



AQUA-DUCT

*Newsletter of the New Jersey Section - American Water Resources Association
Winter 2006*

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**Abstracts for the MAC 2006
"Stream Restoration & Protection
in the Mid-Atlantic" are due
January 18th!**

2006 Past President's Meeting

Every February the NJ-AWRA hosts a meeting for the general membership and past presidents. This year's meeting is scheduled for Tuesday, February 21st at 1 pm in the Goddard Room at the Delaware River Basin Commission, State Police Drive, West Trenton. The meeting will feature Robert Limbeck, Aquatic Biologist with DRBC discussing "New Jersey Stream Restoration Assessment on a Macro-Scale" and Richard Albert, formerly of the DRBC and now Restoration Director with the Delaware Riverkeeper Network and Commissioner for the Delaware & Raritan Canal Commission, discussing "Site-Specific Stream Restoration". Each presentation will be approximately one half hour with ample opportunity for members' questions. Coffee and tea will be available. Please RSVP to Paul Scally at: Paul.Scally@drbc.state.nj.us.

**Check out the NEW NJ-AWRA
website: www.njawra.org!**

**TIME TO RENEW YOUR MEMBERSHIP FOR 2006!
SEE PAGES 14 & 15 FOR THE NEW MEMBERSHIP
APPLICATION.**

President's Message, Paul Scally, P.E.

On behalf of the newly elected Executive Officers of the New Jersey Section of the American Water Resources Association (NJ AWRA), I am pleased to wish you a wonderful and prosperous New Year! NJ AWRA intends to continue to offer our membership the highest quality educational and experiential opportunities that have been our trademark for more than a third of a century. As you may know, our Section will be hosting the annual conference of the AWRA Mid-Atlantic Sections this year. The membership will also be honoring an individual that exhibits great achievement in the water resources field, as that professional will receive the Section's annual Homack Award. In addition, several informative water resources-related field trips and the annual Fall Conference are being planned. Details will follow about these and other informative events such as, the various NJ AWRA Committee Meetings and the annual Past President's Meeting. Of course, the monthly NJ AWRA Board Meetings are open to all members, but especially to those aspiring to serve the membership in a greater capacity, while enhancing their water resources management skills.

While I was able to attend the Janssen Pharmaceuticals "Green Building" Tour (see Aqua-Duct, Summer 2005) and the Rutgers Eco-Complex Tour (see article below), I unfortunately had scheduling conflicts during the Hammonton MUA's STP Effluent Recharge/Evesham MUA Beneficial Reuse Tour and the Section's annual Fall Conference. However, my missing the Fall Conference enabled another member, or potential member, to attend the sold-out Flood Plain Management venue. For those who also were unable to attend the Fall Conference and those that would like to read excellent summaries about the event, articles regarding the program are included in this issue of the Aqua-Duct. What a timely message had been delivered, as the local, regional and international communities had just previously been rocked by devastating flood events, which manifested themselves in various forms. Beyond the typical floods due to intense rain over a long duration, there were hurricane-induced levee brakes, tsunami-induced inundation, and flash-flooding. Mercy! What a challenge it is to water resources managers to grapple with the forces of nature using imperfect technologies, limited funds, and insufficient human resources, while competing water resources issues and a host of social problems persist. Before I get on an "electronic soap box" about these matters, I am going to sign-off and reiterate my wishes for you to have a happy New Year!

NJ-AWRA Committee Reports

Note: The NJ-AWRA Floodplain Management Committee has evolved into a state chapter of the Association of Flood Plain Managers. NJ-AWRA wishes them success! For 2006, NJ-AWRA and NJAFPM are offering reciprocal membership. See the membership application form for either organization for details.

Stream Restoration Committee

The Stream Restoration Committee has been hard at work planning the 2006 MAC Conference (see details in this issue of Aqua-duct, and don't forget abstracts are due January 18th!). We are also providing technical assistance to the Raritan Basin Watershed Alliance's Riparian Restoration Initiative.

In September, we had a presentation from Christine Hall of North Jersey Resource Conservation & Development Council about the Walnut Brook/Mine Brook Park stream restoration project in Flemington Borough/Raritan Township. At our December meeting, Jeremiah Bergstrom of TRC/Omni Environmental presented the Restoration Master Plan for Watershed Management Area 3 (Pompton, Wanaque, Ramapo, Pequannock).

Our next meeting is scheduled for February 7th, 2:30 pm. Marit Larson of NYC Parks—Natural Resources Group will present work that her department has done in stream and habitat restoration. We're planning another field trip in May, and are looking forward to the MAC in June.

Groundwater Committee

The Groundwater Committee toured groundwater recharge facilities in southern New Jersey in November. See the article in this issue of the Aqua-duct. The next NJ-AWRA Groundwater Committee meeting is scheduled to be held at 1:00 PM on Thursday, January 12 at the Burlington County Engineering Complex, 1900 Briggs Road, Mount Laurel.

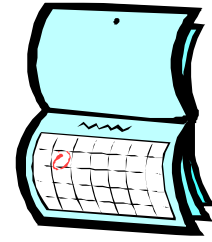
In addition to our regular business, Tom J. Stanuikynas, Resource Planner at the NJ Pinelands Commission will present the first task (estimating current water consumption) of the Kirkwood/Cohansey Aquifer Study. The focus of the presentation would be to share the assumptions the Pinelands Commission has developed for residential and commercial water use as well as consumptive water loss. Please send any questions or comments to Jeff Hoffman (jeffrey.l.hoffman@dep.state.nj.us).

