

## **Petition to the Board of Environmental Protection**

To revoke, modify or suspend the Maine Hydropower Permits and Water Quality Certificates for the following Kennebec River hydroelectric dams: Weston, Shawmut, Hydro-Kennebec, and Lockwood and for the following Androscoggin River hydroelectric dams: Brunswick, Pejepscot, Worumbo, Lewiston Falls, Upper Androscoggin, Deer Rips and Gulf Island Pond.

And in so doing, to provide for and require the immediate safe downstream and upstream passage of American eel [*Anguilla rostrata*] and for the safe ingress and egress [within the scope of their historic range and at dams not already so doing] of the following anadromous fish species American Shad [*Alosa sapidissima*], Blueback herring [*Alosa aestivalis*], Alewife [*Alosa pseudoharengus*], and Atlantic salmon [*Salmo salar*].

Submitted by:

Friends of Merrymeeting Bay, Petitioner

September 29, 2005

# Friends of Merrymeeting Bay

P.O. Box 233

Richmond, ME 04357

Mr. Matthew Scott, Chair  
Maine Board of Environmental Protection  
State House Station 17  
Augusta, ME 04333-0017

September 29, 2005

Mr. Scott and members of the Board,

Friends of Merrymeeting Bay [FOMB] petitions the Board herewith to, revoke, modify or suspend the Maine Hydropower Permits and Water Quality Certificates for the following Kennebec River hydroelectric dams: Weston, Shawmut, Hydro-Kennebec, and Lockwood and for the following Androscoggin River hydroelectric dams: Brunswick, Pejepscot, Worumbo, Lewiston Falls, Upper Androscoggin, Deer Rips and Gulf Island Pond. The petitioner seeks such actions by the Board to provide for immediate safe downstream and upstream passage of American eel [*Anguilla rostrata*]. We also seek safe ingress and egress [within the scope of their historic range] for the following anadromous fish species American Shad [*Alosa sapidissima*], Blueback herring [*Alosa aestivalis*], Alewife [*Alosa pseudoharengus*], and Atlantic salmon [*Salmo salar*] and “second” the facts, requests and evidence submitted in this regard by Mr. Douglas Watts in his petition. The specifics of our petition henceforth deal with the American eel except in such situations as might be pertinent to anadromous species as well, in which case specifics shall apply to both.

The petitioner requests the Board to: **1.** Require of licensees temporary nighttime shut downs of turbines [dusk to dawn] from September 1 through November 30, 2005, along with at least temporary safe downstream passage; **2.** Require of licensees the submission to BEP, DEP, and DMR of a proposed eel [and fish where relevant] passage plan by March 1, 2006; and **3.** By no later than September 1, 2006, to require permanent eel passage consisting of either seasonal nighttime shut downs or punch plate eel excluders over intakes, both of these in combination with deep gate passage.

Pursuant to Chapter 2, §27 of the Rules of the Maine Department of Environmental Protection (Revocation, Modification or Suspension of Licenses), FOMB invokes the following sub sections in support of our petition:

**C.** The licensed activity poses a threat to human health or the environment;

[Thousands of migratory eels-and often fish-are being killed by turbine blades spinning in the only existing downstream passage.]

**D.** The license fails to include any standard or limitation legally required on the date of issuance;

[When the 401 certifications and FERC permits were updated in 1998 to incorporate the KDHG agreement there existed a mandate under the federal Clean Water Act to ensure that certified facilities complied with state water quality standards. 33 U.S.C. § 1341]

**F.** There has been a change in any condition or circumstance that requires revocation, suspension or a temporary or permanent modification of the terms of the license; and

[There is now a greater awareness and definitive documentation of the consequences of no safe downstream passage.]

**G.** The licensee has violated any law administered by the Department.

[Licensees are in violation of the Clean Water Act and Maine Water Quality Standards (38 MRSA, Sections 464 et seq.).]

*Additionally*, we hereby petition BEP to modify the above listed licenses to comply with 38 M.R.S.A. § 464(1), which requires existing hydropower facilities to implement reasonable changes that do not significantly affect existing energy generation capability and which would result in improvements in habitat and aquatic life.

**Factual Basis for Petition:** The American eel is currently under consideration for endangered species status. As some Board members may know and as Department staff know full well, the annual fall slaughter of migrating American eels has continued for quite a few years now unabated at any hydroelectric dam at which the only downstream passage is through the turbines. While some of the kills have been well documented [Benton Falls, Shawmut, Cobbesecontee, Burnham] when downstream conditions permit; it is safe to assume that the killing occurs albeit unseen, at any dam at which there are eels upstream. As astronomer Carl Sagan has noted: “Absence of proof is not proof of absence.” MDIF&W electro fishing records show eel populations well dispersed through much of Maine.

