



Chris Christie
Governor

Kim Guadagno
Lt. Governor

State of New Jersey

THE PINELANDS COMMISSION

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Sean W. Earlen
Chairman

Nancy Wittenberg
Executive Director

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Application Specific Information: AppInfo@njpines.state.nj.us

MEMORANDUM

To: CMP Policy & Implementation Committee

From: Susan R. Grogan 
Chief Planner

Date: October 16, 2017

Subject: October 24, 2017 Committee meeting

Enclosed please find the agenda for the Committee's upcoming meeting on October 24, 2017 and the minutes of the Committee's September 29, 2017 meeting.

Please note that the Committee meeting is on a **Tuesday** morning, rather than the usual Friday.

/CS15

cc: All Commissioners (agenda only)



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CMP POLICY & IMPLEMENTATION COMMITTEE MEETING

Richard J. Sullivan Center
Terrence D. Moore Room
15 C Springfield Road
New Lisbon, New Jersey

October 24, 2017

9:30 a.m.

Agenda

1. Call to Order
2. Pledge Allegiance to the Flag
3. Adoption of minutes from the September 29, 2017 CMP Policy & Implementation Committee meeting
4. Discussion of a revised Memorandum of Understanding among the Pinelands Commission, Winslow Township and the Camden County Municipal Utilities Authority regarding water use in the Great Egg Harbor River Watershed
5. Other Items of Interest
6. Public Comment on Agenda Items

CMP POLICY & IMPLEMENTATION COMMITTEE MEETING

Richard J. Sullivan Center
Terrence D. Moore Room
15 C Springfield Road
New Lisbon, New Jersey
September 29, 2017- 9:30 a.m.

MINUTES

MEMBERS IN ATTENDANCE: Sean Earlen (Chairman), Robert Barr (via teleconference), Paul E. Galletta, Ed Lloyd, Ed McGlinchey and Richard Prickett

MEMBER ABSENT: Candace Ashmun

OTHER COMMISSIONER PRESENT: Mark Lohbauer (*as a non-member of this Committee, Commissioner Lohbauer did not vote on any matter*)

STAFF PRESENT: Executive Director Nancy Wittenberg, Stacey P. Roth, Larry L. Liggett, Susan R. Grogan, Gina Berg, Brad Lanute, Ed Wengrowski, Paul D. Leakan and Betsy Piner. Also present was Craig A. Ambrose with the Governor’s Authorities Unit

1. Call to Order

Chairman Earlen called the meeting of the Comprehensive Management Plan (CMP) Policy and Implementation (P&I) Committee to order at 9:35 a.m.

2. Pledge Allegiance to the Flag

All present pledged allegiance to the Flag.

3. Adoption of minutes from the June 30, 2017 CMP Policy & Implementation Committee meeting (Open and Closed sessions)

Commissioner Prickett moved the adoption of the June 30, 2017 meeting minutes. Commissioner McGlinchey seconded the motion. The minutes were adopted with all Committee members present voting in the affirmative.

4. Executive Director’s Reports

Galloway Township Ordinances 1969-2017 and 1970-2017, revising permitted uses in and expanding the boundaries of the R5C Cluster Overlay within the Rural Development Area

Ms. Grogan said Galloway Township Ordinances 1969-2017 and 1970-2017 result in a rezoning within the Rural Development Area (RDA) and expanding the permitted uses in the R5C (Rural Cluster Overlay Zone). Mr. Leakan projected a series of maps (*exhibits included in the Executive Director's report*) from which Ms. Grogan identified the subject property (3 lots in the vicinity of the Richard Stockton University (Stockton), and Jimmie Leeds and Pomona Roads. She identified the existing residential development and scattered farms and forested area typical of the RDA. She said the R5C Zone is unique in that it was created in 1987 when Galloway originally came into conformance as a means of protecting a Great Blue Heron rookery in the vicinity. The Commission and Township developed a density transfer program (prior to the enactment of formal density transfer rules) to allow more nonresidential development while protecting the rookery with an offset of protected lands. The herons have not been seen for quite some time but there is potential that they might return. The area designated for non-residential development may be sewered as that is a necessary component to encourage such development.

