

December 24, 2013

Connecticut Department of Energy and Environmental Protection  
Bureau of Water Protection and Land Reuse  
Planning and Standards Division  
79 Elm Street  
Hartford, CT 06106-5127

Attention: Ms. Betsey Wingfield, Bureau Chief  
Bureau of Water Protection and Land Reuse

Subject: Public Notice of Proposed Stream Flow Classifications  
Southeast Coastal, Pawcatuck and Thames Major River Basins

Ladies and Gentlemen:

Norwich Public Utilities (NPU) is a municipal water provider serving a population of approximately 42,000 in the City of Norwich and the surrounding towns of Bozrah, Franklin, Lebanon, Ledyard, Lisbon, Montville, Preston, and the Mohegan Tribal Nation. Our existing reservoirs, emergency well, and potential future water sources are all located within the Thames River Basin. Therefore, the classifications performed as part of this effort directly affect both our current and potential future operations.

We have many concerns with the methodology for classifying the rivers and streams within this basin, the implementation of the methodology, the reliance upon public comment to identify errors in the evaluation, and how this classification process will affect future regulatory decisions. Specific concerns are expressed below. However, we believe the concerns are great enough that additional time should be taken to address these concerns and not proceed to finalization of the classifications until the concerns have been addressed and the public has had additional opportunity to comment.

### **Methodology Concerns**

The stream flow regulations defined a methodology to establish the stream classifications by establishing four flow class standards and eighteen factors to be considered when adopting the river or stream segment classification.

Elimination of the Class 4 designation - During the public presentation at the Southeast Connecticut Council of Governments office on October 16, 2013, and repeated at the CT AWWA and CWWA Fall Conference on October 22, 2013, DEEP staff indicated *“This process will provide all stream segments throughout the state with a class of 1, 2, or 3 designation. CTDEEP is not initially proposing any Class 4 designations; as such designation requires specific information on societal needs, economic costs and environmental impacts that will be considered on a case by case basis.”*

By making the unilateral determination to exclude a Class 4 designation, the DEEP has immediately diverged from the regulation and methodology, which specifically established a Class 4 designation. In so doing, the DEEP automatically assigned a Class 3 designation to the river or stream segment located at the outfall of an existing registered or permitted public water supply impoundment.

#### **Sec. 26-141b-5(a)1 Adoption of river or stream system classifications:**

*“A river or stream segment that is immediately downstream of an existing dam that impounds a public water supply source registered or permitted in accordance with section 22a-365 to 22a-378a of the Connecticut General Statutes, or that intersects a Level A aquifer protection area as approved by the Commissioner pursuant to section 22a-354d of the Connecticut General Statutes shall not be classified as Class 1 or 2;”*

While this may seem to be a trivial difference, “shall not be a Class 1 or 2” vs. “automatically a Class 3”, there are significant release requirement differences between a Class 3 and Class 4 designation.

**Sec. 26-141b-6. Release requirements.** *(4) Release flow that is consistent with the narrative standards for a Class 4 river or stream segment and that is approved as a site specific release by the Commissioner pursuant to subdivision (2) of subsection (f) of this section, if the release is into a river or stream segment designated as Class 4. Such site specific release may include provisions similar to those specified in subsection (b) of this section.*

#### **Sec. 26-141b-8. Conflict and severance.**

**Statement of Purpose:** *In Class 4 waters, priority is given to human uses while flows are consistent with the narrative standard with Class 3 waters to the maximum extent practicable. Class 2 and Class 3 waters have intermediate balance points between ecological and human uses.*

Such release differences will affect the resultant reservoir safe yield reduction. Initial evaluations of the NPU Deep River Reservoir indicates an estimated safe yield reduction from the current 5.04 mgd to 3.29 mgd based on a Class 3 stream designation (a nearly 35% reduction). While the safe yield impact under a Class 4 designation is more difficult to predict at this time based on the numerous factors involved, initial evaluations estimate the reduction would be significantly less as a Class 4 classification (likely less than 10%).

As previously noted, NPU provides water services to a population of approximately 42,000 in Norwich, seven surrounding towns, and one tribal nation. A reduction in safe yield of 35 percent would immediately result in an average day margin of safety reduction to approximately 1.15 percent or less. The max month average day margin of safety would fall below 1. The resulting additional supply required to meet max month average day demands has already been projected to be nearly 2 mgd within the 5-year planning period. The reduction in safe yield caused by a Class 3 designation would increase that requirement to nearly 4 mgd. While we have not identified the cost of locating and developing an additional 4 mgd of supply, or the economic impact of a potential moratorium on additional connections until such supply is permitted, we believe it is safe to say the impact would be devastating. Therefore, we strongly urge the DEEP to consider a Class 4 designation for the stream segment below the Deep River reservoir and request the opportunity to better understand what information would be needed to further support this designation.

