

**DELAWARE RIVER BASIN COMMISSION  
REGULATED FLOW ADVISORY COMMITTEE  
December 11, 2008**

**MEETING SUMMARY**

The DRBC Regulated Flow Advisory Committee meeting, chaired by Joe Miri, began at 10:00 a.m. at the DRBC offices in West Trenton, NJ.

**Action Items**

- SEF was directed to evaluate their membership and to solicit ideas for new members with expertise in estuarine ecology. SEF should communicate identified membership needs and proposed representatives to RFAC by February 11, 2009.
- SEF was directed to review the two dwarf wedgemussel studies (Cole, Parasiewicz) when they become available and provide a summary evaluation of these studies' findings to RFAC. Note: The Cole Report can be obtained on the NPS website listed below.  
[http://www.nps.gov/nero/science/FINAL/UPDE\\_Flow&Temp/Public\\_Cole\\_Report\\_NPS\\_NER\\_NRTR\\_2008\\_109.pdf](http://www.nps.gov/nero/science/FINAL/UPDE_Flow&Temp/Public_Cole_Report_NPS_NER_NRTR_2008_109.pdf)

**Meeting Summary (see detailed minutes below)**

- Harry Otto was nominated and approved as the vice Chair
- The FFMP Modifications during the first year of implementation were presented by the River Master's office. NYC provided a brief summary of the status of the work in the Delaware Aqueduct.
- DRBC presented the changes to the September, 2007 FFMP, which have been incorporated into the December 10, 2008 agreement.
- DRBC announced the withdrawal of the proposed Water Code Amendments implementing the FFMP. It was noted that new amendments will be proposed based on what was learned through the first year of implementation, knowledge gained from studies due in early 2009, and public comments received on the FFMP through the rulemaking process.
- The Subcommittee on Ecological Flows (SEF) will serve to collect, communicate and translate technical information relevant to the FFMP for RFAC. SEF was directed to solicit suggestions for additional members to the subcommittee including representatives of state agencies as well as experts in estuarine issues. Funding issues were discussed and will depend on the specific requests from RFAC. In the short term, RFAC requests that SEF review the two dwarf wedgemussel studies recently conducted (as they become available) and submit evaluations of these studies to RFAC.

**DETAILED MEETING MINUTES**

**Approval of minutes from RFAC meeting January 16, 2008**

Joseph Miri (NJDEP), RFAC Chair, opened the meeting and asked for approval of the January 16, 2008 minutes. Minutes were sent out electronically on December 5 by Hernan Quinodoz (DRBC) and were available in hard copy at the meeting. The minutes were approved without any changes.

## **Election of RFAC vice Chair**

Joseph Miri opened the floor for nominations for an election of the RFAC Committee vice Chair. Joe Miri provided an overview of bylaws. The vice Chair serves a two-year term and then becomes the Chair of the Committee in accordance with the bylaws.

John Talley, Delaware Geological Survey (DGS), was nominated to be the vice Chair, but was not present to accept the nomination. Harry Otto, DNREC, was then nominated. Harry Otto noted that he planned to retire before the end of a two-year term. Joe Miri noted that a special election could be held to replace Harry Otto, should he retire during his term. There were no additional nominations. Harry Otto accepted the nomination. Bill Gast (for PaDEP) seconded the nomination of Harry Otto. Nominations were then closed and Harry Otto was approved for vice Chair with no opposition.

## **Hydrologic Conditions Report**

Amy Shallcross (DRBC) gave a PowerPoint presentation summarizing the hydrologic conditions in the basin. In November, the basin had approximately two to four inches of rain. This is 75 percent of normal in the upper basin and 10-25% above normal in the lower basin, based on NWS data. The observed precipitation for the Delaware River Basin above Montague, New Jersey for the period January 1 through December 8, 2008 was 42.75 inches or 1.97 inches above normal. The observed precipitation for the Delaware River Basin above Trenton, New Jersey for the same period was 44.58 inches or 2.38 inches above normal. Also for the same period, the observed precipitation for Wilmington, Delaware was 36.14 inches or 4.15 inches below normal. These values are based on a summary of precipitation data from multiple gages above Montague and Trenton, but only one gage in Wilmington, DE.

