

Statement to the RFAC and to the DRBC

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We wish to congratulate the Decree Parties and the Delaware River Basin Commission for the changes to the Flexible Flow Management Plan (FFMP) that were announced on May 27, 2009. These recent changes bring the FFMP into nearly exact correspondence to the CP2 flow management plan that the coalition originally proposed to the Decree Parties and the DRBC in March of 2007. Additionally, we are pleased that the Decree Parties have recognized, as we had earlier suggested, that the IERQ bank can be utilized to the ecological benefit of the River without increased drought risk.

The principal change to the FFMP, increasing the Cannonsville summertime normal (L2) release from 260 up to 325 cfs will, indeed, according to our analyses, make some improvements to trout habitat in the West Branch and rather more modest gains in the Upper Mainstem of the Delaware. Our simulations also show that it will modestly increase the end of summer reservoir voids, thereby reducing somewhat hurricane flood risk. But, much more is needed for the environment and much more is possible – all without increase in drought risk to New York City or any of the users of Delaware water.

Intensive continuing research, carried out over the last four months by us (Peter Kolesar and James Serio) has shown that a “sustainable” release policy is possible that can protect trout well down into the Upper Mainstem of the Delaware during the critical early summer months. The key to solving the summertime habitat problem is the recognition that a release policy can and should be based on forecasts of anticipated actual New York City water diversions. As we have argued in the past, to manage the River as if New York City will take an annual average 800 mgd diversion when we know full well that it will take only an annual average diversion of around 500 mgd is to unnecessarily punish all other stakeholders and the environment. Our statement to the DRBC, dated January 16, 2008, “Augmented Flexible Flow Management Plan” documents the substantial magnitude of the punishing effects of such misrepresentations of the City’s actual usage on habitat, spill frequency, reservoir voids and the like..

Sustainability does not require that we act today as if the worst case diversion (800 mgd) is currently actually happening. Sustainability only requires that we have a plan for appropriately prudent actions to take, if, in fact, the worst diversion scenario does occur. We argue that the Decree Parties adopt a plan that does exactly that. The plan we propose calls for higher releases when anticipated diversions are lower, precisely because such a policy converts wasteful spills to ecologically useful flows. When anticipated diversions are high the plan reduces releases to prudent levels.

Our plan is not based on conjecture or wishful thinking. Over the last four months we have run more than 200 OASIS simulations and DSS habitat evaluations, and in the process have shown that as long as diversions are realistically, and we might add conservatively, forecasted, it is feasible to release enough cold water from the New York City dams, principally from Cannonsville, to protect the upper river and still stay well within the benchmark of 5,560 total drought days that has been established by the Decree Parties. We have already shared many details of our extensive analyses with the Pennsylvania Fish and Boat Commission, with the New York State DEC Bureau of Fisheries and with The National Park Service.

In January 2008 we proposed to the DRBC and Decree Parties an “Augmented FFMP” in which the current four release matrices contained in the FFMP namely the 765, 780, 790 and 800 mgd matrices (Table 3 with 35, 20, 10 and 0 mgd available) are augmented by a series of other matrices keyed to forecasted New York City diversions. Today, we revisit and extend this concept. In Table 1, below we suggest a set of release matrices for use as follows: One when diversions are forecasted to be below 500 mgd, another to be employed if diversions are between 500 and 600 mgd, another to be used when New York City diversions are forecasted to be between 600 and 700 mgd, and still another if diversions are forecasted to be between 700 and 765 mgd. We would maintain use of the four existing matrices contained in current FFMP, namely those at diversions of 765, 780, 790 and 800 mgd.¹

¹ As we have noted before, New York City is in fact obligated by the 1954 Supreme Court decree to make annual forecasts of its water needs. Our own statistical analysis of historical diversion records shows that such forecasts can readily be made to a high degree of accuracy.

Our research has confirmed that releases from Cannonsville not only protect the West Branch fishery and increase the Upper Mainstem fishery, but are the most efficient use of water to optimize fishery habitat throughout the entire Upper Delaware system. The table contains our recommended Cannonsville and Pepacton normal summertime (L2) releases. All other releases are as contained in the current FFMP 765 matrix. This augmented policy, by recognizing the reality of what is actually happening in the system, provides for greatly increased trout habitat in the upper Delaware region, including highly significant gains in the Upper Mainstem. The policies produce higher end-of-summer reservoir voids, thereby to some extent mitigating the potential for flooding in the hurricane season. They have the additional benefit of providing increased protection for the federally endangered dwarf wedge mussel beds in the Upper Delaware.

There has been much discussion about the implications of setting a precedent by actually having a release policy that is sensibly keyed to current New York City demands rather than keyed to the worst case – just because at some time in the future the worst-case might occur and the system would have to respond to it. We must emphasize that our proposal already incorporates explicit provision for such an eventuality. It does this by keying releases to 800 mgd diversions should they be needed. We strongly object to the notion that the River's environment and River communities must be continually penalized over the foreseeable future because of the small possibility that some time in the distant future New York City requirements might be substantially higher than they are now and than they have been over the last decade, and indeed than they are reasonably projected to be over coming decades

Our research program has included extensive analyses of the potential benefits of splitting the L2 release range, modifications to the Montague flow-target level, averaging the Montague flow-target and introduction of a (seasonal) flow-target at Callicoon. We are prepared to report on these aspects of our work to the Decree Parties, the DRBC, RFAC or SEF at another time.

As mentioned, we have already shared many details of our extensive analyses with the Pennsylvania Fish and Boat Commission, with the New York State DEC Bureau of Fisheries and with The National Park Service and we would be delighted to do so with the SEF, the RFAC,

and the DRBC or with any of the Decree Parties. Moreover, we would be pleased to collaborate fully in continuing research with any of the interested parties.

In summary, research shows that we can protect the environment and mitigate the potential for flooding -- all at no real increase in risk to New York City. We owe it to the inhabitants of the Delaware River communities and to the citizens of New York, New Jersey, Pennsylvania and Delaware. Let's do it – we do know how.

| Forecasted Average NYC Daily Diversions (mgd) | Cannonsville Summer Normal Conservation Release (cfs) | Pepacton Summer Normal Conservation Release (cfs) |
|---|---|---|
| Less than 500 | 700 | 200 |
| Between 500 and 600 | 600 | 175 |
| Between 600 and 700 | 450 | 150 |
| Between 700 and 765 | 400 | 140 |
| Between 765 and 780 | 325 | 140 |
| Between 780 and 790 | 234 | 126 |
| Between 790 and 800 | 212 | 114 |
| 800 | 190 | 102 |

Table 1. Augmented FFMP Proposal: Summer L2 Releases