It is imperative this Class 4 designation be issued prior to the final classification ruling as a petition to change classification in accordance with Sec. 26-141b-5(d) is a burdensome process with an uncertain outcome. This is especially true as the petition to change to a Class 4 designation at a later date carries significant additional requirements.

Unbalanced Factor Analysis - The DEEP selected four initial Hydraulic Stressor Index (HIS) factors from the original eighteen factors required to be considered per the Regulation. These factors were apparently considered the most pertinent of the factors as they established a pre-classification value. The remaining eleven "additional factors" could only serve to raise or lower the pre-classification value by one (e.g., reduce a Class 1 to a Class 2 segment, or raise a Class 3 to a Class 2 segment). Of these remaining eleven factors, there were five to seven that could result in a more strict classification (decreasers) while only three to five could cause a less strict classification (increasers). The determination as to whether or not a class would remain the same, be made more, or less strict was purely a numbers game. If there were more decreaser factors than increaser factors, the classification was changed (e.g., from a Class 3 to a Class 2 designation). There was no apparent weighting to any of these eleven additional factors so one must assume they are considered equal in their impact. This does not seem reasonable in that Factor 11 "location of stream gages operated by USGS that have been identified as an index station" was given the same weight as Factor 13 "river or stream segments identified as a potential source of water supply".

Of greatest importance was Factor 17 - "Publically available data regarding the impact of stream classification on a community's water supply margin of safety." DEEP staff openly admitted this information was not readily available therefore, it was not considered. Not only was this information available as testimony during the regulation adoption process, it was also available if the question had been asked to any one of the many utilities who already calculated the impact (as previously noted, NPU identified an approximately 35% reduction in safe yield if issued a Class 3 designation at the Deep River outlet segment).

Significant Investment Determination - Factor 14 "River or stream is identified as a potential source of water supply with significant investment". DEEP staff indicated they "*considered all available information and diversion permitting status, capital expenditures, scientific or engineering studies and land acquisition by the water company*". DEEP staff stated their source of all available information, etc. was limited to reviewing the utility's latest approved individual water supply plan. Nowhere in the water supply plan is there a requirement to identify the level of investment made on any potential source. Furthermore, DEEP chose to limit the timing for that investment to be within the next five years. As is well known within the industry, time from identification of a source of supply and eventually activation of that new supply is a task that exceeds five years and often is well in excess of ten to fifteen years. The point at which that task had advanced at the time of the approved water supply plan could vary dramatically from current conditions. This is especially true if one takes into consideration the adoption of the updated stream flow regulations and the impact those regulations have on a supply's safe yield (and hence, margin of safety). This can dramatically accelerate the need for additional supply.

NPU is a perfect example of this timing conflict. The last approved water supply plan is dated 2004. Two supplements have been submitted since that date, the latest of which is December 2011 which is a completely updated plan that has yet to be approved. Therefore, by using the 2004 plan, DEEP is looking at decade-old information created prior to the introduction of PA-05-142.

A specific example of where an existing supply was not properly considered is the NPU Norwichtown well located on land adjacent to the Yantic River. The well has not had Level A mapping performed because it is classified as an emergency well. However, it is clear there has been a significant investment made, as there is a 1 MGD well within an existing structure with disinfection treatment capabilities, has a DPH-approved water quality-monitoring plan, and has been awarded DWSRF eligibility for a stand-by generator. This segment of the Yantic River was classified as a Class 3, not because it was automatically designated as not a Class 1 or Class 2, but because the additional factors caused it to be classified that way.

Errors in the Evaluation - (Factor 13) River or stream segments identified as a potential source of water supply; and (Factor 15) River or stream segments identified by the DPH pursuant to Section 59 of Public Act 11-242.

A case where identification as a potential future source of supply was missed by DEEP was the South Windham/North Franklin area of the Shetucket River. This location was tagged as a high quality source by DPH, was identified in the SE WUCC report, and in the Norwich IWSP. Discussions have also occurred with both DPH and DEEP in conjunction with the SCCOG investigations of long-term regional water supply planning.

Regardless of the above, as further evidence of errors in evaluation, one needs to step back and see if the Classification makes sense. This section of the Shetucket River was issued a Class 1 designation. It is affected by two upstream impoundment structures (the Army Corp's Mansfield Hollow flood control dam and the Windham Water Works public water supply reservoir dam) and is raised and lowered at the discretion of the operators of the immediately downstream Scotland hydroelectric dam. One would be hard pressed to find a segment of a river in the Thames basin that has been more altered from a free-flowing stream condition than this area.

