



STATE OF MAINE
BOARD OF ENVIRONMENTAL PROTECTION

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IN THE MATTER OF

MERIMIL LIMITED PARTNERSHIP)	MAINE WATERWAY DEVELOPMENT AND
Waterville and Winslow, Kennebec County)	CONSERVATION ACT PERMITS AND
LOCKWOOD HYDRO PROJECT)	WATER QUALITY CERTIFICATIONS
#L-20218-33-C-N))
))
HYDRO KENNEBEC LIMITED)	
PARTNERSHIP)	
Winslow and Waterville, Kennebec County)	
HYDRO-KENNEBEC PROJECT)	
#L-11244-35-A-N)	
)	PETITIONS FOR REVOCATION, MODIFICATION,
FPL ENERGY MAINE HYDRO LLC)	OR SUSPENSION
Fairfield, Somerset County)	
SHAWMUT HYDRO PROJECT)	
#L-19751-33-A-M)	
)	
FPL ENERGY MAINE HYDRO LLC)	
Skowhegan, Somerset County)	
WESTON HYDRO PROJECT)	
#L-17472-33-C-M)	

Pursuant to the provisions of 38 M.R.S.A. Sections 341-D(3), 464 et seq., and 06-096 CMR Chapter 2 (Rules Concerning the Processing of Applications and Other Administrative Matters), the Board of Environmental Protection, and as a result of September 28, 2005 and September 29, 2005 petitions¹ of Douglas H. Watts and Friends of Merrymeeting Bay (“FOMB”) (collectively, “Intervenors,”), determined to hold a public hearing to consider whether the permits and water quality certifications previously issued for the Lockwood, Hydro-Kennebec, Shawmut, or Weston Hydro Projects should be modified, suspended or revoked. Following that hearing, and consideration of the testimony and written briefs of all parties, the Board has determined, in its discretion, to take no further action to modify, revoke, or suspend the certifications in issue. The Board’s reasons follow.

¹ A summary of the petitions, petition proceedings, public hearing testimony, and post-hearing briefs is appended hereto and incorporated herein.



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1. FISH PASSAGE REQUIREMENTS IN EXISTING WATER QUALITY CERTIFICATIONS

On May 26, 1998, various parties² signed the Lower Kennebec River Comprehensive Hydropower Settlement Accord which, among other things, led to the removal of the Edwards Dam in Augusta. Included as part of the settlement accord was the *Agreement Between Members of the Kennebec Hydro Developers Group, the Kennebec Coalition, the National Marine Fisheries Service, the State of Maine, and the U.S. Fish and Wildlife Service (1998 KHDG Agreement)*. The *1998 KHDG Agreement* was intended to achieve a comprehensive settlement governing fisheries restoration on the Kennebec River and Sebasticook River for catadromous³ American eel and anadromous⁴ American shad, Atlantic salmon, alewife and blueback herring at the seven dams covered by the agreement. The then existing water quality certifications and FERC licenses for each of the dams⁵ were subsequently amended to be consistent with the *1998 KHDG Agreement*.

With regard to upstream passage for anadromous fish, the *1998 KHDG Agreement*, and therefore the water quality certifications, require interim upstream passage at the Lockwood Project, the first of the subject dams on the Kennebec River, by May 1, 2006, with permanent passage to be provided based on a biological trigger (2 years after 8,000 shad are passed or some appropriate alternative determined by the state and federal fisheries agencies), but in any event, no earlier than 2010. Biological triggers are also provided for permanent upstream passage at the Hydro-Kennebec, Shawmut and Weston Projects, and dates are established before which upstream passage will not be required at these dams ranging from 2010 to 2014.