The six year precipitation departure from normal was summarized. The NY State eastern plateau received approximately 270 inches of precipitation over the past 72 months, when it normally would have received 235 inches. Conversely, Delaware would normally receive 252 inches over 72 months and received 257 inches. Based on this analysis, the upper basin received on average 11 inches a year extra of precipitation while the lower basin experienced average rainfall.

The average observed streamflow of the Delaware River at Montague, New Jersey in November 2008 was 4,386 cubic feet per second (cfs), or 101.2 percent of the long-term average for the month. The average observed streamflow of the Delaware River at Trenton, New Jersey in November was 10,072 cfs, or 96.5 percent of the long-term average for the month. For the period of December 1-8, the average observed streamflow of the Delaware River at Montague was 5,164 cfs, or 105.0 percent of the long-term average for the month. Similarly, the average streamflow at Trenton was 11,416 cfs, or 100.9 percent of the long-term average for the month.

The storage in the NYC reservoirs is 226 Billion Gallons which is 84% of usable storage. The long-term median storage for the NYC Delaware basin reservoirs for December 9 is 172.652 billion gallons (BG), or 63.7% percent of usable storage. Cannonsville reservoir has 75.210 BG, or 78.6% of usable storage; Pepacton has 122.344 BG, or 87.3% of usable storage; and, Neversink has 28.955 BG usable, or 82.9% of usable storage. The reservoirs are releasing within the L1 range. Cannonsville and Neversink are releasing L1c and Pepacton L1b. The storage graph demonstrates that the combined storage is 54 BG above the long term median for December and only 1.2 Billion gallons above the value at this time last year.

Lower Basin Reservoir Storage as of December 9, 2008 was 12.97 (BG) usable, or 99.8% of usable storage in Beltzville Reservoir on the Lehigh and 4.76 BG usable, or 100.0% of winter

pool usable storage in Blue Marsh Reservoir on the Schuylkill. Earlier this year to maintain stream flow at Trenton, DRBC directed releases from the lower basin reservoirs. From Beltsville to Lehigh, 1.0 BG was released and from Blue Marsh on the Schuylkill, approximately 0.5 BG were released. The Merrill Creek reservoir has 14.97 BG usable, or 95.4% of usable storage (as of December 8, 2008). No releases were directed from Merrill Creek, which only releases to augment streamflow for consumptive use by power generation or during a drought. At current levels, Beltsville and Blue Marsh have all of their flood control storage available.

During November, the location of the seven-day average of the 250-ppm isochlor (salt line) ranged from river mile 73 to river mile 81. The normal location of the salt line during November is river mile 80, a location which is two miles upstream of the Delaware-Pennsylvania state line. As of December 8 (the most recent date for available data), the salt line was located at river mile 72. This location is two miles downstream of the normal location for December.

As of November 30, the average ground water level in eight reported USGS observation wells in the Pennsylvania portion of the basin was below the long-term average for the month. Water levels (30-day moving averages) at four of these wells are within their normal range for December 8; water levels at the remaining four wells are below their normal range for December 8. Water levels at the Cumberland Co., New Jersey coastal plain observation well are currently below their normal range. Water levels at the New Castle Co., Delaware coastal plain observation well were within their normal range on November 17, when last observed. Attached are graphical representations of the average water level in the eight upland monitor wells and in each of the two coastal plain monitor wells (New Castle Co. and Cumberland Co.) over the last 38 months.

There is no area within the basin that is classified with drought conditions. Last year at this time, the lower basin was considered abnormally dry, but has recovered over the past year. In central and western PA, conditions have been classified as abnormally dry and November 7, 2008, 29 counties in central and western PA were put on drought watch.

The 3-month outlook from the National weather Service states that for temperature, there is an equal chance of being normal, above or below normal, but the western part of the basin might experience warmer weather. In terms of precipitation, the basin is forecast with an equal chance of experiencing above or below normal rainfall.

Over the next five days, the NWS has forecast between 2-4 inches of rain in the basin. Some is anticipated to come in the form of an icy mix (for December 12-13, 2008). If parts of the basin receive 2 to 4 inches of rain over a 2-3 day period, some flash flooding may occur on the tributaries and it will depend on the rainfall intensity. NWS has predicted some minor flooding within the lower part of the basin.