“A variety of habitat changes and losses are affecting eel abundance and distribution. Most significant is the construction of over 15,000 dams along U.S. Atlantic coastal streams which have restricted or precluded access to an estimated 84% of the species historical stream habitat. As well, high numbers of pre-spawning eels are killed passing through hydroelectric turbines during downstream migration.” [SeaWeb, 2002].

Eels are catadromous. They spend most of their lives in fresh water moving to salt once to spawn and die. Young eels known as glass eels and elvers have an uncanny ability to make their way upstream against incredible odds. These eels will climb wet rocks, work their way through culverts and even get out of the river and slowly work upstream through wet grass if need be following their genetic urge. Still, it is reasonable to assume that dams block habitat access to a sizable percentage of migrating eels. Upstream, eels will develop over the next 15-50 years until an unknown signal to migrate is triggered. In these intervening years the eels have gone from a place near the lower end of the food chain to one near the top [for river dwellers] and a 750mm long migrating “silver” female can carry between 4-6 million eggs. At the time of this out-migration when all American eels attempt to return for their once-in-a-lifetime spawning run to the Sargasso Sea, the only way downstream is often through the penstocks and spinning turbine blades of our

hydro dams where injury/mortality estimates range as high as 100% depending on eel length, water flow, generator load, and turbine type and mode [McCleave, 2001].

We remind you that an excluder alone, while low cost, and preventing eel intake does not bring a dam into compliance with provisions of the law requiring suitable habitat for all indigenous species as it denies access to migratory routes.

As I'm sure Board members know, on February 15, 2005 the Maine Supreme Court in *S.D. Warren v. Board of Environmental Protection* decided in favor of the BEP. This decision discusses in detail the issues of **water quality certification** [rights vested in the state and may contain any appropriate requirement in the license], **discharge** [any addition to navigable waters-may reasonably be understood to include redeposit of pollutants or non-pollutants], **addition of waters** [any water that has left its natural state and been subjected to man-made control], **Clean Water Act** [designed to restore and maintain chemical, physical and biological integrity], **point source** [generally accepted that a dam is one], **designated uses and water quality criteria** [waters of sufficient quality to support indigenous fish species, "**reopeners**" [essential to the full exercise of powers specifically granted the BEP], **BEP's goal** [same as the CWA], and **BEP jurisdiction** [can supercede FERC in the application of certification conditions and approval of project changes].

In short, this Supreme Court decision gives the State the necessary legal basis with which to immediately bring a halt to the eel killing. It is very disturbing that even with legal support from the high court that the Department has remained silent and has thus far refused to issue even a notice of violation for continued killings. Both the DEP and DMR seek to take refuge behind the KHDG agreement [of which we are not a signatory] and the fact that S.D. Warren is attempting to take an appeal of their case to the US Supreme Court. The factual problems with these actions are that **1.** The Kennebec belongs to all Mainers not just those who signed the private KHDG agreement, **2.** The agreement does not outweigh existing laws, **3.** Currently, the Clean Water Act, Maine Water Quality Certification, and the State Supreme Court ruling in S.D. Warren are the laws of the land and they are not being enforced by state or federal agencies.

Adding insult to the injury of blocked migration routes [inbound, and outbound on their only spawning run] is the re-release of long sequestered toxins into the water and food chain as turbine blades chop these long-lived eels up. Dead eels FOMB recovered at Benton Falls on November 17, 2004 were sent to Texas A&M for contaminant analyses. Results indicate extraordinarily high levels of PCBs in the 21-25 year old female eels as well as elevated levels of DDT break down products and dieldrin. PCB levels in the eel tissues were typically in the 400-500 ppb range while the Fish Tissue Action Levels used to determine consumption advisories are only 11 ppb for cancer and 43 ppb for non-cancer illness. Had the eels been from a river with a pulp mill on it, we would expect to find similarly elevated levels of dioxins. The full contaminant report and raw data may be found in the "cybrary" section of the FOMB web site at <http://link75.org/mmb/>.

These eels are full of toxins, not an unexpected situation given their longevity, habits and habitat. It is interesting to consider that eels may in fact act as excellent cleansers of our rivers and by killing them at dams we not only threaten the survival of the species and re-introduce current contaminants but we also re-introduce locally, historical toxins that are no longer manufactured or discharged. Unfortunately, when killed they attract a variety

of predators-mostly high end, who are already prone to high chemical body burdens. Bald eagles and osprey have been observed feeding on carcasses washed up and in the shallows and it is quite likely fish, turtles, mink and otters eat submerged toxin-filled bodies.

Annual anthropogenic eel slaughter from turbines is a problem that has been known about for a number of years in large part due to the efforts of Doug and Tim Watts and yet there has been very little effective response by regulatory agencies or dam owners. As you know, a petition has been filed to grant the American eel endangered species status and is currently under review by USFWS and NMFS. The eel has been all but extirpated from the St. Lawrence River system and numbers appear down through much of its range.