Ms. Grogan said Galloway has extensive recreational facilities within the RDA but just outside this special zone. By designating such facilities as a permitted use in the R5C Zone, and adjusting the boundary to include these three lots, the Township will be able to develop new restroom facilities on sewer with concomitant land preservation. Improvements to the existing restroom facilities, currently on septic, are constrained by wetlands and wetlands buffers. Ms. Grogan said staff has worked closely with the Township on this proposal and that this is an unusual situation as density transfer is typically used for residential development.

In response to a question from Commissioner Galletta as to where the Township would access the sewer, Ms. Grogan that Stockton is sewered but there may be other options. She said, should the Township come before with Commission for a public development approval, it will identify the sewer line route as part of that application.

In response to Commissioner Prickett's question as to the rules for bringing centralized sewerage to the RDA, Ms. Grogan said normally that is not permitted in the RDA absent a public health issue. She said staff had spoken with the Township about using the public health provision. The Township responded that it would not allow development of restroom facilities at the second of the two recreation sites that currently has none. Also, there would be no provision for additional land protection if for public health. She said staff will work the NJDEP and Atlantic County to add roughly 50 acres to the existing sewer service area.

In response to Commissioner Prickett's comment that this had been a very creative approach in 1987, Ms. Grogan said that the goal is to promote nonresidential development including community commercial, offices and schools in the R5C Zone while continuing to protect the rookery.

Commissioner McGlinchey moved the recommendation to the Commission for the certification of Galloway Township Ordinances 1969-2017 and 1970-2017. Commissioner Lloyd seconded the motion and all voted in favor.

Manchester Township's 2017 Housing Element & Fair Share Plan and Ordinance 17-008, Amending Chapter 245 by creating the new PAF-1 (Pinelands Affordable Housing) Zone within the Regional Growth Area

Mr. Lanute stated that Manchester Township has submitted a 2017 Housing Element and Fair Share Plan as well as an implementing ordinance, Ordinance 17-008, for certification. He stated that The Township 2017 Housing Element and Fair Share Plan contain updated information regarding the Township's current and projected demographics, housing and employment characteristics. It also includes an updated Fair Share Plan for the period 1987-2025. He stated that the Fair Share Plan includes strategies for the Township to meet its affordable housing obligation, including identified sites for affordable housing to potentially be built in the future. He stated that most of the sites in the Plan are located in the Pinelands National Reserve portion of the Township. He further explained that Manchester Township has not opted for the Commission to certify its Master Plan and land use ordinances in effect in the Pinelands National Reserve portion of the Township, and as such, those planned affordable housing sites outside of the Pinelands Area are not currently under consideration for certification.

Mr. Lanute stated that within the Pinelands Area, the Plan recommends rezoning of lands in the Township's Regional Growth Area, which is implemented by Ordinance 17-008. He said that the ordinance creates a new Pinelands Affordable Housing (PAF-1) zone that includes three existing lots, known as the MDG Tract, currently zoned in the PRC-1 zone. The remaining lot in the PRC-1 zone will be rezoned to PR-40. He stated that the purpose of the PAF-1 zone is to provide multi-family affordable housing. He stated that based on a settlement agreement between the Township and the Manchester Development Group, the entire 89 acre tract would be developed as a planned multi-family residential development with a maximum of 404 units, up to 60% of which may be apartments with the remaining balance being townhouses. He stated that 20% of the total units built must be set aside as affordable.

Mr. Lanute said that the Pinelands Development Credit obligation for this site requires PDC redemption for 30% of all units with an exemption for 20% of the units set aside as affordable. He stated that affordable units above the 20% set aside would be required to redeem PDCs at the 30% rate. He stated that it would provide a total PDC opportunity of 97 rights, or 24.25 PDCs. He emphasized that the ordinance guarantees a PDC redemption rate of 30% for much of the potential development within the PAF-1 zone.

Ms. Grogan said this is one of many housing plans that are being submitted to the Commission. She said for the most part, they do not include lands inside the Pinelands Area and that Manchester Ordinance 17-008 is one of the few staff has seen for lands within the Pinelands Area. She said previously, a PDC obligation was exempted for all affordable units but staff has learned that it needs to be careful in protecting PDC use. She said the MGD property is one of the few vacant RGA properties in Manchester and to date, there has been no use of PDCs in Manchester's RGA.

