

Upper Delaware Council  
**WATER USE/RESOURCE MANAGEMENT COMM. MEETING MINUTES**  
**February 19, 2013**

Committee Members Present: Tony Ritter, Al Henry, Pat Jeffer, Andy Boyar  
Committee Members Absent: John McKay  
NPS Partner: Don Hamilton  
Staff: Laurie Ramie, Travis O'Dell  
Guests: Peter Kolesar, Jim Serio, Larry Richardson, Jack Niflot, Bernie Handler, Scott Rando, Bill Reitsma, Fritz Mayer, Isaac Diebboll, Anne Willard

The UDC's Water Use/Resource Management Committee held its monthly meeting on Tuesday, February 19, 2013 at the Council office in Narrowsburg, NY. Chairperson Ritter called the meeting to order at 7:03 p.m.

Ritter welcomed Dr. Peter Kolesar and Jim Serio who were there to present "Alleviating Thermal Stress on the Upper Delaware". Ritter noted that Kolesar is Professor Emeritus at Columbia University and shared with the committee a brief synopsis of his background, research, and accomplishments. Serio, Ritter said, is the founder of the Delaware River Foundation and provided members with a brief summary of his background, research, and accomplishments as well.

Kolesar noted that he and Serio are here to request that the Upper Delaware Council support the Delaware Watershed Conservation Coalition's efforts to convince the Parties to the 1954 Supreme Court Decree to include a thermal stress relief program for the trout in the upper main stem of the Delaware in their 2013 revision of the reservoir water release rules. He noted the Council did approve similar action several years back by supporting the Joint New York/Pennsylvania Fisheries "White Paper." Kolesar said the Decree Parties have asked them to suggest the framework for a simple thermal relief program and they would like to have the last word on the details. This relief program would be an add-on to the programs that already exist. They are compatible with the current FFMP/OST release rules framework, and can be implemented in the next rules revision. Thermal relief in the Upper Delaware can be achieved without impacting water availability or the interests of any of the river's stakeholders. Kolesar reviewed and explained his Power Point presentation. Over the last decade the upper main stem of the Delaware has experienced an average of 12 days of severe thermal stress to trout per summer, with the worst summer having 23 severe stress days. They estimate that a 118 cfs additional pulse release of cold water from the Cannonsville dam can reduce summertime water temperatures at Lordville by 1°F. Stress mitigation would require about 3,400 cfs days of additional water in an average summer, while the worst summer would require about 6,500 cfs days. This amount of water is typically available and could be released with no negative impact on other Delaware stakeholders – including New York City. Thermal stress events in the Upper Delaware can be forecasted by monitoring current river conditions and NWS forecasts of air temperatures in the region. Kolesar said the "key to success" is to identify these potential thermal stress events in advance and try and prevent them from happening. The thermal stress relief program instituted by PPL in 2010 on the Lackawaxen River, a tributary to the Delaware, is a model for what can be done on the Delaware. Kolesar said they are recommending an experimental thermal relief program should be included in the June 2013 revision of the FFMP/OST release rules. Detailed program design could be a collaboration between the Conservation Coalition, NYC DEP, PF&BC and NYS DEC Fisheries.

Kolesar said that in recent years there have been attempts to alleviate thermal stress by pulsed releases for the NYC dams on the headwaters. These efforts have been without a defined protocol or clear guidelines, and implementation has been inconsistent. They have been conducting their research on the issue for one and a half years and their target has been the Upper main stem of the river from Hancock to Lordville. Richardson asked if they are able to improve the areas from Hancock to Lordville, wouldn't that indirectly improve the waters from Lordville to Hankins and below. Kolesar said to some extent. He noted there is a decrease in effect as the water warms and more tributaries come in with warm water. He said that essentially by the time you get near to Callicoon, the river is coming into thermal equilibrium with the environment and there is not a lot you can do for the river below that.

Kolesar stated that while their focus is on the health of the trout in the upper river, they are mindful of the interests of all Delaware stakeholders. The river is the water supply for 15 million

Americans. Other issues affected by water policy include flood risk, recreational uses and two National Park segments, and other wildlife needs such as shad, bass, and dwarf wedge mussels, to name a few.