The American Eel Technical Committee of the Atlantic States Marine Fisheries Commission recommends "...closure of all directed silver eel fisheries." Because they [silvers] are "most likely to provide immediate spawning potential and subsequent recruitment to stock." [Public Information Document for Potential Changes to the Interstate Fishery Management Plan for American Eel, Atlantic States Marine Fisheries Commission, November 10, 2004]. With some turbine mortality estimates ranging from 60-100% [Monten, 1985 in McCleave, 2001] the petitioner notes that turbine mortality in Maine likely far exceeds that of "directed eel fisheries" and requests the Board act immediately to halt turbine induced mortality and provide safe ingress and egress for this catadromous species as well as migratory anadromous fish.

On page 35-36 of the new Deer Rips 401 Water Quality Certification the DEP notes that: "...pursuant to 38 MRSA Section 341-D (3), after written notice and opportunity for hearing, the Board may modify any water quality certification whenever it finds that, among other things, the approved activity poses a threat to the environment or there has been a change in any condition or circumstance that requires modification of the terms of the certification. Thus, the DEP already has statutory authority to re-open this WQC to impose new conditions regarding eels as may be warranted in the future."

The Maine Supreme Court notes in their S.D. Warren ruling the BEP's goal *to "restore and maintain the chemical, physical and biological integrity of the State's waters..."* And also: "Because water quality standards are not presently being met, the BEP may impose any conditions necessary to ensure compliance with those standards."

FOMB requests a full public hearing before the Board on this issue based on the facts above and of the "substantial public interest" involved.

Thank you for your consideration.

Sincerely,

Ed Friedman, Chair

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Commissioner Dawn Gallagher  
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**Evidence that will be offered at full public hearing, in support of this petition includes but is not limited to the following:**

- A. Photographs showing the effect of hydroelectric turbine passage on migratory fish in the Kennebec River drainage.
- B. Kennebec River Restoration Reports by the Maine Department of Marine Resources from 1998 - 2004.
- C. McCleave, J.D. 2001. Simulation of the impact of dams and fishing weirs on reproductive potential of silver-phase American eels in the Kennebec River basin, Maine. North American Journal of Fisheries Management 21:592-605.
- D. American Eel Decline, SeaWeb, 2002

- E. September 3, 2003 Memorandum of Dana Murch to Maine Board of Environmental Protection re: Appeal of Department Order Approving Continuing Operation of the Presumpscot River Hydro Projects.
- F. Public Information Document for Potential Changes to the Interstate Fishery Management Plan for American Eel, Atlantic States Marine Fisheries Commission, November 10, 2004
- G. November 12, 2004. Petition and Appendices to the Departments of Interior and Commerce to list the American eel (*Anguilla rostrata*) as endangered under the U.S. Endangered Species Act.
- H. Solomon, D. & Beach, M. December, 2004. Manual for provision of upstream migration for eel & elver. Science Report # SCO200075/SR2. Environment Agency UK
- I. June 17, 2005 letter of Dana Murch, Maine Department of Environmental Protection, to Douglas Watts, Steve Hinchman and Naomi Shalit.
- J. July 1, 2005 letter of Douglas Watts, Friends of the Kennebec Salmon, to Maine DEP Commissioner Dawn Gallagher.
- K. July 6, 2005. Federal Register Notice of the U.S. Dept. of Interior initiating a status review of the American eel under the U.S. Endangered Species Act.
- L. Legal Briefs filed by State of Maine re: S.D. Warren v. Board of Environmental Protection (2005 ME 27).
- M. Maine Supreme Judicial Court, Reporter of Decisions: S.D. Warren v. BEP [2005 ME 27].
- N. July 29, 2005 FOMB letter to Commissioner Dawn Gallagher requesting seasonal 2004 temporary nighttime turbine shut downs.
- O. August 22, 2005 Comments of Friends of Merrymeeting Bay to the USFWS in support of proposed American eel listing.
- P. September 6, 2005 Letter from Andrew Fisk, MDEP to William Rodgers, Benton Falls Associates.
- Q. September 12, 2005 FERC letter to William Rodgers, Benton Falls Associates.
- R. September 2005 Petition of Douglas Watts to the BEP for modification of water quality certificates of Kennebec dams.
- S. Maine Department of Inland Fisheries and Wildlife electro-fishing sampling records.
- T. Eel fecundity by length and weight. Chelminski, M. and Friedman, E. September, 2005 [after USFWS & McCleave].

U. Taunton River Journal, Friends of Kennebec Salmon, Friends of Merrymeeting Bay and other appropriate web sites.

V. Water Quality Certificates, Licenses, and previous materials of record as appropriate.