Regarding downstream passage for anadromous fish, the water quality certifications require that the dam owners continue, and where needed improve, existing interim operational

² The signing parties to the *1998 KHDG Agreement* included: the City of Augusta; Edwards Manufacturing Company; the Kennebec Coalition (American Rivers, Inc., the Atlantic Salmon Federation, Kennebec Valley Chapter of Trout Unlimited, the Natural Resources Council of Maine, and Trout Unlimited); the Kennebec Hydro Developers Group (Central Maine Power Company, Merimil Limited Partnership, UAH-Hydro Kennebec Limited Partnership, Ridgewood Maine Hydro Partners, L.P., and Benton Falls Associates); the State of Maine (acting by and through the Governor of the State of Maine, the Maine Department of Inland Fisheries and Wildlife, the Maine Department of Marine Resources, and the Maine State Planning Office); the US Department of Commerce (through the National Marine Fisheries Service); and the US Department of the Interior (through the US Fish and Wildlife Service).

³ Catadromous fish migrate as adults from freshwater to the ocean to spawn, and their offspring then migrate back to freshwater as juveniles to grow to maturity.

⁴ Anadromous fish migrate as adults from the ocean to freshwater to spawn, and their offspring then migrate back to the ocean as juveniles to grow to maturity.

⁵ The certification for the Lockwood Hydro project was issued in August 26, 2004 and its FERC license will expire June, 2035. The certification for the Hydro-Kennebec project was issued June 6, 1986 and its FERC license will expire October, 2036. The certification for the Shawmut project was issued May 21, 1981 and its FERC license will expire January 25, 2021. The certification for the Weston project was issued November 17, 1992 and its FERC license will expire November 25, 2036.

measures to diminish entrainment, allow for downstream passage, and eliminate significant injury or mortality to out-migrating anadromous fish. Permanent downstream anadromous fish passage facilities are required to be operational no later than the date permanent upstream passage facilities are operational.

With regard to the American eel, KHDG dam owners and DMR, in consultation with federal fisheries agencies, were required to undertake three years of study, beginning no later than 1999, to determine the appropriate placement of upstream eel passage facilities at each project and appropriate permanent downstream eel passage measures at each project. According to the terms of the certifications, if no agreement was reached by June 30, 2002, parties were free to petition FERC to amend any license to insert appropriate terms and conditions. If studies revealed that interim downstream measures were needed to avoid significant turbine injury or mortality to downstream migrating eels at a particular site, KHDG dam owners were required to consult with the fisheries agencies and agree to undertake cost-effective measures to minimize mortality at that project.

2. STATUS OF FISH AND EEL PASSAGE UNDER EXISTING WATER QUALITY CERTIFICATIONS

An interim trap, lift, and transfer facility providing upstream passage for anadromous fish has been built at the Lockwood Project and became operational prior to May 1, 2006, as required by the Lockwood Project's water quality certification and FERC license. The lift is capable of passing up to 228,471 American shad; 164,640 river herring; and 4,750 Atlantic salmon annually.⁶ The biological trigger has not yet been reached to require upstream passage at the next dam, (Hydro-Kennebec Project). Various interim operational measures (e.g. gate openings and spillage) have been instituted at the Lockwood, Shawmut and Weston Projects to diminish entrainment and facilitate downstream passage for anadromous fish and eel. At the Hydro-Kennebec Project, an interim downstream fish passage facility (consisting of an angled guidance structure and a new gate) has been constructed and is now in operation.

All dams currently have installed upstream passage for eels. The issue of upstream eel passage, therefore, is not an issue before the Board. Prior to the initiation of these proceedings, however, efforts at providing downstream eel passage had reached an impasse. As correctly pointed out by Intervenors, the studies necessary to determine appropriate downstream passage measures that were to have been completed by 2001 had not been done, and consequently there was no agreement regarding these measures. Nor had any parties sought amendments of the licenses or certifications requiring such measures, as permitted by the terms of the water quality certification and FERC license.

⁶ After sorting at the new Lockwood lift facility, anadromous American shad, river herring and Atlantic salmon will be trucked to suitable upriver locations for release.

Subsequent to the filing of the petitions, however, the Department issued Condition Compliance Orders approving proposals for further studies of downstream eel passage at the Lockwood, Shawmut and Weston Projects and design and operational plans for interim downstream anadromous fish and eel passage facilities at the Hydro-Kennebec Project. These Orders indicated that, subject to certain conditions, the dam owners were now taking appropriate steps to provide downstream eel passage in compliance with the conditions of their water quality certifications.

