

ADDENDUM TO THE REPORT "AN INVESTIGATION OF THE
BOARDMAN RIVER BIOTA IN RESPONSE TO TEMPORARY
DROUGHT CONDITIONS", Dated July 13, 1981

A bottom fauna study of the Upper Kennebec River, Maine, showed a loss of species diversity and abundance of swift-water aquatic insects below a 43 foot head dam. (Trotzky and Gregory, 1974). This dam was used for peak power demand and caused flows ranging from 170 m³/sec. to 8.5 m³/sec. Prior to 1964 the dam was operated on run of the river mode.

In addition to the problems of low flow stress and exposure of the stream bottom to the air caused by reductions in discharge, rapid water releases from dams are also detrimental because of their flushing action that dislodges bottom organisms and fishes. (Powell, 1958). Dam gates that open quickly and produce a rapid increase in downstream flow were found to be less desirable than slower opening gates (Foye, Ritzi, and AuClair 1969). Stream animals are not able to adjust to drastic changes in stream flow.

Havey (1974) reports increased production of juvenile Atlantic salmon and other fishes after stabilization of flows in Barrows Stream, Maine.

References

- Foye, R. E., C. F. Ritzi, and R. P. AuClair. 1969. Fish management in the Kennebec River. Maine Dep. Inland Fish. Game, Fish. Res. Bull. No. 8. 67p.
- Havey, K. A. 1974. Effects of regulated flows on standing crops of juvenile salmon and other fishes at Barrows Stream, Maine. Trans. Am. Fish. Soc. 103(1):1-9.
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ADDENDUM, P.2.

Trotzky, H. M., and R. W. Gregory. 1974. The effects of water flow manipulation below a hydroelectric power dam on the bottom fauna of the Upper Kennebec River, Maine. Trans. Amer. Fish. Soc. 103(2):318-324.

Respectfully submitted,

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24 August 1981