Factor 12 - Areas designated as protected for conservation purposes. An example where the GIS Mapping may have proven unreliable is in Segment 108,000,489 located on a tributary to the Bobbin Mill Brook and the Yantic River just south of the Fairfield Reservoir. This segment was initially classified as a 2 based the Hydraulic Stressors and was elevated to a Class 1 based an affirmative response to "Protected Open Space". In reviewing the State's Plan of C&D, the only form of protected area is the designation as a "Local Historic District". While this acts as a "conservation zone" within the State's PCD definition, it would seem to hold little relevance for stream flow. Considering this a "protected open space" is also in direct contradiction to the hydraulic stressor factor for this segment where "impervious cover metric" was given a 3 designation.

### **Reliance Upon Public Comment**

Presentation of Stream Classifications with the great number of segments identified and eighteen factors to consider for each segment is a huge undertaking. Such an undertaking naturally subjects itself to the possibility of errors in the evaluation. Several errors just within the immediate Norwich area were presented in the preceding section. In essence, the public has been charged with the task of evaluating each stream segment within their scope of knowledge to find mistakes made by DEEP or the process DEEP followed. The outcome of DEEP's evaluation of any error identified by the public will not be known or able to be responded to further based on the current adoption plan. This procedure is defined in **Section 26-141b-5(b)(3) Adoption of a river or stream system classification with Section 26-141b-5(c)** clearly stating:

*"...the commissioner, in consultation with the Commissioner of Public Health and with technical assistance from the Office of Policy and Management, Department of Economic and Community Development, and the Department of Agriculture as appropriate, shall: (1) consider such comments and adopt classifications for the river or stream segment thereof ..."*

The only recourse available to the respondent is to file a petition to change which, as previously noted, is a burdensome process.

### **Affect on Future Regulatory Decisions**

Public Act 05-142 states the Commission shall adopt regulations establishing minimum stream flow regulations after “... *recognizing and providing for the needs and requirements of public health, flood control, industry, public utilities, water supply, public safety, agriculture and other lawful uses of such waters and further recognizing and providing for stream and river ecology, the requirements of natural aquatic life, natural wildlife and public recreation, and after considering the natural flow of water into an impoundment or diversion, and being reasonably consistent therewith.*”

Balance between water for human consumption and uses and ecological uses have always been at the forefront. Protection of the rivers and streams with recognition of these potentially competing interests makes us wonder how these Classifications will be used in the future. Will they be used to protect the critical segments from land use activities which could compromise the water quality for future use as a water supply source, or will they restrict all land uses such that even uses consistent with the intended balance are prohibited? NPU has great concern, as do others within the water industry, that these designations will be used as a tool against development of future sources of supply or may force use of water within segments identified as already altered.

Keeping that concern in mind, one of the Hydraulic Stressor Index factors contributing to the “pre-classification” value was Factor No. 5 - “size and location of return flows of water within the watershed”. The only return flows possible are associated with NPDES permitted discharges or possibly concentrated storm water runoff. In effect, as an unintended consequence, DEEP may be forcing public water supply utilities to look at areas that are affected by treated sanitary sewer discharges.

### **Conclusion**

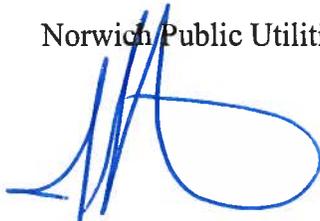
The development of stream classifications for approximately 1,700 river and stream segments within the Thames basin is an enormous undertaking with the possibility of errors resulting. Norwich Public Utilities has identified several errors and expressed numerous concerns with the implementation of the methodology, the reliance on the public to perform tasks that should have been performed by DEEP during its QA/QC process, and concerns about how the classifications will be used in the future.

Of utmost importance to NPU is to obtain a Class 4 designation for the segment below the Deep River Reservoir. The societal needs and economic impact affected by a Class 3 designation compared to a Class 4 designation are expected to be significant. The safe yield reduction resulting from the regulated releases in accordance with a Class 3 designation is approximately 35 percent. The margin of safety is immediately affected to below industry requirements. The statement of purpose states, “*in Class 4 waters, priority is given to human uses while flows are*

*consistent with the narrative standard with Class 3 waters to the maximum extent practicable.” To arbitrarily eliminate the Class 4 designation and not consider margin of safety as affected by the safe yield reduction in the determination process is a blatant deviation from the regulation and its defined purpose.*

We believe the concerns expressed are great enough that DEEP should allow additional time for evaluation of the designations and potential impact of those designations, take additional time to address the concerns expressed through the public comment process and interact with those submitting comments, and not proceed to finalization of the classifications until the concerns have been fully addressed and the public has had ample opportunity to comment.

Norwich Public Utilities



John Bilda  
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