Pursuant to the Orders, the owners of the Lockwood, Shawmut and Weston Projects are required to conduct radio-telemetry and/or PIT studies in 2007, or in the case of Weston, 2008, prepared in consultation with the Maine Department of Marine Resources (“DMR”) and the United States Fish and Wildlife Service (“USFWS”). These studies will determine whether and how the eels are migrating downstream. The results of the studies must then be reported to the Department by December 31, 2007 for the Lockwood and Shawmut Projects, and December 31, 2008 for the Weston Project, together with a proposal for permanent downstream eel passage measures or additional studies, as appropriate, prepared in consultation with DMR, National Marine Fisheries Service (“NMFS”) and USFWS. Significantly, this submission must also include an implementation schedule for the installation and operation of permanent downstream eel passage for Department review and approval. For the Hydro-Kennebec Project, where certain interim anadromous fish and eel passage facilities have already been installed, the Compliance Order requires effectiveness studies of those measures. Visual monitoring is required at all dams together with interim measures needed to avoid significant downstream turbine injury or mortality. Neither the Intervenor nor the dam owners appealed these orders.

3. ISSUE BEFORE THE BOARD

The issue before the Board is whether it will exercise its discretion to modify the certifications for the subject dams, not to require fish passage – the existing certifications as enforced by the Compliance Orders, provide a process by which fish passage will be required over a period of time – but rather, to require *immediate* passage.⁷ Intervenor argue that Maine’s water quality standards require such immediate passage and that the lack of it poses a threat to the environment and human health. Intervenor also argue that circumstances have changed since the water quality certifications were issued that require immediate passage. The dam owners answer that the phased approach provided by the water quality certifications is biologically and legally justifiable and that in any event, the legal effect of such modification is questionable given that the terms of the existing water quality certifications have now been incorporated into the FERC licenses and the State does not have

⁷ Upstream eel passage has been installed at all dams, as has upstream anadromous fish passage at Lockwood and downstream anadromous fish passage at Hydro-Kennebec. In the Third Procedural Order, the Board Chair ruled that the Board would not take any further evidence or hear argument with regard to upstream eel passage at any of the dams, upstream fish passage at the Lockwood Project, or downstream fish passage at the Hydro-Kennebec Project, as these issues were now moot. The full Board upheld the Chair’s Order at a subsequent meeting.

the authority, absent a specific reopener in the water quality certifications, to require FERC to modify those licenses.

4. THREAT TO HUMAN HEALTH OR THE ENVIRONMENT

The Board first addresses the argument put forward by Intervenor that the lack of downstream fish passage facilities in the interim period prior to the installation of passage results in fish and eels being killed and injured, and that this poses a threat to the environment justifying modification under 38 M.R.S.A. § 341-D(C). In support of this argument, studies were presented and discussed at the hearing showing that multiple hydropower dams on a river can generally be expected to result in significant mortality rates of those migrating adult fish and eels that pass through the turbines (between 40 and 60 percent). *See e.g.* Intervenor's Exhibit 5. *See also* Exhibit GLH-13 at 4992. Also presented was a limited DMR study involving the radio-tagging of eels above Lockwood that found that two out of the five eels tagged were entrained in the turbines. Intervenor's Exhibit 7 at 73.

The Board, however, is not convinced that there is a sufficient basis on which to conclude that the operation of the dams during the interim period pending the ultimate implementation of downstream passage, as required by the water quality certifications and Compliance Orders, poses a threat to the environment. The Board credits the studies that show that impacts from turbines may reasonably be expected to cause significant mortality in eels passing through the turbines (of course, this does not account for some proportion of the eels that survive passage in spillover). The Board has not been presented evidence, however, that this will result in a threat to the population of Kennebec River eels, especially in the time it will take to do the necessary studies and implement passage measures, pursuant to the existing water quality certifications and Compliance Orders.

