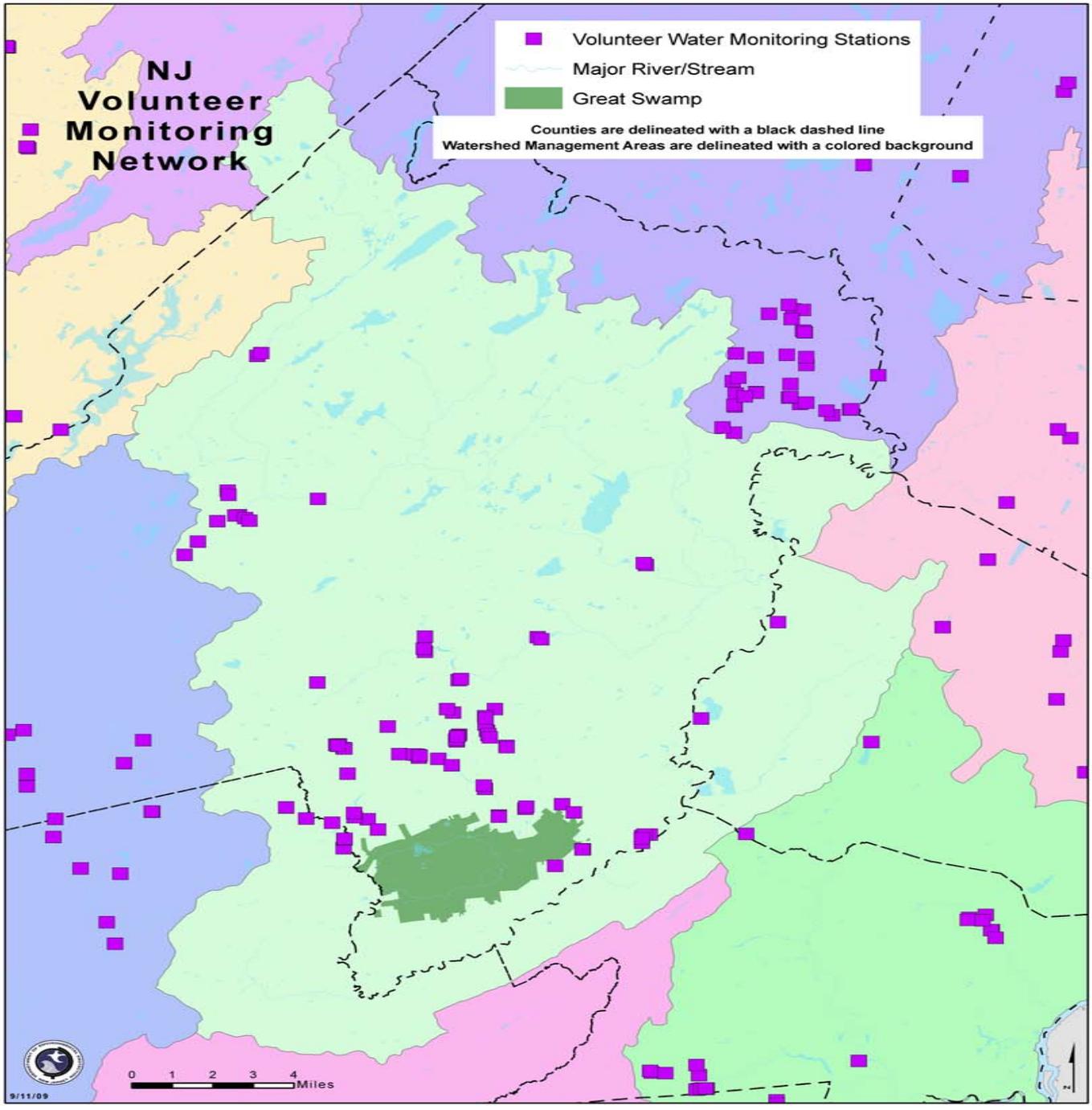
- biological monitoring
program



Great Swamp Watershed Association

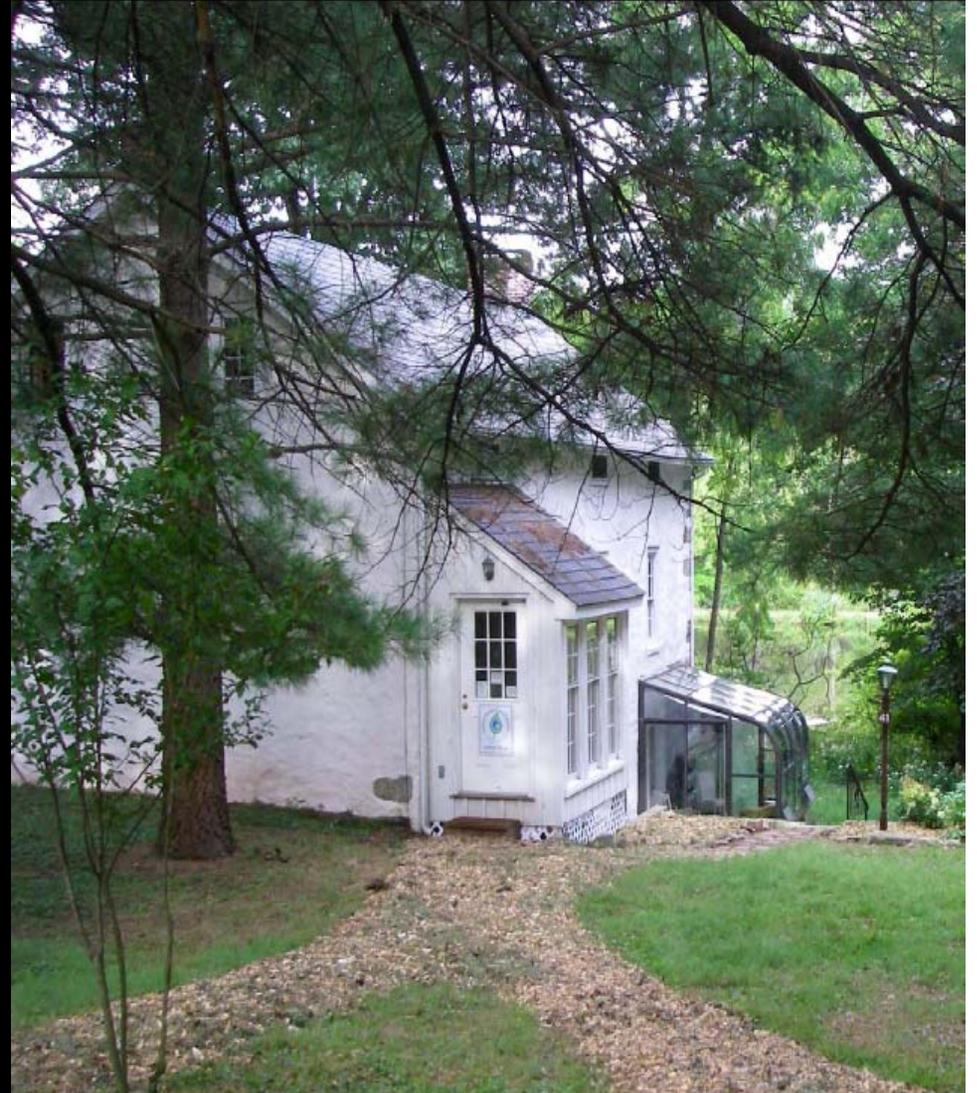
- Extensive Program on the 5 major tribes.
that drain into the Great Swamp National
Wildlife Refuge
 - Silver Brook Monitoring Program
 - Silver Brook Watershed Plan
- Loantaka Brook Monitoring Program
- Adopt Great Brook