In response to Commissioner Prickett's question if this had been part of the discussion with the Township, Ms. Grogan said yes, staff had worked with both the Township and the Court Master

to make sure that everyone understood how PDCs are used. She said there had been good collaboration.

In response to Commissioner Lloyd's question as to why PDCs haven't been used in Manchester, Ms. Grogan said when Manchester was first certified, the zoning plan was based on the goals that tied their use to high density development. For instance, in its densest zone (5 du/ac.) with the use of PDCs, the number of units could be increased to 8 du/ac. She said such a high density was not popular and for 20 years, nothing has been built but detached single family homes and always at less than 5 du/acre. As a result, and as has happened elsewhere, the threshold for PDC use was so high that they were never used.

In response to Commissioner Lloyd's question if there were an attempt to increase the use of PDCs, Ms. Grogan said any time a zoning change is proposed within the RGA, staff looks at the zoning and PDC opportunities. She said the Commission is seeing a number of high density redevelopment areas.

Commissioner Prickett said this has been a complicated matter and he thanked the staff for clarifying the issues.

Commissioner Lloyd moved the recommendation to the Commission for the certification of Manchester Township's 2017 Housing Element and Fair Share Plan and Ordinance 17-008. Commissioner Barr seconded the motion and all voted in favor.

Maurice River Township Ordinance 662, Adopting a Redevelopment Plan for the Pinelands Business Overlay zoning district in the Rural Development Area

Ms. Grogan said Maurice River Township Ordinance 662 was a Redevelopment Plan for a single lot of less than 4 acres in the Rural Development Area (RDA). From the map projected on the SmartBoard, she identified its location at the edge of the Pinelands Area boundary and surrounded by two state highways and a county road. The property is currently in the Pinelands Business Zone and is the site of an abandoned boat repair facility. She said the Township is seeking a small commercial use but the difficulty is that on this small site, a business will have difficulty meeting the dilution standards as there is no contiguous land because the property is isolated by the roads. She said the property is very important to the Township as Maurice River has few opportunities for commercial development and this site has the potential to attract new retail uses consistent with the existing nonresidential uses and to serve the community and summer shore traffic.

Ms. Grogan said the Township is proposing that the Redevelopment Plan allow both conventional and advanced treatment systems. Typically, the advanced systems are permitted for commercial development in the Regional Growth Area (RGA), Pinelands Villages (PV) and Pinelands Towns (PT) only. This departure from the CMP will allow the development to meet water quality standards on site. Once a particular project is determined, staff will calculate the effluent flow if a standard system is used and from there determine the acreage that would be necessary to meet development intensity as measured by the dilution standards off-site. She said as an example, if the calculation is that 20 acres would be required to meet nitrogen dilution,

then four of those acres would be on-site and the remaining 16 acres would be deed restricted elsewhere. This would allow the overall development intensity of the RDA to remain as envisioned in the CMP. Ms. Grogan said Maurice River has a large RDA and may have identified an appropriate site. She said this is similar to the density transfer program for residential development but in this case, to provide for commercial development.

Commissioner McGlinchey asked why the presence of roads would interfere and that he thought this was like farmland assessment; there was no need to go elsewhere but directly across the road.

Ms. Grogan responded, here they don't have enough land to meet density; the advanced treatment wastewater system will allow them to meet on-site water quality but land must be preserved elsewhere in order to meet density. She said recently proposed CMP amendments will help existing businesses in RDA that want to expand when they have no contiguous land to use for dilution purposes.

Mr. Liggett said the road breaks the hydrologic continuity. He said the Burlington County College facility in Pemberton was originally in RDA and had to meet septic standards even though it was sewer. As the College expanded, it had to deed restrict more and more land until ultimately it was rezoned to RGA when no more land was available.

In response to a question from Commissioner Prickett, Ms. Grogan said this is a unique situation in Maurice River Township because of the constraints created by the roads, but this is not creating a precedent. She said typically the alternate design treatment systems can be used for commercial development only in PT, PV and RGA.