Kolesar noted that while computations show that there is generally enough water in the system to mitigate summer thermal stress, the Delaware system water must be used prudently. He stated our dams will hold only roughly one year's supply of water. He said the multi-year drought of the 1960's is what causes New York City to be cautious. Some other water availability considerations include water supply and water usage are out of sync during the year and the pressure from flood victims for reservoir voids makes less water available for the river at critical times.

Kolesar said it is very well understood by the scientific fishing community that when the water temperature gets above 68 degrees Fahrenheit, the trout are in trouble. When the temperature gets above 75 degrees Fahrenheit, it is really lethal. The Fishery Conservation Coalition is trying to protect fish against 75 degrees Fahrenheit as the maximum daily water temperature. At that kind of temperature, trout die and/or they have to abandon their stations in the river and migrate.

Kolesar noted that conservation releases have gotten better and main stem flows have improved, but thermal stress problems remain real. Kolesar referenced charts in his PowerPoint presentation and discussed the successes of pulse releases. He said cold water released from the dams warms and mixes with tributary water as it flows downriver. Hamilton told Kolesar he may want to consider checking the new Park Service gauge placed at Lordville located off one of the bridge piers in about six feet of water and compare it to the reading he gets off of the USGS gage which is located on the Pennsylvania side of the river in about two feet of water. Kolesar stated the water warms through the summer, peaking in July. He spoke about the inconsistent stress mitigation efforts in 2012 when the Pennsylvania Fish and Boat Commission anticipated four of the five actual stress events and only one was acted upon. Temperatures can vary considerably from day to day. There is a strong daily temperature cycle that peaks in the late afternoon. Our goal is to control the worst of those peaks, Kolesar said.

Kolesar shared the summary of thermal stress history at Lordville. He said that on average there were 12 stress days in an average summer. One summer (1992) had none; the worst summer (1995) had 23. Stress days cluster in July, he said. The average maximum temperature when in stress was 76.4 degrees and that only requires a modest shot of water to bump it back down again. The highest maximum temperature was 81.3 degrees and that takes a bigger bolt of water to cure, he added.

Kolesar reported that since the Flexible Flow Management Program has been in effect since 2007, the New York City Reservoirs have never been out of the normal range in the summer.

Boyar referred to the 81.3 degree day and asked if that occurred over a period of days and questioned that if it were mitigated earlier, would the temperature get that high. Kolesar said this is what happens without the mitigation program.

Kolesar said a challenge for him has been to find an equation, including reservoir releases, that explains the 5-year-long summertime temperature pattern at Lordville and figure out "how much water would it take to know the peaks below 75 degrees F?" It has been learned that water from the Cannonsville Reservoir is more than twice as effective than water from the Pepacton Reservoir in reducing temperatures on the main stem. Kolesar reported his findings are that a 100 cfs Cannonsville release reduces Lordville maximum daily temperature the next by about .85 degrees F. Thus it takes about 118 cfs to lower it by 1 degree F. He noted the lower the flow is at Lordville, the higher will be the impact of additional Cannonsville releases. He said they have regression equations with an extreme predictability which does not happen often in the world of statistics, but is happening here because the problem is physics. The water is warming in basically an orderly way.

Kolesar said water is available to run the thermal release program. The current program already has a water bank called the IERQ (Interim Excess Release Quantity) to meet special needs. Kolesar asked them how the IERQ water is being used. He determined there is more water unused on average in the bank than they are asking for. He said that according to the *OST-FFMP General Release Summaries*, actual scheduled releases have been 221 cfs below their own computation of water available.

Kolesar said the PA Fish & Boat Commission has done an excellent job of forecasting stress events in recent years. To supplement their work, he said they took a statistical approach to forecasting Lordville summertime daily maximum temperatures. Data was available for the summers of 2007 to 2012. He said the goal was to forecast the Lordville river temperature tomorrow, using only information available today. A simple model using three variables which are available daily produces good forecasts. Those variables are the Lordville daily maximum temperature today from the USGS gage, Stilesville discharge today (USGS gage) and the National Weather Service out of Binghamton air temperature forecast for

tomorrow, made today. The model, Kolesar said, is similar in concept to that used successfully in the PPL temperature forecasting model for the Lackawaxen River.