Joe Miri asked if at present time there was a four inch deficit in the basin. Amy Shallcross responded that the four inch deficit was in the lower basin (northern Delaware) based on one precipitation gage located in Wilmington. Normally, Wilmington would have received 40 inches of rain to date but currently has only received 36 inches. Last year above Montague and Trenton received more than four inches of rainfall than would normally be observed. Currently, these gages are reporting precipitation of approximately two inches above normal.

### **Modifications and Adjustments to the Flexible Flow Management Program (FFMP) since September 2007**

Gary Paulachok, USGS Delaware River Master's Office, gave a Power Point presentation summarizing the first year of the FFMP modifications and adjustments. He also reviewed the

changes incorporated in the revised FFMP agreement, which was agreed to by all Decree Parties on December 10, 2008 and is posted on the River Master's website. The revised agreement contains changes to the release schedule in Table 3 to allow for additional fisheries protection in May and September. There are changes to Sections 16 and 17 and corrections to typographical errors in Tables 1 and 2.

Mary Ellen Noble, Delaware River Keeper Network (DRKN), said she was unable to download the document from the River Master's website. Gary Paulachok indicated that hard copies would be available before the end of the meeting and one was given to her afterwards.

Gary Paulachok reviewed the five temporary program adjustments that were implemented within the construct of the FFMP during the first year of FFMP signed by the Decree Parties on October 1, 2007. Several of the changes used water from the Interim Excess Release Quantity (IERQ). Under the terms of the FFMP, in 2008, a leap year, the quantity of the IERQ was 17,125 cfs days. In the FFMP there are provisions for water from the IERQ to be used under certain circumstances. The following summary below is directly from the River Master's website.

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**SUMMARY OF FIRST YEAR FFMP MODIFICATIONS AND ADJUSTMENTS  
TO THE FFMP AGREEMENT  
PREPARED BY THE OFFICE OF THE DELAWARE RIVER MASTER**

**DECEMBER 9, 2008**

1. **Temporary Increase in the Controlled Releases from New York City's Pepacton, Cannonsville, and Neversink Reservoirs.** Purpose – To facilitate the release of excess water from these reservoirs while a corrective maintenance inspection of a portion of the Delaware Aqueduct was conducted. Effective – February to March, 2008.
2. **Temporary Wet Spring Releases Schedule Adjustment for April 2008, Pepacton, Cannonsville, and Neversink Reservoirs.** Purpose – To better protect Delaware River Basin communities by authorizing, subject to certain reservoir-storage criteria, releases of water greater than those specified in FFMP Table 3. Effective – April 15-30, 2008.
3. **Temporary Thermal Releases Program for Fishery Protection.** Purpose – To allow for emergency releases of water from Cannonsville Reservoir, subject to specific air-temperature based triggering criteria, to provide additional thermal protection for the mainstem Delaware River downstream to near Hancock, New York. Effective – June 9-11, 2008.
4. **An Interim Excess Release Quantity Extraordinary Needs Bank for an Emergency Thermal Releases Program for Fishery Protection.** Purpose – Essentially a continuation of temporary program 3, above. To allow for emergency releases of water from Cannonsville Reservoir, subject to specific air-temperature based triggering criteria, to provide additional thermal protection for the mainstem Delaware River downstream to near Hancock, New York. Effective – July 1 to September 15, 2008.
5. **Temporary Releases Program for 2008 Rondout West Branch Tunnel Shutdown.** Purpose – To facilitate the release of excess water from Pepacton, Cannonsville, and Neversink Reservoirs while necessary underwater repair work is performed at a dewatering shaft of the Delaware Aqueduct. Effective – October 1, 2008 to May 1, 2009.

Tom Murphy (NYCDEP) noted that the shutdown work in the Rondout-West Branch Tunnel was finished and the tunnel reopened just before Thanksgiving. NYC is now diverting approximately 720 mgd from Rondout reservoir and is bringing the system back into normal operations. Under the program to date, 1.86 BG were released in addition to FFMP releases (0.63 BG at Cannonsville, 0.87 BG at Pepacton, and 0.35 BG at Neversink). Mary Ellen Noble asked about the amount of water released. Gary Paulachok stated that he did not have those numbers as of yet, since the program was just completed. Data will be provided at a later time.