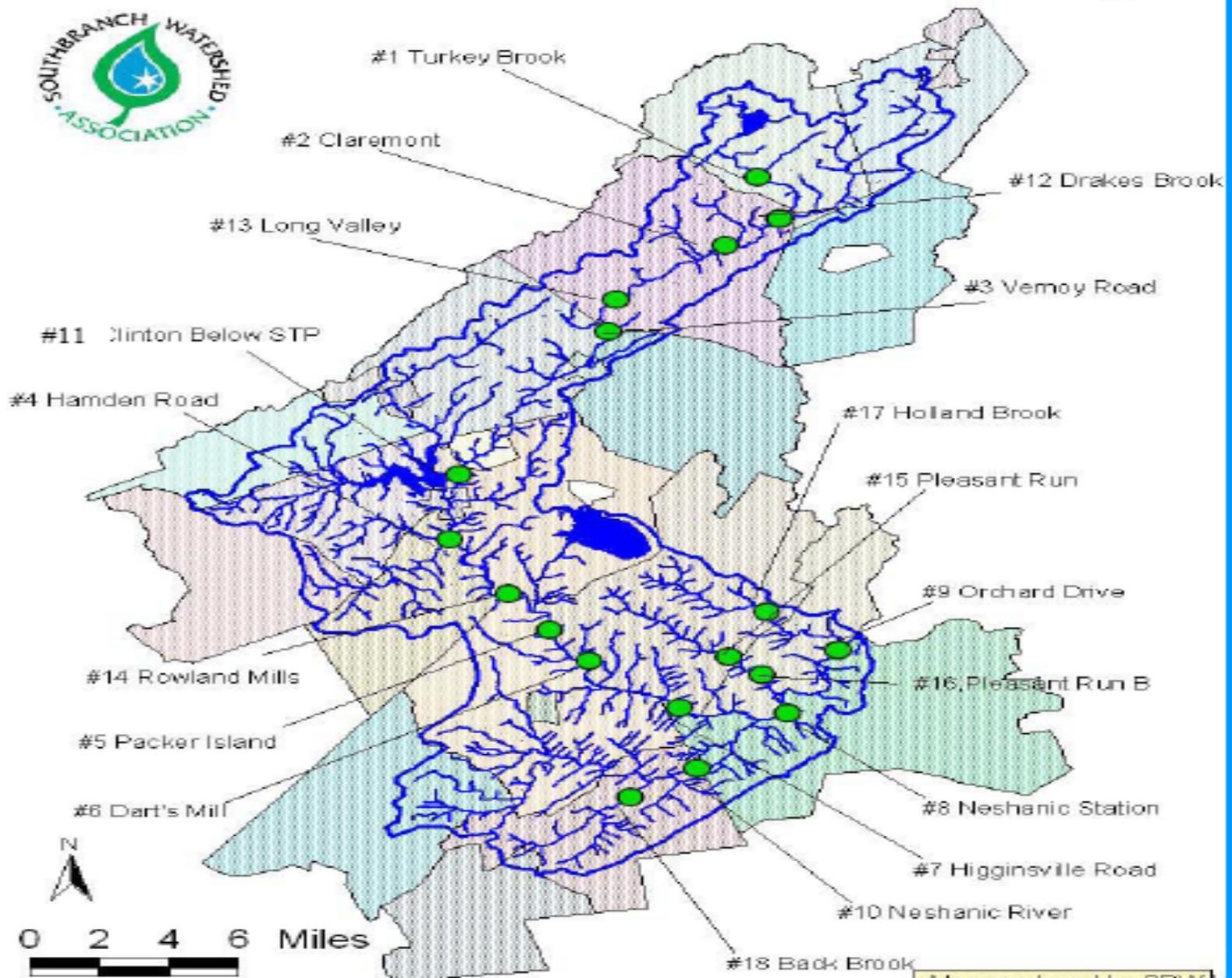


South Branch Watershed Association

- Well Testing Program
- School Monitoring Program
- Volunteer Monitoring Program