NJ-AWRA Groundwater Committee Field Trip

On November 16, 2005 the Ground-water Committee of the NJ-AWRA sponsored a field trip to groundwater-recharge facilities in southern New Jersey. Five NJ-AWRA members attended. We first visited the Hammonton MUA's sewage treatment plant for a quick tour and then toured the recharge basins. The basins are not able to infiltrate the volume of water that had been planned for. We discussed for quite a while the field situation and what might be affecting infiltration rates. We discussed possibilities ranging from low-permeability zones to distribution of fine materials to potential geochemical reactions that may be decreasing primary porosity. The U.S. Geological Survey will soon begin a detailed study of what factors govern infiltration at the basin. In the afternoon, we visited the Evesham MUA infiltration basins and spray irrigation site. The Evesham basins infiltrate much more water than the Hammonton site and are performing better. We discussed how much of this was due to more-favorable site geology and how much to aggressive maintenance procedures.

Mark Your Calendar for these Upcoming NJ-AWRA Events:

- ☞ January 12, 2006: Groundwater Committee Meeting
- ☞ January 23, 2006: Section Meeting
- ☞ February 7, 2006: MAC Planning Meeting
- ☞ February 7, 2006: Stream Restoration Committee Meeting
- ☞ February 21, 2006: Past President's Meeting
- ☞ March 27, 2006: Section Meeting
- ☞ April 24, 2006: Section Meeting



Proposed Bylaws Revisions for March 27th Vote

The NJAWRA Bylaws have not been revised since 1995. In the more than ten years since that revision, many new and exciting aspects of the NJ Section have arisen and the need for amending our current document was imperative. The following is a brief summary of the significant changes that were made to the 1995 version of NJAWRA Bylaws:

- 1) Addition of the "Supporting membership" class of membership. This membership allows organizations, including businesses and related non-profit organizations, to help support the efforts of the NJAWRA by contributing financially. These organizations will be recognized in our Newsletter and Website for their support.
- 2) Addition of the new Officer position of "Membership Coordinator". Our increasing membership demands more attention to membership lists and accounting of member status. Also, member-only benefits and programs are enhanced by readily available membership lists.
- 3) The President term is extended to a maximum of three years.
- 4) The newly established "Specialized Committees" are recognized and the chairs are included on the Executive Board. These Specialized Committees are a new concept and have been found to capture the interest of various NJAWRA members that wish to focus upon a specialized topic of water resources in NJ.
- 5) Our Regional Representatives, formerly on the Executive Board, are now given the new charge of membership outreach in their local region. They will be required to conduct at least one meeting, such as a speaker or presentation of interest to water resource professionals in their region. Three or more representatives can be appointed in geographic regions around the State.
- 6) Liaisons are now encouraged to participate at Executive Board meetings and to facilitate cooperative partnerships between NJ-AWRA and other organizations.
- 7) Added discretionary spending of up to \$200 between meetings for operating expenses.
- 8) Newly drafted Email and telephone voting criteria for the Executive Board to allow expediting urgent ongoing business matters between formal meetings.
- 9) Changes in quorum and meeting requirements to seek participation by at least 3 Officers and 1 other Executive Board member at a minimum of 4 meetings per year.
- 10) Election procedure changes permit both timely announcement with accommodating fair time frames and open nominations up until the election.

The complete Bylaws revision document, as approved by the Executive Committee, is now posted on the NJAWRA website. Everyone on the Bylaws Committee and the Executive Committee has worked diligently to provide the best possible document to serve the needs of the membership. We look forward to using this new document to the benefit of the NJAWRA and its stated goals.

The Bylaws revisions will be formally proposed at the March 27, 2006 meeting. Members are encouraged to attend this meeting and vote on these proposed changes.

Robert Uhrík, Past President 2000~2001, Bylaws Committee Chair 2005

NJ-AWRA Tours the EcoComplex

By Paul Scally

On September 27, 2005, NJ-AWRA Section members enjoyed a tour of the Rutgers EcoComplex, guided by Dave Specca, then Acting Director of the Rutgers EcoComplex and heard a presentation by Chris Obropta, Ph.D., regarding the New Jersey Corporation for Advanced Technology (NJCAT) process for Manufactured Treatment Devices at the EcoComplex. NJCAT is a private/public partnership that pools the best talents and diverse resources of business and industry, entrepreneurs, university research centers, utilities and government to promote the development and commercialization of exciting, new energy and environmental technologies. It was comforting to learn that innovative environmental technologies undergo a rigorous process to verify their suitability for use.



While the work at EcoComplex encompasses many areas of environmental research including: remediation, pollution prevention, solid waste management, renewable energy, water management and controlled-environment agriculture, we focused mainly on the water resources aspects of the program. The adjacent sanitary landfill's methane gas is recovered for use as fuel in a micro-turbine generator of electricity that is used to power vegetation growth-lights in an on-site 46,000 square feet greenhouse. The hot exhaust from the turbines can be used in a desalination process, which turns saltwater into freshwater. The freshwater becomes a home for tilapia fish that live in tanks within the greenhouse, and which produce nutrient-rich water full of nitrate nitrogen, a primary source of nitrogen for the hydroponically

grown vegetables.

When one considers the great strides that have been accomplished within only a few years of the EcoComplex's existence, one is enthusiastic about the potential for even greater achievements in the future. NJ-AWRA was welcomed by EcoComplex representatives to return to EcoComplex during a future event. For those who were unable to attend the tour, we encourage you to make plans to visit the facility after contacting Nancy Belonzi of the EcoComplex at 609-499-3600. The EcoComplex is located at 1200 Florence-Columbus Road in Burlington County and directions to these facilities can be found at the following Internet web-site: www.ecocomplex.rutgers.edu/



The scope of this article is meant to only touch upon the extensive learning experience to be had at this facility, so for more information and assistance contact Rhea Weinberg Brekke, at 609-499-3600 (ext. 227), at the EcoComplex. You can also contact Chris Obropta at: Rutgers Cooperative Extension, Environmental and Natural Resources Building Room 232, 14 College Farm Rd. – Cook Campus, New Brunswick, NJ 08901

Entrepreneur Turns Worm Waste Into Profit

By Bonnie Pfister

MSNBC.com, Dec. 13, 2005

Summary: As seen during the NJ-AWRA tour of the EcoComplex, Trenton-based TerraCycle markets plant fertilizer created by "vermicomposting" – harvesting worm excrement. The plant food has been sold since early 2004 in organic groceries and independent garden shops. In 2005, sales began in Wal-Marts in Canada and Home Depots in Canada and New Jersey. See www.msnbc.com for the full story.