Commissioner Galletta asked if a calculation could be performed regarding the use of roads and if they indeed prevent dilution.

Mr. Liggett said with septic dilution, one assumes circular dilution, that all dilution travels the same distance at the same rate. The roads provide a barrier to dilution. He said he was unaware of any studies that had been done to calculate dilution in the presence or roads.

Commissioner McGlinchey said he thought this should be considered from a regional perspective.

Ms. Grogan reminded the Committee that the Township does not need land to meet water quality rather to meet the overall intensity of development throughout the entire RDA.

Commissioner Lloyd asked about requiring the 16 acres (*a theoretical number used for illustrative purpose*) be within the same RDA.

Ms. Grogan said that such an obligation would require a conditional approval of Ordinance 662 by the Commission while it awaits the Township adopting a new ordinance to reflect that requirement.

Ms. Grogan said Maurice River Township has several RDA zones and she said she would try to find out where they were considering protecting the additional lands. She said currently, without a specific project proposed, from which one could calculate the effluent flow, the number of acres required to meet density is unknown.

Commissioner McGlinchey moved the recommendation to the Commission for the certification of Maurice River Township Ordinance 662. Commissioner Galletta seconded the motion and all voted in favor.

5. Briefing on the draft State Water Supply Plan

Ms. Berg provided a PowerPoint presentation on the draft New Jersey Water Supply Plan <http://www.nj.gov/dep/watersupply/wsp.html>

Ms. Berg's presentation is included in the attached slides and also posted on the Commission's web site at:

[http://www.nj.gov/pinelands/home/presentations/Water Supply Plan presentation P & I Sept 2017.pdf](http://www.nj.gov/pinelands/home/presentations/Water%20Supply%20Plan%20presentation%20P%20%26%20I%20Sept%202017.pdf)

Ms. Berg said the New Jersey Department of Environmental Protection (NJDEP) is required to update the New Jersey Statewide Water Supply Plan (Plan) every five years in order to improve the management and protection of the State's water supplies. The most recent update was done in 1996 and the draft Plan for the period 2017-2022 has been released. She said this is a Plan and not a regulation; it is a policy document to use as a guide.

In Slide 5, Ms. Berg noted that the most water use in New Jersey is by industry and it is not consumptive, but it is depletive (*see definitions in Slide 4*). Considering only the consumptive uses, those include potable, agriculture, industry and mining. Consumptive uses are not available for downstream use.

In response to Commissioner Galletta's comment that irrigation water gets recharged into the aquifer, Ms. Berg said some of the water use is consumptive as the plant takes up the water and then is shipped off for consumption elsewhere.

Ms. Berg said the water supply in the Pinelands is primarily surface waters and unconfined aquifers. She said based on peak use, the Pinelands watersheds are stressed but NJDEP believes that there is adequate water in the State if it is just shifted around to where it is needed. She said seasonal consumptive use such as watering lawns and filling swimming pools is the biggest problem. She reviewed the key findings of the Plan and the 10 specific recommendations and summarized the Plan's recommendations to use water wisely (such as using treated wastewater for cooling power plants), manage assets properly and provide sufficient monitoring and assessment.

Ms. Berg said the Commission had made comments on the Plan, as summarized in slides 21 through 25 and had identified its own next steps. She said this will become a living Plan as NJDEP will be able to update the water use data online as it becomes available.

Mr. Liggett said it is one thing to plan for the future but we need to ask if we can do something now to reduce the stress on the basins today. He said staff is working with NJDEP, Camden County and Winslow Township on this very matter.

In response to Commissioner Lohbauer's question if the Plan addresses deficits, Ms. Berg responded, no. As a policy, it says there is plenty of water as long as it is moved and managed where needed.

Commissioner Prickett asked how many municipalities are reducing leakages by replacing pipes as pipe repair is the most expensive way to reduce water loss.

Mr. Liggett said the municipalities rely on funding from the Environmental Infrastructure Trust (EIT) or Pinelands Infrastructure Trust Fund for such projects.