SBWA Volunteer Monitoring

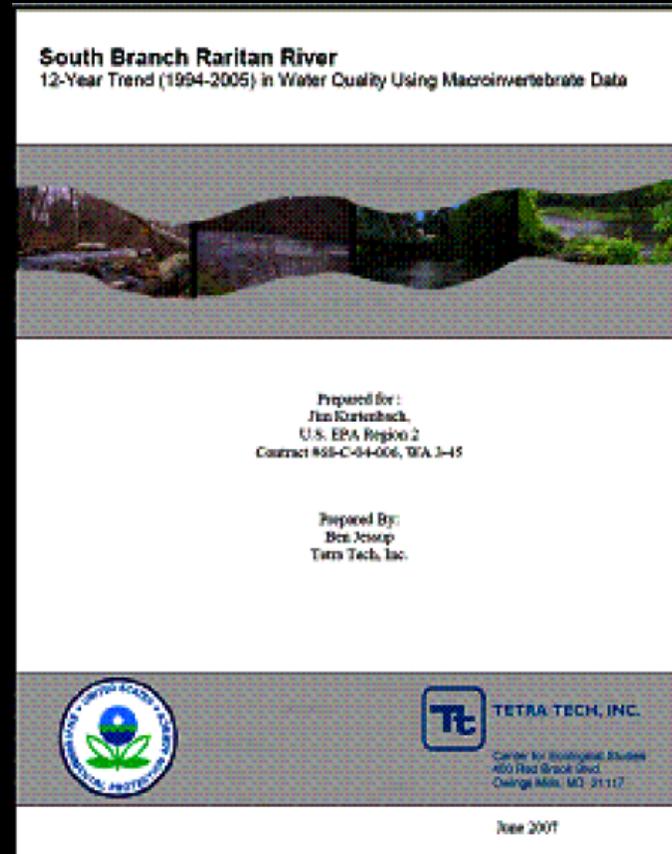


Map produced by SBWA



12 Year Trend in Water Quality Using Macroinvertebrate Data

Thanks to funding
from EPA Region 2



Craft's Creek and Spring Hill Brook Watershed Association

- Volunteer Water Monitoring Program
 - QA and Study Design assistance through DRBC, NJDEP, EcoComplex
 - 7 sites (5 new to Integrated Report)
- Watershed Education Programs
- Annual Community Watershed Festival
- Local Community Liaison



Photo credit Bob Tallon

Delaware Riverkeeper Network Restoration Monitoring Menu

Level 1 Techniques

- Photo monitoring
- Restoration Project Survey

Level 2 Techniques

- Cross sections
- Bank Pin Monitoring
- Macroinvertebrate Monitoring
- Wildlife Habitat



Adopt-A-Buffer Toolkit: *Monitoring and Maintaining Restoration Projects*

September 2003

DELAWARE RIVERKEEPER NETWORK



Horseshoe Crab Protections and Shorebird Listings



Special Protection Waters – 2008



- 10+ years of data collection, advocacy and partnership with DRBC - Delaware River – longest stretch of river with special protection status on the east coast

Watershed Education

“Get to Know your H2O”

Parks & Forestry

Stockton Borough

Wild and Scenic Rivers Program



Watershed Education

- PREEMO, Passaic River Institute initiative
 - Schools monitor waterways
 - Chemistries and invertebrates
 - Share data online
 - End of the Year Conference at Montclair University



Watershed Ambassador Program/AmeriCorps

- Conducts 1000 biological, habitat, visual assessment per year
- Assigned streams by the DEP based on TMDL and other priorities
- Assists with other DEP programs and the Watershed Associations



AmeriCorps Data





What's in the Data System?

- Visual/Habitat Assessments
 - Including pipes and ditches
 - Land use assessment
 - Habitat assessment
- Biological Assessments
 - Common name low level identification
 - Scientific name highest level identification
- Chemical and Physical Assessments
- Photos and QA plans



Data Retrieval

- Google: 'NJDEP Data Miner' and click on first link
- Or type:
<http://www.state.nj.us/dep//opra/online.html>
into your web browser



GeoWeb

- You can also retrieve data through GeoWeb
- GeoWeb is an application similar to i-Map, it allows you to view all the volunteer monitoring site locations on a map.



Retrieving Data Through GeoWeb

- Type this address into your web browser:
- <http://www.nj.gov/dep/gis/geowebsplash.htm>



Upcoming Events

- World Water Monitoring Day
 - Sept 18-Oct18
- Water Monitoring and Watershed Education Summit
 - Nov 18-19



World Water Monitoring Day

Goal of the Project...

*one million people
monitoring in 100
countries by 2012*

- Nearly 15,000 WWMD monitoring kits in 2008
- submit data by Dec 18 to be a part of the study



Water Monitoring & Watershed Education Summit

November 18 and 19, 2009

EcoComplex, Bordentown, NJ

NJWM Council Members:

Moderators

Speakers

Discount for 3 or more