**MAC 2006 Conference Update
"Stream Restoration & Protection in the Mid-Atlantic"**

There is still time to submit an abstract for the 2006 conference of the AWRA Mid-Atlantic Sections (New Jersey, New York, Pennsylvania, Philadelphia, and Delaware) before the January 18th deadline! The conference will be held June 14-16, 2006 with the theme "Stream Restoration and Protection in the Mid-Atlantic Region". The combined Preliminary Announcement, Call for Abstracts, and Call for Exhibitors has been distributed by all sections and is available on the web through www.njawra.org

The venue for the 2006 conference promises a much different conference experience from the typical hotel: Montclair State University's New Jersey School of Conservation (www.csam.montclair.edu/njsoc) is a residential environmental education camp in near pristine Stokes State Forest in far Northwest Jersey. With great natural beauty, on-site lake and trout stream, and rustic, lodge-style buildings and lodging (although more elegant accommodations are available only a few miles away), the conference program has been expanded from years' past, adding outdoor recreation (e. g., canoeing, hiking, fly-casting, waterfall tour) and field-based workshops (e. g., stream macroinvertebrate identification; water monitoring equipment demonstration) -- all for a bargain price compared to most conferences.

We will begin on a Wednesday afternoon with workshops/tours, followed by an outdoor barbeque and a special speaker. Thursday will feature a full day of presentations, keynote speaker, poster session and the traditional dinner banquet in nearby Milford, PA. Friday morning will feature a panel discussion with state regulators and a keynote speaker, followed by workshops/tours after lunch.

NJAWRA member Dr. Kirk Barrett of Montclair State's Passaic River Institute is serving as conference chair, with Kathy Hale of the NJ Water Supply Authority and Tali Engoltz of NJDEP's Coastal Management Program (both members of the NJ –AWRA's stream restoration committee) as vice-chairs.

NJ-AWRA Water's Eve and 30th Anniversary Celebration—September 2005



Bob Horton, long-time NJ-AWRA member and past President, accepts the 1st annual President's Award.

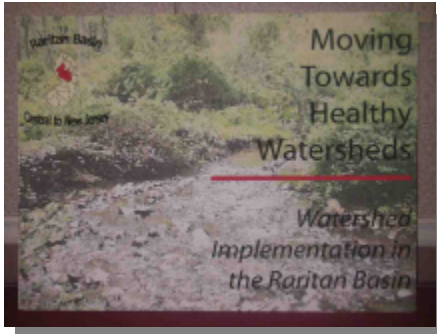


NJDEP Commissioner Bradley Campbell speaks at the NJ-AWRA Water's Eve.



Members of the Executive Board—Ray Zabihach, Paul Scally, Kathy Hale, Bob Uhrik, John Miller and Jeff Hoffman.





“Moving Toward Healthy Watersheds” - Raritan Basin Watershed Alliance Conference, December 6, 2006

By: Michelle Segal, NJ Water Supply Authority

Thanks to all who helped make the Raritan Basin Watershed Alliance’s December 6th conference, “Moving Towards Healthy Watersheds: Watershed Implementation in the Raritan Basin”, a success. For those of you who didn’t attend, you missed an interesting day, filled with presentations about successful watershed implementation projects and networking opportunities. Despite the threat of snow, nearly 100 people were able to attend the conference. Participants included federal, state, county, and municipal government employees, as well as representatives from non-

profits, environmental consultants, local businesses, the press, and concerned citizens.

The watershed success stories highlighted at the conference spanned the entire basin, from the Raritan Highlands to the Edison Wetlands and everything in between. The types of projects represented were also diverse and included planning, physical restoration, and education. In addition to the eleven projects that were presented, two keynote speakers addressed timely issues. Ray Zabihach, PP, Morris County Planning Board Director, discussed the topic, “Watershed Implementation: A Vision for the Future” in the morning. After lunch, Joe Skupien, PE, PP, Storm Water Management Consulting, LLC President, discussed “Watershed Implementation: How Do We Measure Success?” (see related article in this issue of *Aqua-duct*).

One of the goals of the conference was to gain momentum and support for a directory of successful watershed implementation projects in the basin. A comprehensive compilation of projects will be a valuable resource for securing funding for future projects, finding project partners, and sharing lessons learned about similar projects. Because this field is relatively small, we often feel as if we know about everything going on in the basin, but there may be projects or initiatives that you are not aware of. In fact, many conference participants commented that they learned about projects that they were not previously familiar with. If you would like to contribute a watershed success story to the directory, please contact Michelle Segal at msegal@raritanbasin.org. In addition to the presentations (available at www.raritanbasin.org), conference participants had the opportunity to view informational displays from local non-profits and conference sponsors.

Raritan Alliance Conference Keynote Speech

By: Raymond Zabihach, P.P. Director of Morris County Planning

The conference provides an opportunity to both share and learn about successful implementation of watershed programs in the Raritan River Watershed. New Jersey has historically been a leader in initiating and implementing watershed awareness to several non-profit watershed associations. The 1990’s were a dynamic highpoint for watershed management with the initiation by NJDEP of the Whippany River Pilot Project, creation of a Watershed Division within NJDEP and implementation of the watershed management area planning programs. Since the shelving of the proposed Watershed Rules by the end of the decade, enthusiasm at NJDEP for watershed management has waned significantly. On the other hand, local watershed efforts especially in the Raritan Watershed have continued into the present with impressive results.