The above were the five temporary programs that were operational under the first year agreement in accordance with the adaptive management provisions of the FFMP. Some of these changes were later incorporated in the revised FFMP that became effective December 10, 2008. The revised agreement also corrected some minor typographical errors in Tables 1 and 2. Table 1 had an incorrect number for the drought watch Montague flow target. In the Table 2 headings, the first FFMP agreement had a period that ended November 31 (should be November 30). The substantive changes that were incorporated and are effective in the revised FFMP agreement of December 10, 2008 are:

- Table 3 consists of the release schedule for the three reservoirs by season, based on the expected NYC diversion. Table 3 constitutes the so called Tailwaters Habitat Protection and Discharge Mitigation Program, designed by NYS DEC. Fisheries, biologists and water resources specialists in NYS DEC looked at the original Table 3 and determined that there was an opportunity to expand fisheries protection earlier into May and later into September by tweaking the tables, borrowing water from certain seasons and reservoirs and moving it into early May and late September. The total number of drought days that was worked with was unaffected by the change. Changes in Table 3 allowed for additional fishery protection and also an opportunity for increased recreation around the Memorial and Labor Day holidays.
- The second significant modification to the original agreement is in the revised FFMP Sections 16 and 17, clarifying the meaning of “temporary” release schedules during periods of maintenance and repair of NY City Delaware Basin Reservoirs and appurtenant infrastructure. The language has been clarified to the decree party’s satisfaction.

Mary Ellen Noble asked about the first revision in the new agreement regarding the extended period for the fisheries. She wanted to know from where the extra water to increase the releases was borrowed. Dr. Muralidhar explained that the release rates were adjusted slightly from within the seasons and from an artifact of the modeling analyses. The Decree Parties had developed a criterion for simulated drought days of 5,560 as the standard for evaluating alternatives. However, the FFMP that went into effect on October 1, 2007 only produced 5,530 simulated drought days. Some of the additional water used to the increased release rates is the water that produced simulated drought days of 5,560. Water was also exchanged from early May and late September for habitat protection.

Gary Paulachok stated that when criteria were developed for drought days, the drought days were not to exceed 5,560. When the original Table 3 was developed and implemented in October 2007 the total number of drought days simulated with that release schedule over the period of record was 5530, but the criterion was not to exceed 5560. The Parties agreed that when the releases were adjusted, the criterion would still be 5560, not 5530. Now all 5560 drought days are accounted and at the limit of the criterion. Mary Ellen Noble asked if the credit of drought days was used up. Gary said this was correct. Joe Miri indicated that the new Table 3 numbers are part of the

revised December 10, 2008 FFMP agreement, which will be posted on the Rive Master's website soon. Hard copies were handed out following the meeting.

### **Briefing on DRBC Withdrawal of Proposed Water Code Changes to Implement the FFMP**

Bill Muszynski, DRBC, gave a Power Point presentation about the status of incorporating the FFMP into the Water Code. He noted that the statement from the Commissioners, read by Katherine Bunting-Howarth, DNREC, will be posted on DRBC website.

The commissioners voted on December 10, 2008 to withdraw the amendments to the Water Code and the Comprehensive Plan that were proposed on December 3, 2007. They also directed the Executive Director to have Commission staff develop and propose new amendments to the Water Code and the Comprehensive Plan by the summer of 2009 or as soon as practical. Once these new proposed amendments are developed and drafted, the Commission will conduct a full notice and comment period. The new amendments will consider the Flood Analysis Model, which is being developed by the US Geological Survey, the Corps of Engineers, and National Weather Service for the DRBC and is expected to be available early next year. DRBC is also continuing to update the OASIS model with data through September 30, 2006 to account for the three major flood events in 2004, 2005 and 2006. The Commission also anticipates having the results of an ongoing study of the dwarf wedgemussels that is being done by the Fish and Wildlife Service and should be available sometime in the spring of 2009. That report should outline any impacts and what is needed for their protection. These findings should be incorporated into new Water Code amendments, along with the experience gained during the FFMP implementation, and including the investigation of alternative parameters to consider the risk and capabilities of the system.

