Aménagement hydroélectrique de la rivière Romaine

Audiences publiques

Havre-St-Pierre

Octobre 2008

Pêches et Océans Canada

Gestion de l'habitat du poisson, Protection de l'habitat

La présente vise à répondre à la question du président de la commission, Mr. Michel Germain, en lien avec l'intervention de Mr. Denis McCready, lors de la séance du 29 octobre en soirée.

Le ministère des Pêches et des Océans du Canada (MPO) dresse ici une liste des références scientifiques utilisées lors de ces différentes analyses des impacts du projet sur l'habitat du poisson (principalement sur le régime thermique), qui proviennent d'études scientifiques des effets de barrages hydroélectriques sur l'habitat du poisson.

Pour certaines publications, un lien internet a été ajouté pour consultation du résumé de la publication.

Liste de références

Angilletta, M.J.jr., E.A. Steel, K.K. Bartz, J.G. Kingsolver, M.D. Scheuerell, B.R. Beckman, and L.G. Crozier. 2008. Big dams and salmon evolution: changes in thermal regimes and their potential evolutionary consequences. Evolutionary Applications. Vol. 1. 286-299.
http://www3.interscience.wiley.com/journal/120091084/abstract

Annear, T.C., Hubert, W., Simpkins, D. and L. Hebdon. 2002. Behavioural and physiological response of trout to winter habitat in tailwaters in Wyoming, USA. Hydrological Processes. Vol. 16. 915-925.
http://www3.interscience.wiley.com/journal/90513168/abstract

Arnekleiv, J.V., A.G. Finstad and L. Ronning. 2006. Temporal and spatial variation in growth of juvenile Atlantic salmon. Journal of Fish Biology. Vol. 68. 1062-1076.
http://www3.interscience.wiley.com/journal/118559996/abstract

Boudreault, A. and F. Lévesque. 2005. Accroissement de la production salmonicole de la rivière Betsiamites. Résumé des études de 1990 à 1994. Rapport de la Division environnement Shooner du Groupe-conseil Génivar inc., présenté à la vice-présidence Environnement, Hydro-Québec, 40 p.

Brittain, J.E. and S.J. Saltveit. 1989. A review of the effect of river regulation on mayflies (Ephemeroptera). Regulated Rivers: Research and Management. Vol. 3. 191-204.
http://www3.interscience.wiley.com/journal/114044041/abstract

Casado, C., D. Garcia de Jalon, C.M., Del Olmo, E. Barcelo et F. Menes. 1989. The effect of an irrigation and hydroelectric reservoir on its downstream communities. Regulated Rivers: Research and Management. Vol. 4. 275-284.
http://www3.interscience.wiley.com/journal/113394914/abstract

Clarke, K., T. Pratt, R. Randall, D. Scruton and K. Smokorowski. 2007. Validation of the flow management pathway : science advice to fish habitat management.97 p.

Clarkson, R.W. and M.R. Childs. 2000. Temperature effects of hypolimnial-release dams on early life stages of Colorado river basin Big-River fishes. Copeia. 402-412.

Garcia de jalon, D., C. Montes, E. Barcelo, C. Casado and F. Menes. 1988. Effects of hydroelectric scheme on fluvial ecosystems within the Spanish Pyrenees. Regulated Rivers: research and Management. Vol. 2. 479-491.
http://www3.interscience.wiley.com/journal/113395007/abstract

Gore, J.A., Petts G.E. (eds). 1989. Alternatives in Regulated River Management. CRC Press, Inc., Florida. 330 pp.

Jackson, H.M., C.N. Gibbins, and C. Soulsby. 2007. Role of discharge and temperature variation in determining invertebrate community structure in a regulated river. River Research and Applications. Vol. 23. 651-669.
http://www3.interscience.wiley.com/journal/114175354/abstract

Jensen, A.J. 2003. Atlantic salmon (Salmo salar) in the regulated river Alta: effects of altered water temperatures on parr growth. River Research and Applications. Vol. 19. 733-747.
http://www3.interscience.wiley.com/journal/103528715/abstract

Johnson, R.L., and G.L. Harp. 2005. Spatio-temporal changes of benthic macroinvertebrates in a cold Arkansas tailwater. Hydrobiologia. Vol. 537. 15-24.
http://www.springerlink.com/content/w74922664656k507/fulltext.pdf

Johnson, R.L., S.M. Coghlan, and T. Harmon. 2007. Spatial and temporal variation in prey selection of brown trout in a cold Arkansas tailwater. Ecology of Freshwater Fish. Vol. 16. 373-384.
http://www3.interscience.wiley.com/journal/117978981/abstract

Koksvik, J.I., and H. Reinertsen. 2008. Changes in macroalgae and bottom fauna in the winter period in the regulated Alta river in northern Norway. River Research and Applications. Vol. 24. 720-731.

http://www3.interscience.wiley.com/journal/119054122/abstract

Lehmkuhl, D.M. 1972. Change in thermal regime as a cause of reduction of benthic fauna downstream of a reservoir. Journal of the Fisheries Research Board of Canada. Vol. 29. 1329-1332.