Ray Zabihach gives the keynote address

Since I believe that success breeds success, I do envision a more enhanced watershed management effort in New Jersey’s future. However, the measure and level of success will require a major shift in approach. Management of a watershed needs to be undertaken on a comprehensive and cumulative basis. Translate this to mean watershed management, planning and implementation on the basis of the *whole* watershed area. This can only be achieved if responsibility and authority by local government is shared for the greater good. Without regional cooperation and coordination, watershed management will remain a fragmented and piecemeal effort. Our current site-specific approach and continued jurisdictional reliance on political boundaries have proven fairly ineffectual with only modest watershed benefits. The various presentations today are a testament to the hard work and determination necessary to be successful under current constraints. Let us work together to make our common goal of effective watershed management more easily attainable in the future.

Watershed Implementation: How Do We Measure Success?

By Joseph Skupien, PE, Storm Water Management Consulting, LLC

Excerpted from Presentation at December 6, 2005 Raritan Basin Watershed Alliance's "Moving Towards Healthy Watersheds" Conference

The Raritan Basin has a number of organizations and partners which are concerned about implementation of watershed management strategies. These strategies are in the Raritan Basin Watershed Management Plan and are to be implemented by the New Jersey Water Supply Authority – Watershed Protection Programs Unit, the Raritan Basin Watershed Alliance and other Alliance members and partners.

Why measure success?: The Raritan Basin has significant problems which include:

- Surface Water Pollution
- Loss of Riparian Areas
- Stream Impairment
- Loss of Groundwater
- Water Supply Limitations
- Stormwater Impacts

The Raritan Basin has limited resources including funding, personnel, authority, data, and expertise. To quote the Raritan Watershed Management Plan, "there are...many capable of implementing aspects of the Raritan Plan, however, no entities, individually or in combination, can successfully implement the Plan at their current staffing, capital funding, and, in some cases, statutory authority.

The need to measure success is based on the accelerating threats in the Raritan Basin which between 1986 and 1995 included the loss of 4800 acres of wetland converted to other uses, 15-20% loss of groundwater recharge in certain subwatersheds and 57 square miles of land converted to urban uses. Also, the need to measure success is based on the diverse basin members which include both public and private, individuals, groups, authorities and institutions. Also, the team members in the Basin are both funded and volunteer and have diverse interests, skills, concerns and directions.



Nick Polanin, RBWA Chair, welcomes attendees to the conference.

In summary the need to measure success is based on the significant Basin problems, limited resources to resolve these problems, an accelerating threat to the Basin and the diverse team of people who are focused on the resolution of these problems.

How to Measure Success?" There is a need to maximize success of the Basin effort by the choice of a method to measure success. Sometimes success is measured easily via pre-determined criteria including universe, procedures, values, rules and authority. Other times a formal method to measure success is not really necessary. In the Raritan Basin, the same combination of problems, resources, time and team diversity makes having a measurement system difficult. Questions are to be raised as to "Who, What, Where and When gets how much importance?" "Is objectivity possible?" Yes. "Is quantification possible?" No.

Measuring success is by three proposed ingredients. Achieving one of the three is vital. Achieving three of three is outstanding. These ingredients are not mutually exclusive and do not preclude using other objectives for success measurement.

Success Measurement Ingredients: It is proposed that three ingredients be used to measure success in the Raritan Basin Watershed Management Plan. These ingredients are: *Are Existing Conditions Improved?* *Is there Innovation?* and *Are People Changed?*

Are Existing Conditions Improved?: The Raritan Basin Watershed Management Plan states "The Raritan Basin has surface water pollution problems." Further it states "The largest unmet costs ... will involve improved management of existing land uses" and "Overcoming the Past" is in the Vision Statement.

The Plan states "Streams of the Raritan Basin have suffered from centuries of damage" and that "Recent work by watershed associations, water supply utilities and soil conservation agencies shows that stream damage is ubiquitous." The Plan also states that "New NJDEP regulations promise to significantly reduce impacts from new development practices, but not restore existing losses."

The need to look at existing conditions does not mean that we ignore the damage potential of future actions. We may not be over-confident in the stormwater regulations for future actions. Regulations are preventative and prevention is much easier than remediation. Existing damage, while not preventable, must be remediated. The vital ingredient for successful watershed management is improving existing conditions.

(Continued on page 9)

Upcoming Events



January 12, 2006: NJ-AWRA Groundwater Committee Meeting.

January 23, 2006: NJ-AWRA Section Meeting

January 31, 2006: "Building Sustainable Communities", Municipal Land Use Center at the College of NJ. More information: www.tcnj.edu~mluc or (609) 771-2832

February 7, 2006: NJ-AWRA Stream Restoration Committee Meeting

February 21, 2006: NJ-AWRA Past President's Meeting

March 14-16, 2006: NJ Environmental Authorities Conference. Trump Marina, Atlantic City. www.aeanj.org.

March 21-24, 2006: NJ Section American Water Works Association Conference, Atlantic City, NJ. www.njawwa.org.

March 27, 2006: NJ-AWRA Section Meeting

April 20, 2006: NJ Water Monitoring Coordinating Council Workshop "Integrated Monitoring to Enhance Water Resource Management. www.state.nj.us/dep/wmm/wmcchome.html.

April 24, 2006: NJ-AWRA Section Meeting

May 1-5, 2006: New Jersey Water Environment Association 91st Annual Conference, Tropicana Hotel & Resort, Atlantic City More information: <http://www.njwea.org/>

May 8-10, 2006: AWRA Spring Specialty Conference "GIS and Water Resources IV. Renaissance Houston Hotel, Houston, TX. www.awra.org/meetings.

May 11-15, 2006: USEPA Wetlands & Watersheds Workgroup 7th Coastal & Estuarine Shallow Water Science and Management Conference. www.wetlandsworkgroup.org.

