

**MONITORING ADVISORY COMMITTEE
JULY 28, 2010**

A meeting of the Monitoring Advisory Committee (MAC) was held at the DRBC offices. The following members and/or alternates were present:

National Park Service Not represented	Regulated Community Not represented	Pennsylvania Tony Shaw
Delaware Not represented	DRB F&W Cooperative Not represented	US Army COE Not represented
National Oceanic & Atmospheric Administration Not represented	USGS Dr. Jacob Gibs, USGS – NJWSC	US EPA Region II John Kushwara
New York Not represented	Agriculture/Forest Service Not	Land Use Not represented
Academia Dr. Jonathan Sharp, University of Delaware	Volunteer Monitoring Not represented	New Jersey Leslie McGeorge
PDE Dr. Danielle Kreeger		

Delaware River Basin Commission
Dr. Thomas Fikslin
John Yagecic
Robert Limbeck
Erik Silldorff
Dr. Ronald MacGillivray
Dr. Jessica Sanchez

Other Attendees:
Bob Connell, NJ DEP
Al Korndoerfer, NJ DEP
Tom Belton, NJ DEP

The Monitoring Advisory Committee Meeting was called to order at 9:30 a.m.

John Yagecic stated that a brief status update on natural gas drilling activities has been added to the agenda.

Review of October 14, 2009 meeting minutes. Dr J. Gibs, USGS moved to accept the minutes as written. Bob Connell, NJ DEP seconded. All were in favor, no one was opposed.

Gage / Monitor Inventory

John Yagecic gave a briefing on Delaware Basin continuous gage and monitor inventory. This work followed up on the Federal Monitoring summit, the Interstate Council on Water Policy meeting in Philadelphia, and loss of gages in the Susquehanna Basin. Nationwide there is concern about the loss of continuous gages and monitors, especially due to cuts in cooperative funding. To better assess vulnerability in the Delaware Basin, DRBC put together a comprehensive inventory of continuous gages and monitors in the basin. The inventory is in a spreadsheet which is searchable by auto filter. Ongoing work includes continued coordination to ensure that all Philadelphia Water Department and City of Wilmington funded gages / monitors

are accounted for in the inventory. All gage / monitor locations are available as a Google Earth KMZ file, including links to the gage / monitor web page.

ACTION ITEM:

- Add the gage/monitor matrix to the DRBC web site.
- KMZ file available upon request.

Status of Natural Gas Drilling

Pam Bush updated the MAC on the status of DRBC regulations pertaining to natural gas drilling. Ms. Bush described the revisions to the Executive Directives Determinations. In May, the Commission indicated that we would be developing regulations; staff are in the process of doing that. The first draft of regulations has been provided to the Commissioners and states for comments and direction. Expect regulations to be published for public comment in the fall, and adopted in December 2010. Additional information is available on DRBC's web site.

John Yagecic presented results from an analysis of spent frac water. EPA released a dataset that was originally provided to PA for the Marcellus Gas Drilling Association. They sampled 19 wells at various flow-back times.

ACTION ITEMS:

- Forward to the group the press release regarding proposed USGS funding to study cumulative impacts;
- The group voiced an interest in holding a MAC meeting with a special focus on Marcellus gas drilling monitoring. Discussed whether next meeting should be MAC alone or joint MAC/WQAC. Consensus supported a separate MAC meeting.

Ongoing monitoring Initiatives

Various staff updated the MAC on ongoing monitoring activities including:

- Bob Limbeck reported that the Scenic Rivers Monitoring Program is in its 3rd month. Monitoring from Trenton, NJ up to the middle and upper Delaware including the East and West Branches. Monitoring for conventionals and nutrients for the main stem and tributary control points, and stream flow measurements on some unengaged tribs.
- John Yagecic reported that the boat run monitoring program is underway. Completed March, April, May, June and July monitoring as part of that monitoring at 22 sites. Sampling for routine, bacterial, algal, and expanded nutrient (via USGS funding) parameters at all sites, and metals, biotic ligand model, productivity, and VOA parameters at staggered sites. Jonathan Sharp advocated for a statement from the MAC recommending funding for keeping the boat run monitoring program whole. Danielle Kreeger, PDE asked if Jon Sharp would do a plenary talk at the Delaware Estuary Science Conference in January 2011.