In fact, the evidence in the record demonstrates that requiring immediate downstream eel passage at this time would be neither warranted nor effective. DMR testified that it has not seen evidence of substantial eel mortality on the Kennebec River, that the radio-tagging study that was done was too limited to rely on, and that without additional studies it is not possible to determine suitable downstream passage strategies at each project.⁸ However, the limited study conducted to date suggests that there may be substantial eel mortality through turbine passage at these projects, as has been found in studies at other hydropower dams. In any event, this concern is addressed through the Compliance Orders, which require that the dam owners take measures during this interim period in consultation with DMR and USFWS to prevent significant eel mortality at the dam. *See* Compliance Orders, DEP Staff Exhibit 5.

⁸ With respect to the American eel, the Board notes that, at the time the petitions were filed, a petition was pending before the United States Fish and Wildlife Service to list eels as an endangered species. The Board also notes that, on February 2, 2007, the U.S. Fish and Wildlife Service issued a decision finding that the American eel is not an endangered or threatened species.

Given the limited amount of time required for the necessary studies to be performed (2 years), and the measures in place to prevent significant eel mortality during that time, there is an insufficient basis on which to conclude that the operation of the dams under the existing water quality certifications pose a threat to the Kennebec American eel population. However, the Board understand the compliance orders to provide a limited time within which the additional studies must be completed, and expects no further delays from the dam owners in completing these studies and implementing downstream eel passage measures.

While downstream passage of eels was a particular focus of the hearings, Intervenors also raised the issue of whether anadromous fish were being killed by dam turbines during the phase-in of fish passage required by the existing water quality certifications. The Atlantic Salmon Commission (“ASC”) testified, however, that the terms of the existing water quality certifications for the projects provide a means for consultation to determine appropriate additional measures, if necessary, to minimize injury or mortality to migratory fish, including Atlantic salmon. ASC also testified that it was participating in resource agency consultations with the dam owners to discuss resource requirements for interim downstream passage. Given this, and the lack of reliable information demonstrating mortality of anadromous fish species on the Kennebec, there is an insufficient basis on which to determine that the operation of the dams under the existing water quality certifications pose a threat to anadromous fish populations on the Kennebec.

Finally, Intervenor Friends of Merrymeeting Bay provided information that the killing of downstream migrating adult eels in the Sebasticook River released long-sequestered toxins into the water and food chain, and thus posed a threat to human health. The concentrations of toxins found on the Sebasticook, however, are not necessarily relevant to the larger Kennebec River, where there is more dilution. Moreover, toxins in fish is a widespread problem in Maine and elsewhere, as evidenced by the State’s fish advisories, and will not be resolved by the change in operations of these dams, especially in the period prior to the implementation of downstream eel passage required by the existing water quality certifications and Compliance Orders. There is, therefore, an insufficient basis upon which to conclude that there is a threat to human health from the operation of the dams in accordance with the existing water quality certifications.

5. FAILURE TO INCLUDE STANDARD OR LIMITATION LEGALLY REQUIRED ON THE DATE OF ISSUANCE

The Board next takes up the question of whether the water quality certifications failed to include a standard or limitation legally required at the time they were issued, namely immediate, safe passage for migratory fish at all dams.

After considering arguments of the parties, the Board concludes that the fact that the certifications at issue here did not include requirements for the immediate passage of all migratory fish does not mean that these certifications did not meet legal standards required

on the date of issuance, including water quality standards. Intervenors have not identified any state or federal law that requires immediate fish passage to be part of a certification in every case. *S.D. Warren v. BEP*, cited by Intervenors, upheld the Department's authority to condition new FERC licenses with, among other things, fish passage requirements; however, this decision did not *require* the Department to include such passage in every certification, nor did it require that any such passage be provided immediately.

Decisions regarding whether and when fish passage facilities should be required as part of a water quality certification for a given dam are made in the context of fishery management goals and objectives, habitat suitability and availability, and current status of fish passage. These decisions run the full spectrum from not requiring fish passage, to leaving open the opportunity to require fish passage at a later date, to establishing a schedule for the future installation of fish passage, to requiring the immediate installation of fish passage. The water quality certification upheld in *S.D. Warren*, cited by Intervenors, contained phased-in anadromous fish passage with biological triggers on upstream dams.