Commissioner McGlinchey, noting the Plan's failure to acknowledge the Science Office's extensive research done on the Kirkwood-Cohansey aquifer, said with all this great work, all the Commission gets is a thank you and a footnote.

6. Public Comment on Agenda Items

Mr. Fred Akers, the Administrator of the Great Egg Harbor River Association, said he was disappointed that the extensive studies done by the Pinelands Commission on the Kirkwood-Cohansey aquifer were not referenced in the State Water Supply Plan. He also said it was flawed to combine water budgets from different watershed management areas as it blurred the results from the discreet areas. He asked the Commission to keep up the good work on water supply issues.

In response to Commissioner Lloyd's question as to what would be the next steps in dealing with off-road vehicle damage in State forests, Ms. Wittenberg said she was scheduled to meet with NJDEP shortly and would report back to the Commission

Commissioner Prickett noted how well the staff had done in presenting several complex topics today and said he appreciated their knowledge and experience.

There being no other items of interest, the meeting adjourned at 11:15 a.m. (moved by Commissioner Galletta and seconded by Commissioner Barr).

Certified as true and correct:



Betsy Piher,
Principal Planning Assistant

Date: October 16, 2017

NJ Water Supply Plan, 2017-2022, DRAFT



NJ Department of Environmental Protection

Requirements

- > Identify surface and ground water sources, current demands
- > Make demand projections for duration of the plan
- > Identify land purchased for water supply facilities but not yet used
- > Recommend:
 - Improvements, new construction, and interconnections
 - Diversions for aquaculture
 - Legislative and administrative actions to protect watershed areas
 - Identification and purchase of land for water supply facilities
 - Administrative actions to protect surface and ground water supplies

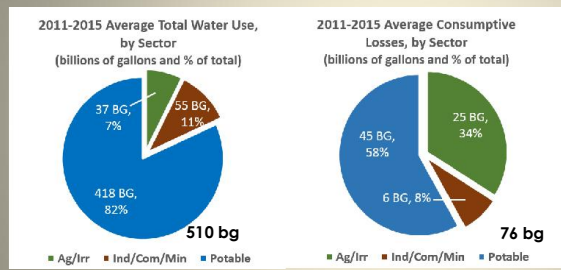
2017 – 2022 Plan

- > Emphasizes the need to **balance** traditional **water use** with water **resource protection**, and outlines a range of policy options to achieve that balance amid an array of **competing interests** and issues.
- > “Living Plan”: Future **technical and policy updates** will be continuous and made available through DEP’s website
- > Serves as a **tool** to guide the **management, regulation, conservation, and development** of the State’s water resources for the foreseeable future.

Water Availability: Key Objectives

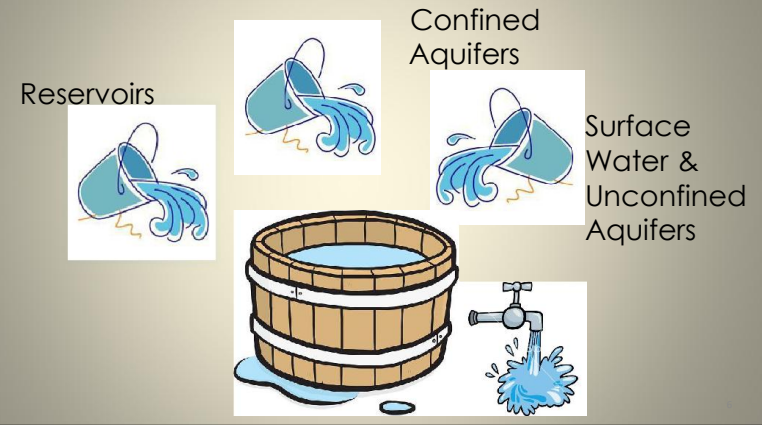
- > Calculate: (chapter 3)
 - consumptive losses (*evapo-transpiration*)
 - depletive losses (*water or wastewater transfers out of the watershed*)
 - accretive gains (*water transferred in*)
 - net losses and gains
- > Develop: (chapter 3)
 - water budgets for each of the 151 HUC11 watersheds and confined aquifer planning areas
 - determine which areas have exceeded or are in danger of exceeding planning thresholds
 - Total Resource Availability