Kolesar told committee members he urges the implementation of an experimental thermal relief program for Lordville in the upcoming FFMP/OST revision based on these results and on the ability of the Pennsylvania Fish & Boat Commission and NYS DEC to forecast thermal stress events. He added a principle goal, in addition to providing stress mitigation next summer, should be to conduct experiments to validate our estimates of the cooling effect of Cannonsville releases on Lordville temperatures, and our ability to forecast stress events. He suggests a cooperative development of the details of the program effort with the partners being the Delaware Watershed Conservation Coalition, NYC DEP, Pennsylvania Fish & Boat Commission, and NYS DEC Bureau of Fisheries. The teamwork that led to the design of original FFMP in 2007 and to the Joint Fisheries White Paper in 2010 is a model of working together for the common good.

Ritter asked Kolesar if New York City were to ask him how much additional release from Cannonsville in July & August would he need to implement the 75 degrees Fahrenheit at the end of the day in Lordville, what would it be? Serio replied we currently receive 500 cfs releases. He said what we are asking for is a bank of 3,000 to use only when needed.

Boyar asked what objections the downstream users would have to the proposed program. Kolesar said he thinks there are two objections. From New York City's viewpoint, "any gallon of water that's not in the reservoir is not in the reservoir" and they are always thinking that the drought of the century could start tomorrow. We need to persuade them that this is minimal risk for maximum gain. For the other Decree Parties, the big concern is Trenton and the salt front in Trenton. The concern is over keeping the salt front from coming far enough up river to interfere with Trenton's water intake.

Boyar asked Kolesar if you can have both cold water fisheries and warm water fisheries in the same river. Kolesar said that Nat Gillespie, Assistant National Fisheries Program Leader, was invited by Decree Parties to go down to Trenton to talk to them about fish, fisheries, releases, and other issues. He made the point to them that this is a cold-water fishery; it wasn't before the dams were built, but it is now. Kolesar said the Delaware is a coldwater fishery to Lordville, and to Callicoon until June 1<sup>st</sup>. Gillespie made the point to them that it is "one of the greatest coldwater fisheries in the world." Kolesar said the Delaware is a great warmwater fishery from Callicoon on down. Hamilton noted there are 53 different species of fish in the river. He said we need to develop a better understanding of some of their habitat needs, understand where there are conflicts and how it should be managed.

Henry asked Kolesar what impacts the proposed Cannonsville Hydroelectric project might have. Kolesar said he was told that the releases would not change. Henry said that was not his understanding. Serio said in order to change the release schedule, unanimous consent by the Decree Parties is required. He added that NYC can not change the release patterns because they may be adding four turbines. Kolesar said the reservoirs exist for drinking water for NYC and he does not feel they would do anything to jeopardize that.

Richardson questioned if NYC's water needs have remained consistent. Kolesar said they have actually gone down over the last 20 years, but are still far above the national average for urban water systems in their usage. Richardson asked Kolesar if he sees a need to stress the economic benefits of what you're trying to propose. Kolesar said that Trout Unlimited did a study years ago and the results showed that the economic benefit from the fishing industry is in the millions. He added that "this is under-exploited" as a fishery compared to other parts of the world. He said the potential to build an economy around fishing is here. The season starts April 15<sup>th</sup> and is great through May. The FFMP has extended the season especially in the West Branch and the upper part of the main stem. The more we can do to extend the better fishing, the more vibrant the economic light is going to be, Kolesar added. Ritter noted we're talking about a system that has wild trout, which makes it a first class experience. Richardson feels it is important for people outside of the sport fishing industry to understand there is a tremendous potential economic gain for this area. Boyar said it is important to recognize there is no down side to the plan. He said it is a "win" situation for some facets, but it is not a lose situation for others, so why not improve it. He added the River Management Plan states to "protect against rapid temperature fluctuations." He said it is our charge as Council members to follow the Plan. Serio said that he and Kolesar have maintained that if fishermen are happy, that's great, but the proposed plan is for the benefit of the fish. He said they have always used the analogy that "trout are like the canary in the coal mine." He added that if we have healthy trout, we know we have a healthy river, so it is about making the river healthy too. Audience member Bill Reitsma asked how PPL on Lake Wallenpaupack received permission to release whenever they want.