The Commission will also consider suggestions made through the comment period that was held for the proposed code that was open through March 3, 2008. It is envisioned that the proposed amendments to the Water Code and Comprehensive Plan will provide standards for operations for the NYC, Delaware basin reservoirs and be less prescriptive than the previous proposals that contained more detailed operational requirements. The DRBC will provide a full public notice and comment period when major modifications are made to the reservoirs operating program. This will also allow for flexible and timely adjustments to address real-time conditions and incorporate recommendations that need to occur in a timely fashion, such as needs of key biological species and changes in river flow and temperature. Short term changes may also be needed for maintenance and repairs. Major modifications will benefit from public input especially in the regulation. Any significant operational changes would be subject to public review and comment.

Mary Ellen Noble asked about the language to be utilized. What is major and significant? Bill Gast stated that the definition will have to be included in the regulations. The terminology will be part of the standards. The amendments in the future will describe the process along with the standards.

Peter Kolesar from Columbia University indicated that the DRBC seems understaffed and underfunded to conduct this research in a timely manner. In his opinion, the DRBC track record has not been good over the past years in speed or thoroughness of the analyses. How does the Commission plan to undertake these analyses to make significant decisions by the summer of 2009, which is a short time frame. Who is going to do what and how? What is the output of analyses with the new flood model that do not exist yet? Bill Muszynski stated that DRBC has sufficient resources to conduct these analyses and noted that the DRBC has not yet received the flood model.

Peter Kolesar asked about the extent and nature of the evaluation of the FFMP performance to date. Bill Muszynski replied that DRBC will do the analyses in conjunction with the Decree Parties.

Joe Miri noted that he is looking forward to the next six months and the results of studies that were mentioned. The process will be a test for all, not only in terms of staff time and resources, but to come up with the Water Code amendments that he hopes will be a better approach to the relationship between the FFMP and the regulatory role of the Commission.

### **Report on Subcommittee on Ecological Flows (SEF) activities and last meeting**

Mark Hartle, PAFBC and SEF Chair, provided an update on the subcommittee's activities. SEF's last meeting was on September 16, 2008, when Mark Hartle was nominated to be chair of SEF and accepted the position. Mark replaces Colin Apse as SEF Chair. Mark will electronically distribute the notes from the September 16, 2008 SEF meeting. At the meeting, the ecological flows component of the FFMP was discussed; NYS DEC staff indicated they were pleased with the performance of the FFMP in the tributaries. PA Fish and Boat Commission representatives indicated that they provided analyses showing that conditions in the upper main stem were worse than typical conditions before the FFMP. Discussion ensued for the need to analyze the first year performance of the FFMP and compare it to other reservoir release plans. To date, such an analysis has not been accomplished in a comprehensive fashion.

Dwarf wedgemussels (DWM) were also discussed at the September 16 meeting. DWM are of particular interest because they are governed by the Federal Endangered Species Act, not the 1954 Supreme Court Decree. The dwarf wedgemussel is a national endangered species and there are two study efforts underway in the Upper Basin. One was completed by Jeff Cole for the USGS. The purpose of Cole's study was to investigate the habitat and flow needs of the dwarf wedgemussels. The second DWM study is being conducted by Piotr Parasiewicz and is expected to be completed in March 2009. Cindy Tibbott of US Fish and Wildlife Service indicated that they do have responsibility under the Endangered Species Act for the dwarf wedgemussel at the federal level and she indicated her agency's concern that the requirements for the dwarf wedgemussel be considered.

A discussion began about SEF's future role. Where should SEF head in the future; should SEF get input from RFAC? RFAC sees SEF's role as coordinating with the state Fish and Wildlife agencies and the US Fish and Wildlife Service. SEF can serve as an intermediary to communicate information from various stakeholders to RFAC.