May 21-24, 2006: Challenges in Coastal Hydrology and Water Quality. American Institute of Hydrology, 25th Anniversary Meeting, Baton Rouge, Louisiana Contact: aihydro@aol.com or 770-384-1634

May 22, 2006: NJ-AWRA Section Meeting

June 6-8, 2006: Ecology & Management of Atlantic White Cedar Ecosystems, Holiday Inn-Boardwalk, Atlantic City, NJ. [www.wetlandsworkgroup.org/AtlanticWhite Cedar](http://www.wetlandsworkgroup.org/AtlanticWhiteCedar).

June 14-16, 2006: Mid-Atlantic AWRA Conference
Stream Restoration & Protection in the Mid-Atlantic School of Conservation, Branchville, NJ
Watch the NJ-AWRA website and Aqua-duct for more details!

June 26, 2006: NJ-AWRA Section Meeting

June 26-28, 2006: AWRA Summer Specialty Conference "Adaptive Management of Water Resources. Missoula Montana. www.awra.org/meetings.

July 24, 2006: NJ-AWRA Section Meeting

August 28, 2006: NJ-AWRA Section Meeting

September 10-13, 2006: 7th International Conference on Hydrosience and Engineering, Philadelphia, PA. [Http://thor.cae.drexel.edu/ICHE2006](http://thor.cae.drexel.edu/ICHE2006).

September 10-14, 2006: Dam Safety 2006, Boston, MA. www.damsafety.org.

September 21-22, 2006: NJ Water Association Management/Technical Conference, Tropicana Hotel/Casino, Atlantic City. www.njwater.org.

October 10, 2006: Clean Water Council Annual Public Hearing. NJDEP, Trenton.

October 13, 2006: 2nd Passaic River Symposium, Montclair State University. Kirk.barrett@montclair.edu.

November 8-9, 2006: NJ Association for Floodplain Management Annual Conference, Doubletree Hotel, Somerset, NJ. Mark.mauriello@dep.state.nj.us.

November 6-9, 2006: AWRA Annual Conference, Sheraton Inner Harbor Hotel, Baltimore, MD. www.awra.org/meetings.

November 14-16, 2006: NJ Environmental Authorities Annual Meeting. Trump Taj Mahal, Atlantic City. www.aeanj.org.

November 27, 2006: NJ-AWRA Section Meeting

Useful Web Links

- ✓ NJ-AWRA <http://www.njawra.org>
- ✓ Delaware River Basin Commission <http://www.state.nj.us/drbc/>
- ✓ Natural Resources Conservation Service—NJ <http://www.nj.nrcs.usda.gov/>
- ✓ New Jersey Geological Survey <http://www.state.nj.us/dep/njgs/>
- ✓ New Jersey Water Supply Authority <http://www.njwsa.org/>
- ✓ Raritan Basin Watershed Alliance <http://www.raritanbasin.org>
 - ✓ Passaic River Institute <http://www.csam.montclair.edu/PRI/>
 - ✓ U.S. Geological Survey <http://www.usgs.gov/>

About Your Agency - New Jersey Water Supply Authority

The New Jersey Water Supply Authority (NJWSA, www.njwsa.org and www.raritanbasin.org) was created "in but not of" the NJDEP by the New Jersey Water Supply Act in 1981. NJWSA operates and maintains public water supply facilities in the Raritan River Basin and Manasquan Systems, including:

- Round Valley Reservoir, Hunterdon County—55 billion gallon water storage reservoir that became operational in 1965;
- Spruce Run Reservoir, Hunterdon County—11 billion gallon on-stream water storage reservoir that became operational in 1963;



D&R Canal @ 10 Mile Lock



Spruce Run Reservoir

- Delaware and Raritan Canal—originally constructed in 1834, 60 miles long with the Delaware River intake at Bulls Island in Hunterdon County and outlet at the Raritan River in New Brunswick; and
- Manasquan Reservoir, Monmouth County—4 billion gallon water storage reservoir that became operational in 1990.

The Delaware & Raritan System has the capability of delivering 225 million gallons of raw water to NJWSA's customers, who then serve more than 1 million people in Central NJ. The Manasquan System has the capability to deliver 30 million gallons per day to water utilities.

Most of the Authority's work is focused on operations and maintenance of the water supply facilities, including storage and transmission infrastructure. Beginning in 1999, the Authority took on a new role with the creation of the Watershed Protection Programs Unit. The WPU works with Raritan Basin stakeholders to protect and improve water supplies. Initial projects included development of the characterization and assessment of the Raritan Basin and completion of the Raritan Basin Watershed Management Plan. Since the completion of the Raritan Plan, the WPU has participated in a variety of projects that support implementation of the Raritan Plan and protection of water resources. These projects include the EPA-Targeted Watershed Grant for the Raritan Basin, development of stormwater management plans for Mulhockaway Creek and Cedar Grove Brook and development of watershed restoration and protection plans for a portion of the D&R Canal and Lockatong & Wieckcheoke Creeks.

Manasquan Reservoir



Round Valley Reservoir



BUILDING SUSTAINABLE COMMUNITIES IN NEW JERSEY

On Tuesday, January 31st, the Municipal Land Use Center at The College of New Jersey, in partnership with the NJDEP's Division of Science, Research & Technology: Bureau of Sustainable Communities and Innovative Technologies, the New Jersey League of Municipalities, and the Association of New Jersey Environmental Commissions (ANJEC) invite you to join us for an evening workshop at The College of New Jersey (TCNJ). Learn about becoming a sustainable community, and creating a new vision for your municipality.

Marty Rosen from NJDEP BSCIT will talk about the rationale for sustainability and discuss the first steps in becoming a sustainable community. Local leaders will share insights on what their communities are doing to become sustainable. Belmar Mayor Ken Pringle, Highland Park Mayor Meryl Frank and Montclair's Environmental Coordinator Gray Russell will talk about their experiences. Later, Anthony Sblendorio of Back to Nature Landscape Architects, and Mike Ambrosio, of M. Ambrosio and Associates, LLC will discuss green buildings and clean energy initiatives. Also covered will be the next steps in establishing a network of sustainable communities throughout New Jersey. By the end of the workshop, your community can become part of this network.