Water Use Trends: Key Findings Total Withdrawals and Consumptive Losses



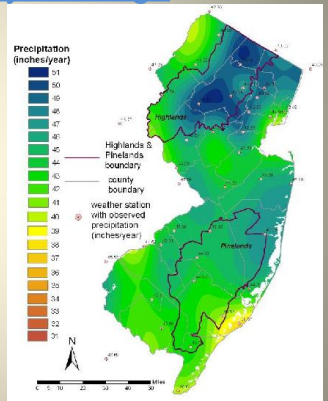
“Consumptive loss” is the portion of the water used which is lost to evaporation, transpiration or incorporation in a product. This water is not discharged to any location and is not available for a downstream use.

Water Supply: 3 'buckets'

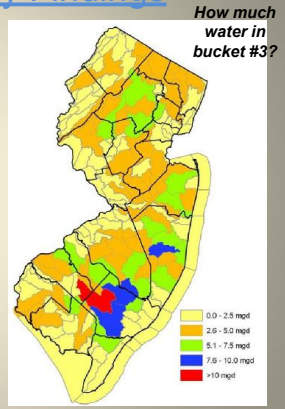
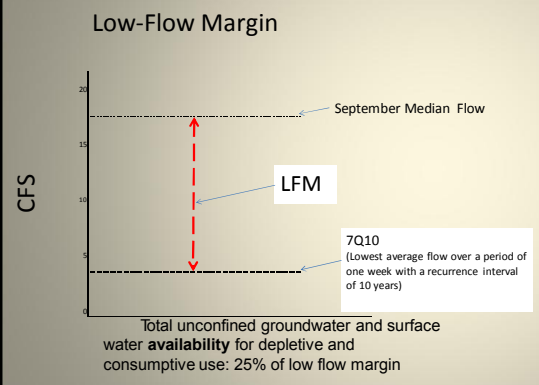


Water Availability: Key Findings

- Average annual precipitation in range of 38 to 51 inches per year.
- Average annual rainfall in the Pinelands Area ranges from ~47" in Northeast to ~40" in Southeast
- NJ typically has ample average precipitation and the State's geology allows the storage of large quantities of groundwater and supports large reservoirs.



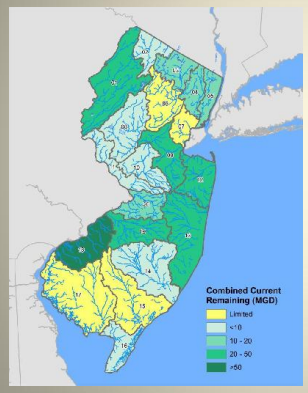
Water Availability: Key Findings



How much water in bucket #3?

Total unconfined groundwater and surface water **availability** for depletive and consumptive use: 25% of low flow margin

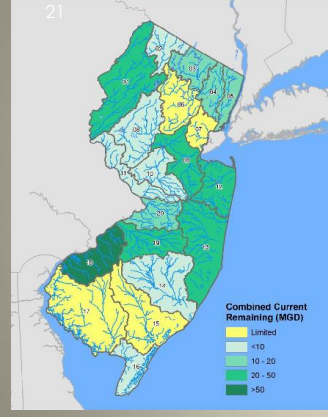
Water Availability: Key Findings



Total Resource Availability

- > A water-budget approach to withdrawals from reservoirs, confined aquifers, and the surface water/un-confined aquifer system.
- > Balances human needs with ecological functions.
- > Four of the State's 20 watershed management areas are currently stressed and eleven more would become stressed if pumped at volumes authorized under existing permits.
- > New withdrawals in stressed watersheds must be thoroughly evaluated.