“Aren’t they part of the Montague gage?”, he asked. Kolesar said their water is part of the Montague gage but the Supreme Court gave NYC the responsibility to manage the reservoirs so that the flow at Montague is consistent at all times. The city has to make up for water that may not be released from Lackawaxen or if water is released from the Lackawaxen, that needs to be taken into consideration.

Kolesar said he included all the diagrams in his program to show that it is really a complicated system and all the dynamics that are going on should be taken into account.

Serio said they have asked NYC that if the reservoirs are going to spill in the spring, to release that water the summer prior before they spill and that water is wasted. He said they managed to convince them and as a result, 23% of what used to spill is not spilling and being released the summer before it would have spilled. Serio said this is a huge step forward. He added that the water they are asking for, for the thermal bank, is probably close to the equivalent of one day’s water that comes into the Cannonsville Reservoir. He said one day’s water is what they are asking for to put in the bank to use through the whole summer. Kolesar said that input from the Upper Delaware Council is pretty important.

Audience member Scott Rando questioned Kolesar if they are going to be able to convince NYC to make the releases at the best determined times. Kolesar noted a key player is Paul Rush who manages the reservoirs and he said indirectly that he didn’t want an algorithm, he wants guidelines. Kolesar said he hopes to work on this collaboratively with them as they have in the past.

Boyar noted that this proposed plan was discussed at the Friends of the Upper Delaware River conference in October 2012. Since that time, this proposition has received the support of river users and stakeholders including the Delaware River Conservation Coalition, Friends of the Upper Delaware River, Trout Unlimited National, New York Trout Unlimited, Pennsylvania Trout Unlimited, New Jersey Trout Unlimited, the Federation of Flyfishers, Theodore Gordon Flyfishers, and Wild Trout Flyfishers. Kolesar believes the next DRBC meeting is March 7<sup>th</sup> and he is trying to get an audience with Paul Rush prior to that meeting. The Parties are supposed to make a decision by June 1<sup>st</sup>, but if they don’t have a unanimous decision, it could be extended.

Henry wonders who is opposed to this proposed thermal bank program. Kolesar said he does not really know. He has heard that some down basin people have concerns, but has no other details than that. He believes that Trenton has an issue and also feels there may be a sense of proprietaries over the Interim Excess Release Quantity (IERQ). He feels more conversation is needed with the people with these beliefs to show them that it will not do them harm. Boyar remarked that our mission is not to protect Trenton, that our mission is to protect the Upper Delaware River. Kolesar reiterated that the quantity of water being asked for for this bank is modest.

Hamilton pointed out that there is a whole economic aspect to the value of ecosystem services in this system, a relatively intact functioning ecosystem, the last undammed major river on the Atlantic coast. In addition to the economic recreation benefits, this is something that is being looked into more in depth. Boyar thanked Kolesar and Serio for their work and commented how lucky the Council is to have individuals who have dedicated years of their lives to improving the Delaware River.

A video of this presentation is available at

[https://www.youtube.com/watch?feature=player\\_embedded&v=w9DDXWjOSyI](https://www.youtube.com/watch?feature=player_embedded&v=w9DDXWjOSyI) courtesy of <http://communityfilmwatch.blogspot.com/p/about.html>.

A motion by Boyar seconded by Henry to approve the January 15 meeting minutes was carried. There was no public comment on the agenda.

### **Old Business:**

**Upper DeLAWARE Roundtable 1/17/13 Meeting Update:** T. O’Dell said he attended that meeting which was facilitated by Jennifer Grossman, a private consultant for the Natural Resources Defense Council. The topic of the meeting was agriculture, O’Dell added, touching on a lot of issues faced by the farmers in our region. O’Dell briefed committee members on some of the topics covered at the meeting.

**D&H Transportation Heritage Council 1/23/13 Meeting Update:** Ramie said she attended this quarterly meeting which took place at the Port Jervis Youth Center. She noted there is a series of videos being produced to raise awareness about the D & H Canal and the Gravity Railroad. Filming of the most attractive features of the canal route from Carbondale, PA to Eddyville, N.Y. is being planned for the spring and fall. They hope to portray both the historic and modern looks of the canal.

Also discussed was the Lackawaxen and Upper Delaware Greenway proposal. It is a Pennsylvania Department of Conservation and Natural Resources grant project. The DHTHC simply wants to be sure that the organizers are aware of the presence and the importance of canal remnants in the Lackawaxen area.

