

Attendees: Gert Howell, Upper Saddle River Resident; Jack Myer, NBCUA; Russ Furnari, PSEG; Veronica Hurst, PVSC; Bridgett McKenna, PVSC; Pat Rector, NJDEP; Ron Farr, NJDWSC, Pat Mancuso, Basin Coordinator; Peter Weppler, NJDWSC; Laurie Virostek, NJCWW; Cristin Conrad, NJCWW; Dave Baker, NJWEA; Rich Pardi, WPU, Kim Cenzo, NJDEP; John Hroncich, United Water Company; Frank Moritz, Ridgewood Water; Bob Keskus, NJDEP, John Dinice, BCUA; Jon Carlson, AmeriCorps;

The meeting was called to order at 8:37 AM.

The minutes were accepted as corrected.

TMDL Update:

Hurst reported that the TMDL meeting was cancelled.

River Assessment Teams (RATs) and Biological Assessment Teams (BATs) Update:

As part of the AmeriCorps program, Carlson has been assessing the water quality in river, streams etc. within WMA 4. RATs and BATS volunteer teams monitor New Jersey's waterways through visual assessment techniques, mapping or macroinvertebrate surveys. Visual Assessments, known by the Acronym RATs, will look at things such as bank erosion, canopy cover and size of buffers along riverbanks. The Biological Assessments, known by the acronym BATS, focus on the macro-invertebrates that are living within the river or stream. The data that is collected will be made available to other organizations and will be used by DEP when prioritizing watershed restoration projects.

Funari stated that in WMA 5, a volunteer set up the RATs and BATS data in a spreadsheet. Rector recommended that WMA 4 should investigate duplicating this effort.

Other: There was a lengthy discussion on the Characterization and Assessment (Characterize the current water resource conditions of the watershed, Assess current versus desired conditions and Identify issues to be addressed through the watershed management) being performed by the Consultants (Killam Associates, Najarian Associates and Ecosystem Consulting Service). Hurst inquired on if and how Killam will incorporate PVSC's WQ data into the assessment. Weppler responded that Killam is collecting all available data within the Passaic River Basin. Questions followed on how the tidal portion of the Passaic River will be addressed. It was decided that a representative from Killam would come to the next TAC meeting to address the TAC's concerns.

Water Quality Endpoints - Locations and Goals (Form B):

The purpose of the Water Quality Endpoint (a water quality goal [what we want to achieve] at a specific location). Each municipality and county in WMAs 3, 4 and 6 has been requested to assist in the identification of water resources of concern for which water quality goals should be established by completing the Water Quality Endpoints - Locations and Goals (Form B) by Friday, April 5, 2002.

The water resource may be considered important for ecosystem health, recreation, water supply or dilution purposes, or other water resources needs.

Cenzo suggested including the Existing Water Quality Sampling Locations in the Water Quality Endpoints - Locations and Goals (Form B). Funari stated that the information being collected should be Designated Uses we have and see in the WMA 4. The final list will be directed through the TAC.

DEP: Rector reported that the Clean Water Act 101 Workshop will be on June 15, 2002 at the Trailside Nature Center, Mountainside, NJ from 9:00am-4:00pm. For more information, please call 609-292-2113. Commissioner Campbell has been officially sworn in. Major topics of concerns are Smart Growth and Drought. The NJDEP Division of Watershed Management should be strengthened.

Water Budget Presentation - Bob Kecskes, NJDEP-Water Supply

Goals of the Project, which will be, completed for each HUC 11 watershed by 2003:

- Locate and define the quantity of the withdrawals
- Quantify and follow interbasin water and sewage transfers
- Quantify Evaporation/Transpiration
- Locate reclaimed wastewater discharges
- Estimate effects on the above listed uses on stream flow.

Most water budgets are developed based on long-term averages, especially for aquifers and combined ground/surface water analyses. This Water Budget will consist of analysis of:

- Pre-development conditions
- Current conditions
- 2040 estimated Streamflow
- Streamflow for each scenario estimated
 - On an average annual basis
 - During drought conditions
- Streamflow changes estimated for the entire watershed and withdrawal and discharge locations.

Natural Water Budget Equation - The most basic equation for water budgets is based on the hydrologic cycle, where water moves from the atmosphere to the Earth's surface to various destinations, and finally to the atmosphere:

$$P = I + ET + R$$

(where "P" represents precipitation of all forms, "I" represents that portion of infiltration of water into the ground that provides ground water recharge, "ET" represents evapotranspiration, and "R" represents runoff.)

Precipitation - Precipitation is the sole input to the water budget under natural conditions.

Infiltration/Recharge - Without infiltration, all water would evaporate either from the land surface or from runoff to surface waters. Under natural conditions the stream flow that can be seen several days after precipitation events comes from the discharge of water from the ground into the stream, known as "base flow." (Under developed conditions, this base flow is sometimes augmented by discharges from wastewater treatment facilities.) Some infiltration is very shallow and moves toward streams just below the land surface.

Evapotranspiration - Evapotranspiration tends to be higher during periods of hot weather, low humidity and high wind. Nearly all evapotranspiration occurs during the growing season.

Runoff - Runoff occurs when precipitation falls onto the land surface and moves toward surface waters. Runoff is affected by a wide variety of factors, such as:

- Soil type and depth,
- The presence or absence of vegetation,
- The presence or absence of impervious surfaces such as pavement or buildings,
- General topography,
- The intensity and form of the precipitation,

Depletive and Consumptive Uses - Depletive and consumptive uses are those water uses that permanently remove water from a water body (either surface or ground water) for human use. The water may be evaporated such as through agricultural or lawn irrigation, power plant cooling, or manufacturing which is termed a "consumptive" use. It may be transported physically to another water body such as through water supply lines to customers who then discharge their wastes to wastewater treatment facilities that then discharge treated effluent into another water body, which is termed a "depletive" use. In either case, the water is no longer available for stream flow or aquifer storage in the original watershed.

Recharge Loss - Changes in the land surface can reduce ground water recharge by increasing runoff. The more impervious the land surface becomes, the more recharge is lost. Recharge loss leads to reduced stream flows during dry periods, and reduced availability of both ground and surface water for human consumption.

Safe Yields- The water budget for a watershed provides a general estimate of how water flows through the system, and can be calculated using information on the various components. The terms "safe yield" is used to describe how much surface water and ground water, respectively, can be used while maintaining the sustainable nature of the water system. The definition of safe yield for surface water systems has long been associated with the so-called "drought of record." Safe yield is a set amount of water supply, defined in annual average daily flows (i.e. MGD), during a specific historical drought. If water is withdrawn, used and then returned to its point of origin, the yield of the system is only limited by the ability to pump and by the introduction of pollutants with the return water. No return method is 100 percent effective, so there will be some losses with each cycle. New Jersey currently discharges 80 percent of its wastewater to estuaries and the ocean, rather than recycling it to upland aquifers or streams. Second, storage capacity essentially defines the safe yield of surface water supplies. A surface water intake with no upstream storage will encounter times during dry periods (more frequent than true droughts) where no water is available for withdrawal because all the water must be allowed to flow downstream.

Future Presentations:

Have a representative from the Consultant Team at next meeting.

Discuss EWQ locations

Types of Acceptable Data

The meeting adjourned at 10:40 AM.