Water Availability: Key Findings

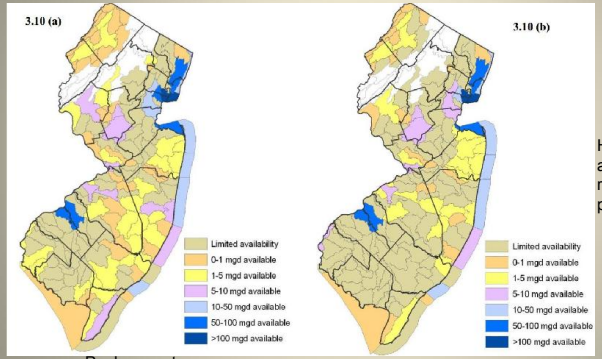


Water Availability by Watershed Management Area			
WMA	WMA Name	Stressed ⁽¹⁾ at Current Pumping Rates	Would be Stressed ⁽¹⁾ if Pumped at Currently Permitted Allocation Rates
1	Upper Delaware		
2	Walkkill		X
3	Pompton, Pequannock, Wanaque, & Ramapo		X
4	Lower Passaic & Saddle		X
5	Hackensack, Hudson & Passaic		
6	Upper & Middle Passaic, Wippany & Rockaway	X	X
7	Arthur Kill	X	X
8	North & South Branch Raritan		X
9	Lower Raritan, South & Lawrence		X
10	Millstone		X
11	Central Delaware		
12	Monmouth		
13	Barnegat Bay ⁽²⁾		X
14	Mullica ⁽²⁾		X
15	Great Egg Harbor ⁽²⁾	X	X
16	Cape May ⁽²⁾		X
17	Maurice, Salem & Cohansey ⁽²⁾	X	X
18	Lower Delaware ⁽²⁾		X
19	Rancocas		X
20	Assiscunk, Crosswicks & Doctors ⁽²⁾		X

⁽¹⁾ A WMA is "stressed" if it contains at least one HUC 11 watershed that is being pumped at a volume that is greater than 25% of the Low Flow Margin - (i.e. Current demand exceeds sustainable thresholds at 25% LFM is used.

⁽²⁾ WMA's with at least a portion of the WMA within the Pinelands Area

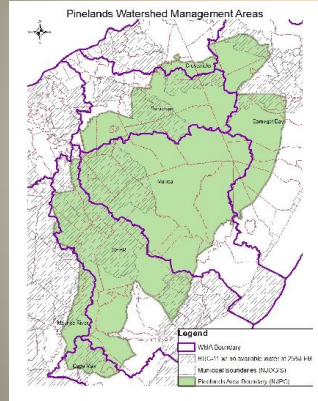
Water Availability: Key Findings



How much water is left in bucket #3?

HUC11 unconfined aquifer and stream flow remaining availability for peak demand period.

Pinelands Status



Total Resource Availability

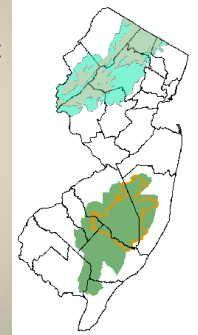
- > A water-budget approach to withdrawals from the surface water/un- confined aquifer system.
- > New withdrawals in stressed watersheds must be thoroughly evaluated.

Water Supply Planning & Policy: Key Findings

- > **Water availability** is a function of **all water resources available** to a specific area and of **site-specific** resource limitations.
- > **Imports** of water may be a significant "source."
- > **Exports** of water may be a significant "demand."
- > **Seasonal consumptive water losses** are a **significant stressor** but provide an **opportunity for increased efficiency**.

Water Supply Planning & Policy: Key Findings

- > Generally, NJ has **sufficient water available** to meet needs into the foreseeable future provided we **effectively manage** the state's water resources.
- > **Region-specific sustainability thresholds** affects water availability:
 - Highlands & Pinelands
 - watershed-specific water quality and ecological concerns
- > **10** specific recommendations



WSP Policies for Improving Water Supply

- 1. Promote the efficient use** of the State's freshwater resource
 - enhancing water conservation initiatives
 - encouraging reductions in outdoor water use
 - match highly consumptive non-potable uses with non-potable water sources.
- 2. Improve** New Jersey's drought management capabilities and water system **resilience**.
- 3. Promote optimized use** of existing water supplies through
 - interconnections
 - conjunctive use
 - aquifer storage and recovery (ASR)