Lowney, C. L. 2000. Stream Temperature Variation in Regulated Rivers : Evidence for a Spatial Pattern in Daily Minimum and Maximum Magnitudes. Water Resources Research. Vol. 36, no. 10, 2947-2955.

Paller, M.H., and B.M. Saul. 1996. Effects of temperature gradients from reservoir discharge on *Dorosoma cepedianum* spawning in the Savannah River. Environmental Biology of Fishes. Vol. 45. 151-160.
http://springerlink.metapress.com/content/k135610257t42851/fulltext.pdf

Plourde, Y. and F. Lévesque. 2002. Effets de l'exploitation de la centrale Bersimis-2 sur le saumon de la rivière Betsiamites – Revue de littérature. Présentée à la Société de restauration du saumon de la rivière Betsiamites par le Groupe conseil GENIVAR inc. 41 p. et 1 annexe.

Preece, R.M. and H.A. Jones. 2002. The effect of Keepit dam on the temperature regime of the Namoi river, Australia. River Research and Applications. Vol. 18. 397-414.
http://www3.interscience.wiley.com/journal/96516362/abstract

Rader, R.B. et J.V. Ward. 1988. Influence of regulations on environmental conditions and the macroinvertebrates community in the Upper Colorado river. Regulated Rivers: Research and Management. Vol. 2. 597-618.
http://www3.interscience.wiley.com/journal/113395107/abstract

Raddum, G.C. 1985. Effects of winter warm reservoir release on benthic stream invertebrates. Hydrobiology. Vol. 122. 105-111.
http://www.springerlink.com/content/r4416607t4455354/fulltext.pdf

Saltveit, S. J. 1990. Effect of Decreased Temperature on Growth and Smoltification of Juvenile Atlantic Salmon (Salmo salar) and Brown Trout (Salmo trutta) in a Norwegian Regulated River. Regulated Rivers: Research and Management. Vol. 5, 295-303.
http://www3.interscience.wiley.com/journal/113395065/abstract

Saltveit, S.J., T. Bremnes, and J.E. Brittain. 1994. Effect of a changed temperature regime on the benthos of a Norwegian regulated river. Regulated Rivers: research and Management. Vol. 9. 93-102.
http://www3.interscience.wiley.com/journal/113512485/abstract

Scruton, D.A., C.J. Pennell, M.J. Robertson, L.M.N. Ollerhead, K.D. Clarke, K. Alfredsen, A. Harby and R.S. McKinley. 2005. Seasonal response of juvenile Atlantic salmon to experimental hydropeaking power generation in Newfoundland, Canada. North American Journal of Fisheries Management. Vol. 25. 964-974.
http://afs.allenpress.com/perlserv/?request=get-abstract&doi=10.1577%2FM04-133.1

Takao, A., Y. Kawaguchi, T. Minagawa, Y. Kayaba, and Y. Morimoto. 2008. The relationships between benthic macroinvertebrates and biotic and abiotic environmental characteristics downstream of the Yahagi dam, Central Japan, and the state change caused by inflow from a tributary. River Research and Applications. Vol. 24. 580-597.
http://www3.interscience.wiley.com/journal/118724709/abstract

Tetzlaff, D., C. Soulsby, A.F. Youngson, C. Gibbins, P.J. Bacon, I.A. Malcolm, and S. Langan. 2005. Variability in stream discharge and temperature: a preliminary assessment of the implications for juvenile and spawning Atlantic salmon. Hydrology and Earth System Sciences. Vol. 9. 193-208.

Vinson, M.R. 2001. Long-term dynamics of an invertebrate assemblage downstream from a large dam. Ecological Applications. Vol. 11. 711-730.
http://www.esajournals.org/doi/abs/10.1890/1051-0761%282001%29011%5B0711%3ALTDOAI%5D2.0.CO%3B2

Ward, J.V. et F. Collins. 1974. A temperature-stressed stream ecosystem below a hypolimnial release mountain reservoir. Archiwuum Hydrobiologia. Vol. 74. 247-275.

Ward, J.V. and J.A. Stanford. 1979. Ecological factors controlling stream zoobenthos with emphasis on thermal modification of regulated streams. *In* Ward, J.V. and J.A. Stanford. (eds.) The ecology of regulated streams. P. 35-55. Plenum Press, NewYork.

Ward, J.V. and J.A. Stanford. 1982. Thermal responses in the evolutionary ecology of aquatic insects. Annual Review of Entomology. Vol. 27. 97-117.

Williams, J.G., R.W. Zabel, R.S. Waples, J.A. Hutchings and W.P. Connor. 2008. Potential for anthropogenic disturbances to influence evolutionary change in the life history of a threatened salmonid. Evolutionary Applications. Vol. 1. 271-285.
http://www3.interscience.wiley.com/journal/120091079/abstract