The workshop will begin at 6:00 p.m. in Loser Hall with a light supper. For further information, see: www.tcnj.edu/mluc or call 609-771-2832. Or contact NJDEP's Bureau of Sustainable Communities and Innovative Technologies (BSCIT) at 609-633-1161 or visit: www.state.nj.us/dep/dsr/bscit/SustCommunities.htm.

River Network Op-Ed Piece on Hurricane Katrina

Gulf Coast. Many are sick, in shock or both. Their families are all missing. The names of the youngest are not even known. These searing images were just the latest in a long series that will forever define our memories of this terrible month.

The scale of human suffering in the wake of Katrina is without recent precedent in our country. Grieving Americans are responding with compassion and generosity. We are also asking what can be done to make us all safer, not just from terrorism, but from the forces of nature.

So far, most of our national discussion has focused on organization and response. How should local, state and federal agencies be structured, coordinated and led? How can they help victims of future disasters much more quickly and effectively? These are crucial questions, but there is another that is at least as important. How can we keep people from becoming victims of major weather events in the first place?

For many decades, our nation's focus has been on trying to render ourselves somehow invulnerable to storms and floods, no matter where we are or what we do. Nature keeps reminding us of the ultimate futility of this approach.

For well more than a century, we steadily straightjacketed the Mississippi River from Minneapolis to New Orleans with levees and other structures, constricting her flow. As a result, the water, nutrients and sediments that her floodplains and delta need sped far into the Gulf. The results? Water tables in the Mississippi Corridor states dropped. Farmland became less fertile. Seasonal "dead zones" appeared in the Gulf. The entire Mississippi River Delta region subsided. Coastal lands and their buffering wetlands vanished – in recent years at a rate of more than an acre every 20 minutes.

Over decades, these changes in land and water directly affected tens of millions of people. Cities in many states had less clean water. Private property worth billions was destroyed. Farmers' production costs rose. Sport and commercial fisheries declined. New Orleans steadily sank, setting the stage for this month's catastrophe.

Katrina's loud wakeup call has Americans asking hard questions. We know that it is not necessary, desirable or possible to remove all levees and other river-constricting structures. We also insist that existing ones be properly maintained, to protect communities that have grown up directly behind them.

But we want to know which direction we will take now. Will we respect nature more and try to control her less? Or will our response be more of the same that produced this month's tragedy? Will we just build more and bigger levees, and once again do little else?

These questions are not new, and they are not partisan. Because of the ways our elected officials of both parties have answered them time and again over the past century, we have lost hundreds of billions of dollars and untold thousands of lives. Answering them the same way again could literally bankrupt our country while doing nothing more for our people than restoring a false sense of security. Could there be any more important issue for our times?

Our country now has an unprecedented opportunity to improve its fundamental approach to river management. For far too long engineered and natural approaches have been seen as inherently incompatible. The question is not whether we should use one or the other. The question is whether we will leave nature more room in the future to work for us where possible.

What can you do? Learn more about how this happened. For starters, read the National Geographic October 2004 article that predicted it with uncanny accuracy. Get involved. In every state and most watersheds, there are groups already working for better management of our waters and the lands that affect them. For a list, visit River Network's website (www.rivernetwork.org). Take action. Talk to your local, state and federal officials. Find out where they stand on post-Katrina water management issues. Let them know you want responsible river management and real watershed protection – not just more business of the same old kind.

It's been said that "The first rule of holes is that when you're in one, stop digging." Americans deserve better water management. If ever there were a watershed event, both figuratively and literally, Katrina is it. The decisions we make in her wake will determine how healthy, safe and prosperous our nation is for generations to come. Don Elder is President of River Network. Dianne Dillon-Ridgley is Chair Of the Board.
www.rivernetwork.org

EDITORS NOTE:

The following three summaries come from the November 2, 2005 New Jersey AWRA Conference on "New Jersey Floodplain Management: Past, Present and Future" which was attended by 145 people. Planning for the Conference was done by the Floodplain Management Committee of NJ-AWRA. The Association for New Jersey Floodplain Management (NJAFM), born from the original NJ-AWRA Floodplain Management Committee, was officially approved to be the State Chapter of the Association of State Floodplain Managers early this year. Plans are now being made for a two day November 8-9, 2006 Conference at the same location.

**Association of State Floodplain Managers**

By Mark Mauriello

Chairman, New Jersey Association for Floodplain Management

This presentation provided background on the Association of State Floodplain Managers (ASFPM). The goal of this presentation was to bring interested floodplain management professionals together in the hope of moving forward with the establishment of a New Jersey Chapter of ASFPM. Subsequent to the conference, the New Jersey Association for Floodplain Management has been formally accepted as a state chapter of ASFPM.

ASFPM is a non-profit organization of professionals involved in floodplain management, mitigation, flood insurance, and flood preparedness, warning and recovery. ASFPM supports comprehensive nonstructural and structural management of the nation's floodplains, watersheds and related water resources. The Association believes that, through coordinated well-informed efforts, the public and private sectors can:

- Reduce loss of human life and property damage resulting from flooding
- Preserve the natural, beneficial and cultural values of floodplains, and
- Avoid creating tomorrow's flood disasters

ASFPM has become a world-wide respected voice in floodplain management practice and policy because it represents 8,000 members and 22 State Chapters who are flood hazard specialists from local, state and federal governments, the research community, the insurance industry, and the fields of engineering, planning, hydrologic forecasting, emergency response and flood warning systems, water resources, and other fields.

"No Adverse Impact" (NAI) describes ASFPM's approach to reducing flood damage risk. This community-based concept encourages local decision-making that ensures future development impacts will be considered and mitigated to avoid actions that increase flood risk or transfer flood problems from one property owner to another.