- Greg Cavallo indicated that DRBC collaborated with the Partnership for the Delaware Estuary during their DEBI study in 2008 to get splits of approx. 200 samples of which 52 were submitted for PCB analysis. DRBC also worked with DuPont who offered to pick-up analysis cost for dioxins / furans, and metals for a subset of samples. The next step is to collect samples from approx. 25 locations in Zones 2, 3, and 4. DuPont also expressed interest in paying for dioxin / furan and metals analyses for the new samples. Danielle Kreeger indicated that approximately \$10,000 in RARE funding is available and asked if DRBC could provide a one or two paragraph proposal.
- Dr. Erik Silldorff updated the MAC on the status of estuary point discharge monitoring request. The Commission passed a resolution at the July 14, 2010 meeting authorizing the executive director to require estuary point discharge monitoring for nutrients. In consultation with states, staff will finalize monitoring candidates, parameters, and sampling frequency, in preparation for issuance of letters in September.
- John Yagecic reported out on the status of non-tidal lower Delaware point discharge monitoring. In 2007, DRBC drafted a water quality model using the QUAL2K platform, but lacked point discharge data to complete the model. This project, funded by the National Park Service, will provide the necessary data. DRBC staff have been collecting samples from point dischargers in the model domain since the beginning of summer. The grant allows for the collection of approximately 200 samples, with analysis by the Academy of Natural Sciences for nutrients.
- Dr. Silldorff reported that biological monitoring is continuing above the head of tide in the non-tidal river mainstem. DRBC did not monitor in 2009, but developed preliminary bio criteria. Monitoring for 2010 includes macroinvertebrates and periphyton at 25 sites above Trenton. DRBC received money from EPA to pick-up 8 sites on major tributaries along a biological condition gradient towards impaired conditions.
- Mr. Limbeck reported that the Matlock periphytometer field work was completed last summer, and that results are coming in now. Preliminary results suggest different responses in different zones of the river. Zones included: Upper, middle, and lower non-tidal river below the Lehigh River.
- Dr. Ron MacGillivray reported on ambient toxicity monitoring. During the last 4 years, DRBC monitored 16 mainstem and 29 tributary sites. Results have shown limited toxicity in the mainstem, but some tributaries that warrant further evaluation, including Assunpink Creek. The group discussed more interaction with NJDEP.
- Dr. MacGillivray also updated the MAC on monitoring of emerging contaminants. DRBC has completed 3 years of surveys in the estuary using Axys Analytical Labs. Last survey in 2009 included 119 pharmaceutical and personal care products. DRBC will not conduct emerging contaminant monitoring in 2010 but will focus on data assessment. Group discussed the need to make the data readily available and potential databases that may be able to incorporate this data.

- Dr. Danielle Kreeger of the Partnership for the Delaware Estuary (PDE) updated the MAC on the Delaware Estuary Benthic Inventory (DEBI). DEBI benthic data was collected in 2008 and 2009. PDE is working with EPA on geodetic data system compliance to allow release of the data. Future interest areas include Submerged Aquatic Vegetation (SAV), corbicula beds near Marcus Hook, and freshwater mussels.
- PDE is also working on the wetland monitoring assessment program, with assistance from Tom Belton. This work involves launching rapid assessment around the estuary, and setting up fixed monitoring stations and set tables in the Delaware Estuary and Barnegat Bay.
- John Yagecic stated that the NPS is acquiring up to 9 additional water quality sondes to monitor the upper and middle non-tidal Delaware areas, and Fish & Wildlife Service will obtain 2 more monitors. DRBC has been coordinating with NPS on possible deployment sites.
- Dr. Tom Fikslin reported that fish tissue samples were collected by the NJDEP and Academy of Natural Sciences staff at 5 estuary mainstem sites and 3 sites on tributaries to the estuary. Fish tissue sampling in the non-tidal mainstem will be performed in the fall. Next year DRBC expects to collect 9 samples in NJ tidal tributaries as part of a cooperative project.
- Tom Belton of NJDEP is working with the Academy of Natural Sciences on developing headwater bio-criteria. This effort, in its 3rd year, is looking at fish, crayfish and salamanders to develop bio-metrics. The project team distributed an initial draft and is reviewing comments.
- Tony Shaw of PADEP indicated that PA is studying Shohola Creek and Dwarfs Kill for possible Exceptional Value (EV) upgrades in response to petitions. Most of the northeast corner of PA is already declared High Quality (HQ).
- Tony Shaw stated that PA Fish and Boat Commission has applied for EPA Region III grant money to perform side-by-side biological and chemical studies on HQ-EV watersheds with and without proposed drilling.
- Tom Belton described the Biological Condition Gradient (BCG) – Tiered Aquatic Life Use (TALU) diatom project comparing NJ data to metrics developed for NY. This project evaluated the NY nutrient biotic index developed by A.J. Smith for NYDEC, which NY will begin using as nutrient criteria. National experts assigned diatom species to different condition gradients, and found that algae are responding at lower nutrient levels, comparable to lakes criteria.

Adjourn and Next MAC Meeting

- The next MAC meeting will be scheduled for some time in September. The meeting adjourned at approximately 3:00 PM.