



United States Department of the Interior

NATIONAL PARK SERVICE
Northeast Region Office
15 State Street
Boston, Massachusetts 02109-3572

IN REPLY REFER TO:

February 25, 2009

Mr. Wayne Ives, P.G.
Watershed Management Bureau
New Hampshire Department of Environmental Services
29 Hazen Drive, P.O. Box 95
Concord, NH 03302-0095

**RE: Draft Lamprey River Proposed Protected Instream Flow Report
NHDES-R-WD-08-26, 9 December 2008**

Dear Mr. Ives:

The National Park Service (NPS) is responsible for administering the Lamprey National Wild and Scenic River in consultation with the Lamprey River Advisory Committee (LRAC), as described in the Lamprey River Management Plan. The central purposes of the designation and the Plan are to protect and enhance the free-flowing condition of the Lamprey and the "outstandingly remarkable" values for which the river was designated. The understanding and protection of instream flow requirements are essential to achieving these purposes.

The designated segment extends from the Bunker Pond Dam in the town of Epping to the confluence with the Piscassic River in the vicinity of the Durham-Newmarket town line. The Plan, background resource documentation, and other input pertinent to the development of the *Draft Lamprey River Proposed Protected Instream Flow Report* have been previously provided to DES and the project consultants by NPS and the LRAC throughout the process to ensure that the effort meets the needs of both state and federal river protection programs.

The National Park Service has reviewed the *Draft Lamprey River Proposed Protected Instream Flow Report* and offers the following comments:

1. On Page xxix of the Executive Summary the report states: "The lowest naturalized flow recorded in last 30 years was 3.7 cfs at the Packers Falls." NPS is unclear as to whether this value is the lowest flow actually measured at the Packers Falls gage, or if it is a value generated by the hydrologic analysis designed to "naturalize" the hydrograph by removing the influence of impoundments and withdrawals. We request clarification regarding the source of this value.
2. We were unable to find a discussion or presentation of the methodology used to generate the "naturalized" flow and the resulting data in the *Draft Lamprey River Proposed Protected Instream Flow Report* or the published reports generated under Tasks 1 through 4 of the Lamprey River Flow studies. We request that this information be added as an appendix to the report.
3. Will the proposed protection scheme (not just the 4 cfs) replace the conditions in Durham's existing §401 certificate, or will it be overlaid on them?
4. It is our reading that the recommendation on Page xxix of the Executive Summary that "...flows should never be allowed to fall below 4 cfs..." can

be interpreted to mean that the PISF Report is recommending that 1) no duration below this value is allowable, and 2) that water management actions be implemented to prevent flow from dropping below 4.0 cfs. We request confirmation as to the correctness of our interpretation and ask that the report be clarified for the benefit of all readers regarding this matter. Assuming that our interpretation is correct, this raises the question of whether flows will be tracked in real-time as they approach the various target flows e.g., 4.0 cfs, and how the affected water users (AWU) will be notified regarding the required management actions?

5. We wish to echo the comments of the LRAC regarding the critical need for accurate flow measurement during low flow periods. It will be especially critical to have accurate measurements and calibrations in the 1 to 100 cfs range, and the need to augment the USGS Packers Falls gage with additional upstream gages should be seriously considered.
6. Aesthetic beauty / scenic is listed in Table 2.1 (Matrix of IPUOCR's) of the Task 4 report titled "*Instream Public Uses, Outstanding Characteristics, And Resources of The Lamprey River and Proposed Protective Flow Measures for Flow Dependent Resources*" (Normandeau Associates, Inc. and others. November 2006,) due to the Lamprey River's Wild and Scenic River status. The table contains a column listing whether or not a given category is flow dependent. "No" appears in this column for the category Aesthetic beauty / scenic. We believe this to be an incorrect determination. Flow levels are very much related to scenic and aesthetic qualities of the river. Many instream flow studies conducted for other projects (e.g. hydroelectric licensing/relicensing) routinely evaluate the aesthetic impact of varying flow levels. This might appropriately be included as an aspect of recreational flow needs. Such a consideration would have particular importance in relation to impounded areas, including the area behind Wiswall Dam, which is heavily used for recreation and is very much impacted by flow/impoundment levels.
7. Public water supply is listed as an outstanding characteristic under RSA 483:1. It is also listed in Table 2.1 (Matrix of IPUOCR's) of the Task 4 report titled "*Instream Public Uses, Outstanding Characteristics, And Resources of The Lamprey River and Proposed Protective Flow Measures for Flow Dependent Resources*" (Normandeau Associates, Inc. and others. November 2006,) due to the Durham - UNH water withdrawal. We note that this water withdrawal is downstream of several AWUs, including impoundments. Please elaborate as to why the consultants elected not to propose a protected instream flow for public water supply. While it may be difficult to develop a scientifically defensible value for this IPUOCR, there may be other approaches based on practical criteria, existing capacities, and other factors. The failure to identify a protected flow for this protected entity could have the effect of compromising the 4 cfs minimum flow level and other aspects of the protected flow scheme.
8. Table 15 of the report - *Flow-Dependent RTE wildlife, RTE vegetation, and natural/ecological communities* recommends "No PISF" for a number of protected entities several of which the table footnote reports may: "...be vulnerable to rapid or prolonged changes in water levels associated with dam management. This recommendation appears inconsistent with the discussion on Page 76 of the report which states that when the Wiswall Dam gates were opened on the morning of April 10th: "...water appeared to be approximately six to 12 inches below the dam spillway, shallow marsh

communities were already drained, and only narrow channels of water remained in the deep marsh channel...fish and amphibians were stranded in

mud by the rapid drop of the water surface...[and]...Mussels were present on the exposed river shoreline, and beaver and muskrat bank burrow entrance holes were exposed. Please reconcile this apparent inconsistency. Clearly, adverse impacts were documented far before the 18 inch drawdown threshold which appears to be selected as a protected impoundment level. Similarly, the no impoundment drawdown > six inches for more than seven consecutive days from March 15-July 31 appears to have limited correlation to data in the larger report, possibly ignoring other types of impacts, and impacts that would occur after July 31.

9. Mussels are mentioned several times in the IPOCR Final Report 2006 (Pages 20, 23, and 39). The reference on Page 39 states that Brook Floater mussels: "...are extremely vulnerable to inadequate flow conditions..." However, there is conspicuously little discussion about mussels in the *Draft Lamprey River Proposed Protected Instream Flow Report*, and the manner in which the target flows address their flow needs is not presented. Please illuminate this disparity.

The National Park Service appreciates the opportunity to comment on the *Draft Lamprey River Proposed Protected Instream Flow Report*. The NPS believes that the establishment of scientifically-based protected flows for the Lamprey is a critical step to fulfilling the intent of both state and federal river protection statutes. The report clearly represents considerable effort on the part of the NH Department of Environmental Services and its consultants, and we applaud Department for its hard work. We look forward to your response to our comments.

Sincerely,

Jamie Fosburgh, Rivers Program Manager
National Park Service, NER-Boston

cc: Lamprey River Advisory Committee
Town of Durham