Ramie reported that individual memberships are now being accepted in the DHTHC. There are dues of \$20 to become a non-voting member to support the Council's mission.

Ramie said the majority of the meeting on the 23<sup>rd</sup> was about goal setting. There was a desire to put some interim long-term and short-term goals into effect given that this was the first meeting of 2013. Ramie shared some of these goals with Committee members.

Ramie noted that the usual announcements of member accomplishments, concerns, and upcoming events by the participants of the DHTHC were shared. The next meeting will take place on Wednesday, April 24<sup>th</sup>, and the tentative location is the National Park Service's District Office in Barryville at the Corwin Farm property. This meeting would include a morning field trip to visit two canal locks that exist in the Barryville area.

**Common Waters 2/7/13 Partnership Meeting Summary:** Ramie noted there is a handout in members' packets and encouraged them to read it at their leisure. She said she, T. O'Dell, and Don Hamilton had attended this meeting and a lot of topics were covered. Ramie told members that if anyone has any questions, to please let them know. She said the group meets again on April 11<sup>th</sup> at a location to be determined.

**NPS Marcellus Shale 2/11/13 Conference Call Report:** T. O'Dell said the topic of this call was the current 9B regulations which regulate the drilling under National Park lands. The call was geared towards our area, O'Dell noted. He said the regulations originated in 1979 and they are looking to overhaul them to incorporate modern practices. He said a big topic discussed was where exactly the boundary line for the river corridor is. Henry noted the boundary is all on private property. Ramie said any regulations will have to be tailored to this area because of these unique circumstances. Henry is glad this issue is being followed up on. O'Dell said the new draft regulations are due the end of this year and we will have to wait to see what they come up with.

**Other:** None

**New Business:**

**NYS Partnership Regional Invasive Species Management (PRISM) 1/30/13 Call Report:** T. O'Dell said he sat in on this call. The topic was invasive worms, he added. A handout was provided in members' packets. O'Dell noted that Cindy Hale's, an ecologist at the University of Minnesota, take home message from this call is for fishermen to dispose of their baitworms as opposed to dumping them out on the ground. A brief discussion about this topic took place.

**Model Forest Policy Program (MFPP) 2/12/13 Conference Call Report:** T. O'Dell said he was invited by Stephanie Pendergrass of the Pinchot Institute and Susan Beecher, former director of the Pike County Conservation District, to participate in the 2013 Climate Solutions University, Model Forest Policy Program. Participants include Norton Bay, AK, Rogue River Basin, OR, Santa Fe River Basin, NM, Marquette Co, MI, and Upper Delaware River Basin, PA, NJ, NY. The objectives are to provide a process for planning that helps communities prepare for climate resilience, and to build on communications, peer learning and collaboration of networks and resources to facilitate local adaptation to climate change impacts. The goals of the Upper Delaware River Basin through this program focus on building robust communications throughout the region as well as establishing good scientific data resources. More information on this program can be found at [www.mfpp.org](http://www.mfpp.org).

**Delaware River Flow and Storage Data Report:** Ritter reported that Cannonsville Reservoir is currently at 88.4% and Pepacton is at 86.5%. Total NYC storage right now is 88.6% and normal for this time is 82%. Precipitation is right where it should be and Ritter noted that the snowpack information that he has been receiving, he is sharing with staff and committee members. Boyar referenced the Delaware River Basin Storage report included in the packets and spoke about thermal releases without impacting the system.

**March 19 WU/RM Presentation: PA Community Conservation Partnership Program Grants:** Ramie said presenters will be Dennis DeMara and Lorne Possinger from the Pennsylvania DCNR conducting a mini-workshop on this grants program which DeMara has advised that the UDC could be eligible to participate in under the partnership grant category. The deadline for applications is April 10<sup>th</sup>, Ramie added. The workshop will be publicized, especially to all our Pennsylvania Township members.