Local Floodplain Manager Survey presented at the First Annual Conference

By John Miller, PE, CFM

The NJ-AWRA Floodplain Management Committee, recently renamed the New Jersey Association for Floodplain Management, conducted a statewide survey of municipal floodplain managers in early 2005. The survey was conducted to help evaluate education, outreach and training needs and determine local capabilities and interests. Outreach Chair and NJ-AWRA Past President Greg Westfall and Acting Past Chair and NJ-AWRA Secretary John Miller developed and compiled the inquiry. Eleven percent (11%) or a total of 60 New Jersey municipalities returned completed surveys. One finding was the local floodplain manager holds at least a couple positions within the town, ranging from construction official to engineer to emergency manager. Training appears to be a great need for people with this responsibility and there was definite interest in a state group focused on floodplain management. Programs such as the Association of State Flood Plain Managers, Certified Floodplain Manager exam and the Community Rating System will be featured as way the State of New Jersey can improve its practices in this critical zone. Results of the survey can be found at the following link:
http://www.awra.org/state/new_jersey/flood/Survey.pdf

Operation LEAD
By Major John Hunt
Commander, NJSP Emergency Management Section;
Deputy Director, New Jersey Office of Emergency Management

As a result of the catastrophic effects of Hurricane Katrina upon the City of New Orleans, New Jersey, as a participating member of EMAC (Emergency Management Assistance Compact), deployed personnel and emergency equipment to the region to render aid. The mission, dubbed Operation "LEAD" (Louisiana Emergency Assistance Deployment), was organized and directed by the New Jersey Office of Emergency Management. More than 600 professionals from across New Jersey, including local and state law enforcement officers, medical support personnel, decontamination personnel, hazardous material teams, swift water rescue teams and fire fighters responded.

Operation LEAD included the creation of "Camp New Jersey," essentially a self-contained police department that led the law enforcement and other emergency services for New Orleans' Second, Third and Sixth Police Districts and surrounding regions.

Beginning on September 3 and ending on October 11, the operation basically consisted of three massive task force strength deployments of almost 200 personnel and emergency equipment. Each of the three task forces spent approximately two weeks in the New Orleans region conducting missions which included: District Patrol, Force Protection, Night Operations, Investigating unanswered 9-1-1 calls, House to House Searches, Decontamination operations, Delivering Humanitarian Aid and Intelligence Operations.

As a result of Operation LEAD, New Jersey essentially redefined the way EMAC requests are conducted. New Jersey personnel were able to search almost 8,000 houses, rescued 67 people and 267 animals, identified and rendered aid to 174 persons who remained sheltered in their homes, assisted in the recovery of 115 bodies, conducted close to 9,000 decontaminations of people and equipment, rendered first aid to over 100 people and conducted more than 50 force protection details.

New Jersey's emergency aid to New Orleans was truly unique as Operation LEAD personnel were able to conduct their missions without drawing on already over-tasked Louisiana resources. "Camp New Jersey" was completely self-sufficient; all logistical, medical and technological requirements were handled internally. Therefore, beleaguered Louisiana emergency services were able to utilize New Jersey's available assets without having to further deplete their logistical resources (food, shelter, medical, etc.).



Member News

K. Thomas Kellers, Environmental Planner for the Monmouth County Planning Board since 1991, was inducted in the Monmouth County Water Resources Association's (WRA) Cabinet of Honor at their annual luncheon on October 14, 2005. Tom was honored for his untiring contributions to water-related issues. During his tenure at the Monmouth County Planning Board, Tom organized the office's first countywide "Roundtable" for environmental issues and remained on the cutting edge of watershed planning. He spearheaded research and outreach efforts that resulted in the 1992 formation of Regional Environmental Planning

Councils, bringing together the municipalities that shared the same watershed, along with the Monmouth County Planning Board members, to discuss their common issues and seek common solutions. Tom was Secretary to the County Environmental Council for a decade and he helped that council become the driving force it is known as today. Tom focused his time on 3 main areas: Watershed Management, Wastewater Management, and Regional Stormwater Management Planning.

Tom is expected to retire next summer to Florida where he and his wife Diane are building their dream home.

Excerpted from the Cabinet of Honor Introduction of Tom Kellers by Linda Brennen in Fall 2005 Ecologic, the Environmental Newsletter of the Monmouth County Planning Board.



**NEW JERSEY SECTION
AMERICAN WATER RESOURCES ASSOCIATION
PO BOX 7814 WEST TRENTON NJ 08628
www.njawra.org**



Membership Application

The Mission of the New Jersey Section of the American Water Resource Association is:

- To provide a common forum in which to meet, discuss, exchange ideas, and assist all persons concerned with the conservation, development, management, and utilization of fresh and marine waters and related resources together with their environmental aspects.
- To cooperate with Federal, State and local agencies, educational institutions, foundations, private companies, and with other local sections and chapters of the national organizations concerned with water resources.
- To advance water resources research, planning, development, management, and education by collecting, organizing, and disseminating ideas and information in the field of water resources science and technology.

Why Join?

Since [1970](#) the NJ-AWRA has provided professional development and educational opportunities for all persons interested or working in the field of water resources in New Jersey. The Section has grown in the last couple years, both in scope and range of influence, and now provides multiple opportunities for its members, through focused committees, seminars, conferences and field trips. Becoming a part of NJ-AWRA is a way to join with others to work towards a greater understanding of the variety of water resource issues in the State of New Jersey. Join NJ-AWRA - to further your own career and to contribute to the fulfillment of the Section's goals and objectives. We welcome government officials, consultants, suppliers and anyone with an interest in water.

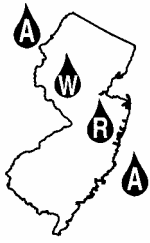
The NJ-AWRA will:

- Keep you up-to-date on the latest technologies and methods
- Offer a network and forum for sharing experiences and lessons learned.
- Provide education courses and tools.
- Bring together the water resource community in New Jersey and help you build a network of State contacts
- Recognize the outstanding contributions of individual achievement through the Peter Homack award.