Mark Hartle's role within the PAFBC (his agency), separate from SEF is to coordinate with the State and Federal fishery and wildlife representatives concerning dwarf wedgemussel and fishery issues. Mark also understands that the Fish and Wildlife Services of each state have also been communicating with the River Master's office. Discussion began about review of the Cole report and the evaluation of habitat needs for the distinct populations of the dwarf wedgemussels that are known to exist. The Cole report indicated that the population most at risk is associated with the Callicoon location, near the gage. There is an opportunity to have site specific information that can correlate to habitat needs of the dwarf wedgemussel. Piotr Parasiewicz's report will likely provide additional information and complement the Cole report. In a separate effort, the NYS DEC Division of Fish and Wildlife and PAFBC met to initiate a formulation of biological goals for the upper Delaware basin. There is no product to report from that effort, but it is underway. The analysis will take the form of evaluation of different segments of the upper Delaware. For example, the West Branch from Cannonsville down to Hancock, and different sections of the East Branch that are influenced by higher temperatures from the Beaverkill. The

idea is to develop goals for each individual segment. Mark asked RFAC members if SEF should function as an intermediary and as a channel to communicate related agency activities. Various RFAC members agreed.

Bob Tudor indicated that the Delaware Commissioner is also concerned about the ecological needs for the estuary in addition to those of the upper river. He indicated that it would be helpful for SEF to filter all the ecological considerations including the dwarf wedgemussels and the estuary and then make recommendation to RFAC. It would be useful to have somebody reconcile the fishery interest in the tailwaters with the ecological flow issues in the estuary. A question yet to be answered is will the threatened endangered species requirements trump everything? SEF could be the vehicle to reconcile some of those issues.

Joe Miri asked if the structure and membership of SEF at the present time is suitable to address estuary issues, since SEF's membership was originally oriented towards the upper basin. SEF membership does not necessarily need a structural change, but there seems to be a need for a different orientation and concentration of interests, background and experience than that of the majority of the current members, which are focused on upper basin issues. While SEF had performed well over the past several years, RFAC needs to find some mechanism to broaden SEF's scope of interest and outlook. Joe Miri also asked if SEF's role could be performed without any additional funding. Previously, SEF had the benefit of financial assistance that is no longer available. Is there need for additional funding? Mark Hartle replied that funds might be required if RFAC request a specific analyses that require resources that SEF members do not have. Mark indicated that his time is underwritten by his agency. He also noted that is not trying to pre-empt the Delaware Fish and Wildlife Cooperative but to serve as a vehicle to communicate between agencies.

Dr. Muralidhar noted that funding was not provided through the agencies. As funding needs arise, SEF or RFAC can look at a proposal and identify other sources of funding. If the proposed research is approved by RFAC, funding will be pursued from Federal agencies or other sources. Dr. Muralidhar stated that both types of projects (funded and non-funded) should be ongoing simultaneously. Joe Miri sees two different types of functions for SEF. One is ongoing coordination of communications and to define research efforts that responds to a specific questions or assignment made by RFAC. The second is to serve as a reviewer, using the group's expertise to provide summaries of their evaluations of analyses and reports (Cole, Parasiewicz) to RFAC.

Joe Miri asked that SEF filter communications so that RFAC has the benefit of the group's expertise in trying to understand the technical input. SEF should determine the value of primary investigators presenting their results to RFAC or if SEF should provide verbal results/summaries via e-mail describing these various reports or condensing them.

Harry Otto emphasized that SEF needs to have a basin- wide focus and to recognize the need for estuarine experts, which are not currently part of the subcommittee. Mark Hartle suggested that SEF could have two work groups: one for the upper basin and one for the lower basin and estuary. He agreed that SEF should have a more holistic scope, not focused on just the fisheries. Bill Gast cautioned, however, that you do not want competing proposals and perspectives from different work groups. He suggested that, if workgroups are formed, the broader SEF group still needs to sort out the different perspectives. Joe Miri agreed, and suggested that SEF should be broadened to consider estuary concerns, and then when requested by RFAC, such sub-groups can use their expertise to address specific topics or sections of the basin.

Someone asked how do we change the scope of the committee through membership? SEF was originally formed to address upper basin issues that RFAC was discussing at the time. RFAC now needs to decide if it needs SEF to concentrate on other issues. What are their goals and expectations? Harry Otto suggested looking at the current membership of SEF to see if they need to add additional members from each of the states or states agencies to represent estuary interests. Research organizations could bring in funding for projects. Does SEF need a subcommittee to help with funding and or different scientific backgrounds? Bill Gast indicated the need for a balanced committee with people from varied backgrounds (scientific, academia, upper and lower basin state agency personnel). Dr. Muralidhar recommended that SEF make recommendations to RFAC as to who could be the potential additional SEF members. A motion was made to direct Mark Hartle to look into seeking out new membership within the states and non-state agencies and report back to SEF. Harry Otto and Dr. Muralidhar seconded the motion, requesting that Mark Hartle report back to RFAC in 90 days. Bill Muszynski indicated that the next Commission Meeting would be on March 11, 2009. Mark Hartle will canvas persons with various backgrounds for membership in the work groups. RFAC members agreed that no face-to-face meetings were necessary and that SEF and its sub groups could email or have teleconferencing or webcasting if needed. A motion was made, seconded and approved.