Taken to its logical extreme, Intervenors' argument that the water quality standards require immediate fish passage at all dams, would mean that fish passage is required at any dam within the historic range of anadromous or catadromous fish, whether or not fish are likely to be present to use the passage facilities. There is no legal or practical justification for requiring that fish passage be constructed at a dam when that passage facility is not now, and may never be, actually used by migrating fish.

In the case of the projects at issue here, the Department has issued permits and water quality certifications requiring the phased installation of upstream and downstream passage facilities for eels and various species of anadromous fish based on the record before it and in accordance with the provisions of the *1998 KHDG Agreement*. This Agreement, which is the latest step in a long history of efforts to restore migratory fish to the Kennebec River, is supported by all appropriate state and federal fisheries agencies, as well as a number of non-profit environmental groups, and has been approved by FERC.⁹ While different technical and policy decisions might have been drawn from the record before the Department, the time has long passed for an aggrieved party to challenge these decisions. Intervenors point to no law that was contravened. In sum, the Board cannot agree that immediate fish passage was legally required on the date of the issuance of the water quality certifications in lieu of the phased-in approach adopted by the Department.

⁹ In approving the 1998 KHDG Agreement, FERC wrote: "We congratulate the parties on their successful efforts to resolve the long-running, contentious debate over the future of the Edwards Project. The settlement will allow removal of the Edwards Dam, in a manner that is acceptable to the Edwards Project licensees, federal and state agencies, and the members of the Kennebec Coalition, and will substantially enhance fish restoration efforts in the Kennebec River Basin. In addition, the settlement resolved disputes regarding the provision of fish passage at the upstream projects, with concomitant environmental benefits." Order Approving Settlement, issued September 16, 1998 (84 F.E.R.C. ¶ 61,227).

6. CHANGE IN CONDITION OR CIRCUMSTANCE

Intervenor Watts argues that a petition is now pending to declare the Kennebec River Atlantic salmon to be an endangered species, and that these circumstances did not exist at the time the Department issued water quality certifications for the projects.¹⁰ Intervenor FOMB argues that there is new evidence regarding the harm dams cause to eels, and also argues that it was not anticipated that there would be significant delay in the completion of eel studies.

The fact that the Kennebec River Atlantic salmon is still being considered for listing as an endangered species does not constitute changed circumstances. Any claim that the species is endangered is at this point speculative, and will be determined by the USFWS in due course.

Furthermore, while there may be an increased awareness of the harm dams cause to eels, this awareness alone cannot constitute changed circumstances justifying modification. In any event, the certifications already contain a requirement for downstream passage, and although there was a delay in completing the studies, the Compliance Orders set forth a reasonable path forward to ensure that such passage will be studied and necessary measures implemented in an expeditious and effective manner. Moreover, downstream passage facilities, once constructed, will be subject to modification based on the results of the effectiveness studies required by the *1998 KHDG Agreement* and the Department's certifications. The existing water quality certifications, together with the Compliance Orders, therefore, address the concerns regarding the harm to eels caused by dams raised by Intervenor Watts such that no modification is necessary.

7. VIOLATION OF LAW

The Intervenor Watts argue that the lack of fish passage at the projects causes the Kennebec River to violate its water quality standards.¹¹ The Board, however, does not agree that the projects are currently in violation of existing law. Section 341-D(3)(F) on its face permits the Board to take action to address actual violations of law. Other criteria contained in section 341-D(3) permit the Board to act where, regardless of whether there is a violation of law, other circumstances, such as a change in conditions or a threat to the environment, support that action. The water quality certifications at issue here provide that, subject to certain conditions, there was reasonable assurance that the projects would meet Maine's water quality standards. Petitioner Watts have not alleged that the licensees are out of compliance with

¹⁰ Mr. Watts initially argued that a similar petition regarding the listing of American eel constituted changed circumstances justifying modification of the water quality certifications. As noted above, subsequent to the filing of the petitions in this matter, the U.S. Fish and Wildlife Service issued a decision finding that the American eel is not an endangered or threatened species.