**Other:** Boyar said he would like to introduce a resolution to the WU/RM Committee to initiate a movement of support of the “Lordville Thermal Stress Relief Protocol” out of the Council. Referencing the draft he provided, he noted that the italicized language in the first two paragraphs comes directly from the River Management Plan. He summarized “the plan is designed to allow the managers of the dams at Cannonsville and Pepacton to release waters with maximum efficiency to mitigate stress on the fisheries, without interfering with the water supply to the Delaware River stakeholders, basically a win-win situation.” He said we are asking for a pilot program implementing this protocol be adopted as part of next year’s flow management regime. Boyar made the motion to introduce to the full Council a resolution in support of the “Lordville Thermal Stress Relief Protocol”. The motion was seconded by Henry and carried unanimously. Ramie said staff will prepare the resolution in the typical format for the March 7<sup>th</sup> UDC meeting and send it out in advance for consideration by the full board.

Henry said he had seen an article recently regarding USGS gages and funding for the gages being a concern. He wondered if anyone had any more information on that. Ramie said it seemed to involve the Susquehanna basin primarily. Hamilton noted there have been some gages discontinued on the Delaware system. Henry said the article he read, did not specify Delaware or Susquehanna. Hamilton said he could try and find out if there is a list of gages that are at risk. Boyar commented it is important to know what is going on in major tributaries. A brief discussion took place about various gages. Boyar asked if it is very expensive to maintain gages. Serio said he has looked into this. He said the USGS claims the yearly cost to maintain a gage is \$40,000 to \$50,000 and the equipment is another \$60,000 or \$70,000 a year. Serio said he has looked into private funding to do some of the gages and it can be done significantly cheaper than that. Hamilton noted a lot of the USGS gages are shared with other entities. Discussion about gage costs took place. Boyar questioned if it is an exact science. Hamilton said they do have pretty high standards and they vet all their data before it goes out. As a result, they do clock some very high overhead, Hamilton added.

Henry recommended that the Council or the Park Service contact whomever to get some more information of the proposed Cannonsville Hydroelectric project. Boyar said it has been stated that the turbines would not affect temperature nor would it affect the quantity or flow of the river. Serio agrees with Henry that it would be nice to get some more information and he said it is an opportunity for FERC to get that information in writing and put into the document. Documenting this information is very important, Boyar agreed. Ramie said we have requested that the NYC Department of Environmental Protection offer a presentation on that exact topic of the Cannonsville Hydroelectric project. She said they have agreed to do it, but it would not work out for the March 7<sup>th</sup> meeting so they are going to look into an alternative full Council first Thursday meeting.

Ramie offered a reminder that we are accepting nominations for our 25<sup>th</sup> Annual Awards Ceremony which is coming up on April 28<sup>th</sup>. The nominations are due by March 15<sup>th</sup>. The forms are available on the website or individuals can submit nominations informally anyway they would like. We are looking for individuals, organizations, groups, communities that are doing good works in the Upper Delaware, she said.

Hamilton mentioned that the Park Service is going to be co-sponsoring with a number of other organizations a bioblitz. A bioblitz is an intense period of biological surveying in an attempt to record all the living species within a designated area. It is being planned for June 28<sup>th</sup> and 29<sup>th</sup> at a piece of property owned by the Norcross Wildlife Foundation. The property borders Shehawken Creek, the West Branch and the Main Stem below the confluence. He said the property should be biologically diverse. Hamilton added that more information will be sent out on that in the form of press releases. The public will be invited on the second day. Hamilton said it is a nice opportunity to highlight the biodiversity of the natural resources that are found here in these undeveloped areas along the river and to help people develop an awareness and appreciation and understanding of what that means, how it contributes to the other resources including water quality that we have here. The hope is to make this a bi-annual event and they may be looking to encourage more participation from different groups to potentially sponsor or participate.

Ritter thanked Isaac Green Diebboll for videoing the presentation. He noted communication is a necessity and we will be able to refer back to tonight's presentation.

**Public Comment:** Serio told Hamilton that on the Norcross Wildlife Foundation property, there is a perfect opportunity for a Japanese Knotweed demonstration project because there are four or five little islands of knotweed on the shore that are not connected. He suggested there could be demonstrations on how knotweed could be controlled. Hamilton said that maybe that could be incorporated into the bioblitz.

**Adjournment:** A motion by Henry seconded by Boyar to adjourn the meeting at 9:23 p.m. was carried.

*Minutes prepared by Cindy Odell, 2/28/13*