Tracy Carluccio requested that SEF work proceed at a faster pace considering the schedule for revision of the FFMP and proposal of new amendments to DRBC's Water Code. Major modifications to the FFMP would require significant research, and SEF needs to define its research questions first. What research projects/work will be chosen to be done by SEF and what is the timeline? Fundamental work for the ecological flow committee was temporarily suspended, but should be accelerated in the timeline. Joe Miri stated that the 6-month deadline could be accelerated; however, it takes time to get the study underway, get results and present them, so a 6-month timeframe is acceptable. Bill Gast noted that the studies by SEF did not have to be identified and completed before DRBC proposes new Water Code amendments. He emphasized that the goal was not to produce major modifications to the FFMP by June. Instead, the idea is to modify the construct of the FFMP by June, but not the core components. Maya van Rossum asked why the emphasis on the upcoming studies if there will be only a change in the format of the FFMP? Joe Miri and Bill Gast both indicated that the purpose of the revised FFMP format is to more readily allow adjustments to the releases based on new findings as they are made available. Joe Miri directed Mark Hartle to report back to RFAC in 90 days. A motion to support this request was not deemed necessary.

Mary Ellen Noble suggested that Mark Hartle will be challenged to know how to re-constitute the SEF membership if he isn't given clear direction from RFAC on the questions that SEF will need to address. She also suggested that Danielle Kreeger may be a good person to include in SEF since she is aware of the various research projects occurring in the estuary. Dr. Muralidhar offered that RFAC members could provide a list of issues, and that Mark Hartle should solicit such ideas from RFAC members in the coming weeks. Tracy Carluccio disagreed, indicating that the most important role for SEF in the near future would be to digest and summarize both of the dwarf wedgemussel studies and report to RFAC on their understanding of these studies. RFAC members agreed that such a role for SEF would be useful and requested that SEF conduct such a review, making this task a priority over the next few months.

### **Next Meeting Date**

The next DRBC Regulated Flow Advisory Committee meeting will be scheduled at a later time.

**REGULATED FLOW ADVISORY COMMITTEE**  
**December 11, 2008**

**ATTENDANCE**

<b>Name</b>	<b>Agency</b>
Tracy Carluccio	Delaware Riverkeeper Network (DRN)
Mary Ellen Noble	DRN
Mark Hartle	Pennsylvania Fish & Boat Commission (PFBC)
Glen Stevens	Army Corps of Engineers (ACOE)
Hank Gruber	ACOE
Bob Tudor	Delaware River Basin Commission (DRBC)
Senobar Safafar	New York City Department of Environmental Protection (NYCDEP)
Bob Mayer	NYCDEP
Peter Kolesar	Columbia University
Clarke Rupert	DRBC
Maya van Rossum	DRN
Bill Gast	Pennsylvania Department of Environmental Protection (PADEP)
Hernan Quinodoz	DRBC
Erik Silldorff	DRBC
Joe DiBello	National Park Service
Tom Brand	NJDEP
Hoss Liaghat	PADEP
Joe Miri	New Jersey Department of Environmental Protection (NJDEP)
Bill Muszynski	DRBC
Harry Otto	Delaware Department of Natural Resources and Environmental Control (DNREC)
Gary Paulachok	United States Geological Survey – Office of the Delaware Rivermaster
Amy Shallcross	DRBC
Cindy Tibbott	United States Fish and Wildlife Service
<b><u>Teleconferenced in:</u></b>	
Stefanie Baxter	Delaware Geological Survey
Jim Daley	New York State Department of Environmental Conservation (NYSDEC)
Mark Klotz	NYSDEC
Dr. Muralidhar	NYSDEC