WSP Policies for Improving Water Supply

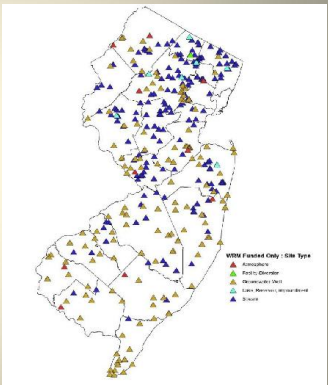
- 4. Encourage:**
 - new and expanded sources of supply
 - innovative technologies
 - Asset management
- 5. Evaluate** the impact of new or increased allocations for **highly consumptive non-potable** uses.
 - Preserve potable supplies for potable uses
 - Re-use encouraged for non-potable needs
 - Not applicable to agricultural diversions
- 5. Coordinate sustainable water supply policies** with
 - Highlands Regional Master Plan
 - Pinelands Comprehensive Management Plan

WSP Policies for Improving Water Supply

- 7. Support **detailed hydrologic regional assessments** to assess:
 - status and sustainability of the resource
 - feasible water supply alternatives
- 8. **Coordinate with the agricultural community** to more accurately assess future agricultural water demands
- 9. Continue to **assist water systems** in ensuring **adequate financial investment** to improve, repair, rehabilitate, replace and/ or update water supply infrastructure (NJEIT/Drinking Water State Revolving Fund)

WSP Policies for Improving Water Supply

10. **Maintain NJ's extensive surface water, groundwater and drought monitoring systems and assessment tools.** Information obtained from these networks is critical to planning for our future.



SUMMARY

Use Water Wisely
Proper Asset Management
Sufficient Monitoring & Assessment

What's Next for the NJ Water Supply Plan?

- > 2014 and 2015 water use data updates.
- > Update water availability analysis.
 - Reservoirs
 - Confined aquifers
 - Unconfined aquifers and streams (HUC11)
- > Incorporate updated data and availability results.
- > Four public hearings were held
- > Consulted with several agencies, as required
- > Address comments (received 100)
- > Getting ready to produce final Plan

Pinelands Commission Comments

- Kirkwood Cohansey Studies
- Implementation Challenges
- Climate Variability

1) Kirkwood Cohansey Studies

- Water Supply Plan should note coordinated work that has been done for the Kirkwood- Cohansey and should list areas where DEP will coordinate with the Commission to provide additional assistance.
- K/C studies suggest these areas for additional coordination
 - identifying the tool/method for assessing **local impacts** to wetlands
 - developing additional scientific support for the **use of the Low Flow Margin** method in the Pinelands, and
 - creating specific attainable options for **mitigating future and past overuse** in HUC 11 watersheds

2) Implementation Challenges

- Recharge of treated effluent and beneficial re-use
- Alternative water supplies in stressed basins – The Water Supply Plan could go further in identifying alternative sources of water in stressed basins
- Local impacts – In the Kirkwood-Cohansey studies, local impacts were considered where future wells might result in adverse impact to wetlands or to other wells. The Plan might suggest further research methodologies and standards for evaluating and mitigating local impacts.

Challenges (continued)

- Allocation assignments – The draft Water Supply Plan makes it clear that unused agricultural allocation presents challenges to water supply planning.
- Enhance Recharge of stormwater
- Audit and fix leaky water supply systems
- Conservation – via additional guidance on rate systems that would encourage less water use or on the means to replace old, wasteful devices (appliances and plumbing) with EPA certified devices

3) Climate Variability

- Revise Chapter 4 of Water Supply Plan to discuss
 - Effects of larger storms and/or storm frequency on recharge
 - Change in evapotranspiration rates
 - Identify areas where water supply most vulnerable to those variations from lower recharge or higher E/T rates
 - Higher/lower water tables in areas of private wells

Commission Staff Approach

- Manage regional stream impacts (LFM in HUC-11 watersheds)
- Manage local wetlands impacts (MOD-Flow)
- Address constrained/stressed HUC-11 watersheds
- Seize water saving opportunities

Pinelands Commission Next Steps

- Low Flow Margin (25%, 20%, individual to HUC-11 watershed)
- Identify best model to assess local impacts (Mod Flow model)
- Identify source alternatives for constrained/stressed basins
- Maximize usage alternatives
 - Leaks
 - Efficient devices
- Revisions to section 7:50-6.86