¹¹ Mr. Watts also argues that the entrainment of fish in a hydro-electric dam turbine is not a legal fishing method, is illegal fishing and is thus a Class E crime under Maine law, specifically 12 M.R.S.A. §§ 12453 and 12454. The Board does not agree that entrainment of fish in a dam that is operating in accordance with its State water quality certification and FERC license falls within the definition of "fishing" in 12 M.R.S.A. § 10001.

the conditions of their water quality certifications or FERC licenses. By operating in compliance with their water quality certifications and FERC licenses, the dams are currently operating in compliance with the law.

This does not mean, however, that the Department is powerless in the event of a demonstrated fish kill. The Department has in the past taken appropriate enforcement action in response to fish kills, and will continue to do so in the future.¹²

The Board notes in this regard that the Department has issued Condition Compliance Orders approving proposals for further studies of downstream eel passage at the Lockwood, Shawmut and Weston Projects and design and operational plans for interim downstream anadromous fish and eel passage facilities at the Hydro-Kennebec Project. These Orders indicated that, subject to certain conditions, the dam owners were taking appropriate steps to provide downstream eel passage in compliance with the conditions of their water quality certifications. No appeals of these Condition Compliance Orders were filed. Consequently, the issue of whether the dam owners are in compliance with the terms and conditions of the water quality certifications for the projects is not before the Board in this proceeding.

Notwithstanding this, the Board considers that the task of determining and implementing appropriate measures for downstream eel passage at the projects can be described as a “work in progress” for which a process and schedule are now in place. The Board expects substantive and timely progress by the dam owners in fulfillment of this task, especially in light of past delays. The Board reserves the right to assume jurisdiction over future condition compliance applications to ensure timely and effective downstream eel passage at the projects, and will exercise its responsibility to consider timely appeals of any future condition compliance orders regarding downstream eel passage issued by the Department. The Board requests that the Department provide the Board with at least annual progress reports on the status of the implementation of downstream eel passage measures at the Lockwood, Hydro-Kennebec, Shawmut and Weston Hydro Projects.

8. LEGAL EFFECT OF MODIFYING A WATER QUALITY CERTIFICATION THAT DOES NOT CONTAIN A SPECIFIC REOPENER

The Intervenors ask the Board to modify permits and water quality certifications that were issued for four projects on the Kennebec River to require immediate and safe fish passage. All of the permits/certifications have requirements for phased upstream and downstream passage for anadromous fish and eels. However, none of the permits/certifications contain conditions that reserve the Department’s right to “reopen” the certification to change the

¹² For example, in 2000, the Department negotiated and the Board approved an Administrative Consent Agreement, including a monetary penalty and corrective actions, following the death of and injury to numerous downstream migrating alewives at the Benton Falls Project due to the failure of the project operator to keep the approved downstream fish passage facilities clear of debris and fully operational, as required by the terms of the permit and water quality certification for the project.

LOCKWOOD HYDRO PROJECT
HYDRO-KENNEBEC PROJECT
SHAWMUT HYDRO PROJECT
WESTON HYDRO PROJECT

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provisions of the anadromous fish or eel passage provisions, and in particular the timing contained in those provisions.

The issue of the legal effect of any action by the Board to modify a water quality certification in the absence of a reopener was addressed by the parties in their post-hearing briefs. However, the Board does not need to decide this untested issue of law because, as set forth above, the Board finds that there is an insufficient basis upon which to modify the certifications.

Therefore, the Board in its discretion declines to take any action to revoke, modify or suspend the permits and water quality certifications for the Lockwood, Hydro- Kennebec, Shawmut, and Weston Hydro Projects located on the Kennebec River.

DONE AND DATED AT AUGUSTA, MAINE, THIS 5th DAY OF July, 2007.

BOARD OF ENVIRONMENTAL PROTECTION

BY:


ERNEST W. HILTON, Presiding Officer