Some of the many benefits of membership include:

- The Aqua-duct, electronic quarterly newsletters
- Timely membership news sharing through "From the Faucet" emails
- Discounts on attendance at NJ-AWRA events
- Invitation to Members Only events, including field trips and special activities

Challenging Water Resources Professionals for the 21st Century
A Federally Tax Exempt Non-Profit 501(c)3 Organization, Taxpayer ID # 22-2992686



**NEW JERSEY SECTION
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Membership Categories

There are two classes of NJ-AWRA Membership: **Individual Membership** and **Supporting Membership**.

Individual Membership - Individual Members may vote, serve on committees, and hold office in NJ-AWRA. Individual Members are entitled to full benefits of membership including discounts at NJ-AWRA events, access to member only events, and receiving the Aqua-duct Newsletter.

Supporting Membership (Coming Soon, pending new Bylaws) - Supporting Memberships are granted to organizations such as public or private corporations, businesses, educational institutions, associations, government agencies, and non-government organizations. Supporting memberships receive recognition for their support of NJ-AWRA in the Aqua-duct Newsletter as well as on the NJ-AWRA website. Supporting memberships do not have voting privileges or any benefit of an Individual Membership.

*The NJ-AWRA Membership year is from January 1 through December 31.
Please mail to NJ-AWRA at the address above.*

Your NJ-AWRA Membership....

Check all categories that apply.

- Individual Membership (\$25 annual fee)**
- Supporting Membership (pending)**
- Dual Membership in NJAFM ***

Mr. Ms. _____ Other
First Name _____ M.I. _____
Last Name _____

Did someone recruit you (who)?

Preferred mailing address?

- Residence Business

Residence:

Address _____
Address _____
City/State/Zip _____
Phone _____
Email _____

Date _____

- New Member** or **Renewal**
- Include me in the membership directory**

- Check Enclosed payable to "NJ-AWRA"**
- Please contact me to assist with NJ-AWRA**
- Scholarship Fund Contribution \$** _____

How did you get this form? Website Event
_____ Other (what event?) _____

Water Resource
Interest(s) _____

Are you already active on a Committee?

- Stream Restoration Groundwater

Business:

Position/Title _____
Organization _____
Address _____
Address _____
City/State/Zip _____
Phone _____ Fax _____
Email _____

** The New Jersey Association for Floodplain Management's (NJAFM) mission is to promote sound floodplain management in New Jersey. The Association started as a Committee under NJ-AWRA and in 2006 we are offering a dual membership in NJAFM. If you check the above box, your \$25 dues to NJ-AWRA also cover your membership in NJAFM.*

NJ-AWRA SECTION INFORMATION

2006 Section Meetings

Meetings are held monthly at 1 pm. Meeting locations are as indicated (SC Admin = Somerset County Administration Building, Somerville; DRBC = Delaware River Basin Commission). All members are welcome to attend.

Monday January 23, 2006 (SC Admin) February 21, 2006 (DRBC) March 27, 2006 (SC Admin) April 24, 2006 (Cranbury Inn) May 22, 2006 (SC Admin) June 26, 2006 Cranbury Inn) July 24, 2006 (SC Admin)	August 28, 2006 Cranbury Inn) September 25, 2006 (SC Admin) October 23, 2006 Cranbury Inn) November 27, 2006 (SC Admin) December 11, 2006 Cranbury Inn) January 22, 2007 (TBD)
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2006 Section Officers and Affiliation

Name	Title	Employment Affiliation	Phone E-mail Address
Paul Scally	President	Delaware River Basin Commission	609-883-9500 X251 pscally@drbc.state.nj.us
John Miller	Vice President	Princeton Hydro, LLC	908-237-5660 x 116 jmiller@princetonhydro.com
James Lynch	Secretary	Union County	908-789-3673 jlynch@ucnj.org
Kathy Hale	Treasurer	New Jersey Water Supply Authority	908-685-0315 X28 khale@raritanbasin.org
Raymond Zabihach	Immediate Past President	Morris County Planning Board	973-829-8120 rzabihach@co.morris.nj.us
Nick Agnoli	North Director	NJ Meadowlands Commission	(201) 460-1096 Nicholas.agnoli@njmeadowlands.gov
Jeffrey Hoffman	Central Director	New Jersey Geological Survey	(609) 984-6587 Jeffrey.L.Hoffman@dep.state.nj.us
Robert Kull	South Director	Burlington County Economic Development and Regional Planning	609-265-5055 RKull@co.burlington.nj.us

Newsletter Submissions

Did you attend an interesting water resources event? Do you know of an upcoming event? Did you see an interesting article you'd like to discuss? Did you work on an innovative project? Then we want to hear about it! ALL members of the NJ-AWRA are encouraged to submit articles and news for future issues of The Aqua-duct. The deadline for submission of information/articles to the editor for the Spring 2006 edition of The Aqua-duct is April 10th. Please send articles to gregory.

Membership Renewals

Membership dues for 2006 are now being received. Please designate that your dues are for 2006. Annual dues are \$25. A membership application is available on the Section website. We hope you will continue to be a part of the Section. Member benefits include the Aqua-duct newsletter, reduced registration fees for Section Conferences and other events and the opportunity to network with other water resource professionals.

New Jersey Section of the American Water Resources Association Mission Statement

The Section has a mission to provide a common forum in which to meet, discuss, exchange ideas, and assist all persons concerned with the conservation, development, management, and utilization of fresh and marine waters and related resources together with their environmental aspects. Its mission is also to cooperate with Federal, State and local agencies, educational institutions, foundations, private companies, and with other local sections and chapters of the national organizations concerned with water resources.

NJ Section - American Water Resources Association
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