

**STATE OF MAINE  
BOARD OF ENVIRONMENTAL PROTECTION**

IN THE MATTER OF

LOCKWOOD HYDRO PROJECT            )  
#L-20218-33-C-N                    )  
  )  
HYDRO-KENNEBEC PROJECT            )  
#l-11244-35-A-N                    )  
  )  
SHAWMUT HYDRO PROJECT            )  
#L-19751-33-A-M                    )  
  )  
WESTON HYDRO PROJECT             )  
#L-17472-C-M                        )

**POST-HEARING BRIEF OF  
DOUGLAS HAROLD WATTS**

**1. According to the Maine Attorney General and Maine DEP, the downstream fish passage language in the Water Quality Certifications (WQCs) at the four dams makes it legal for the dams to kill every American eel swimming down the Kennebec River and prohibits the State of Maine from taking any enforcement action to stop this killing. This means the WQCs are a license to kill.**

This is shown in the October 18, 2004 email by Dana Murch of Maine DEP (Watts Pre-filed Testimony at 26) during the massive American eel kill at the Benton Falls Dam on the Sebasticook River. Language in the WQCs for the four Kennebec Dams regarding American eel passage is identical to that in the WQC for the Benton Falls Dam. In this Oct. 18, 2004 email Mr. Murch stated:

“It was acknowledged that the dam owner (Benton Falls Associates) is not currently in violation of either its FERC license or its DEP water quality certification for the project, both of which have eel passage provisions based on the 1998 KHDG Agreement. Under the terms of the Agreement, DMR is still studying ‘the appropriate permanent downstream passage measures to apply’ to the project. Commissioner Lapointe will take the lead in requesting that the dam owner *voluntarily* cease project generation

at the project during the eel migration season. It will be acknowledged that this request *goes beyond* the current requirements of the KHDG Agreement.” (emphasis added)

This statement shows that according to the State of Maine, the WQCs *themselves* make it legal for the dams to kill every single American eel migrating down the river and the WQCs *themselves* create a legal barrier which prevents the State from stopping even the most massive fish kill. This means the WQCs are licenses to kill.

## **2. Would the BEP approve a wastewater discharge license if existing studies showed the waste discharge killed 40-50 percent of all fish swimming through its plume?**

The two scientific studies conducted by Maine DMR on passage survival for adult, female eels at two hydro-electric dams on the Kennebec and Sebasticook Rivers show survival rates of approx. 40-50 percent. The two dams and rivers are very different in size and character, yet the study results are very similar. The study results are consistent with those found in similar studies at other dams in rivers in the U.S. and worldwide. Direct and intensive observation of Maine rivers during the fall American eel migration by Maine DMR staff and others has demonstrated that American eel mortality at hydro-electric dams in the Kennebec River drainage can be profound, massive and lengthy (Watts Pre-Filed Testimony at 9 and 25). In late 2004, the State of Maine’s American eel expert, Dr. Gail Wippelhauser, informed Mr. Murray Carpenter of the *Northern Sky News* that eel kills like the 2004 Benton Falls kill are occurring at every hydro-electric dam on every river along the Atlantic seaboard that supports a run of American eels.

Since 2004, dam owner FPLE has consistently found freshly killed American eels in the tailraces of its Shawmut and Lockwood Dams despite the enormous logistical challenges of finding dead eels below these two dams. Maine DMR fisheries scientist Nathan Gray has described in detail the difficulties in finding dead American eels below the subject dams and stated that, in his professional opinion, there could be an “army” of dead eels below the dams that could easily escape the most diligent inspection efforts (Watts Pre-Filed Testimony at 23). Record evidence shows that the largest American eel kill ever documented in the Kennebec River drainage was discovered by a private citizen, Douglas Watts -- by accident -- at dawn on October 14, 2004

when he observed a bald eagle fly off a gravel bar with a freshly decapitated American eel in its talons more than one third of a mile below the Benton Falls Dam, in a location where surveys for dead American eels had never been conducted. The next day, Mr. Watts' initial observations of a lengthy and substantial eel kill were confirmed by much more extensive in-stream surveys conducted by Mr. Nathan Gray of Maine DMR (Watts Pre-Filed Testimony at 25).

Simple arithmetic modelling shows that survival rates of 40-50 percent at each of the four Kennebec River dams will result in 90-95 percent cumulative mortality for adult American eels, Atlantic salmon or American shad migrating from the Kennebec River above the Weston Dam in Skowhegan to the Atlantic Ocean (Watts Pre-Filed Testimony at 4-6). This modelling shows that even at 90 percent survival rates at each dam, one third of all adult American eel, Atlantic salmon and American shad migrating from the Kennebec River above Skowhegan will be killed while trying to reach the Atlantic Ocean. The above factual testimony raises two salient questions:

Would the Maine BEP issue a license for a wastewater discharge that studies show kill 40 to 50 percent of all fish that swim past its plume ?

Would the Maine BEP issue licenses to four wastewater discharges that kill 90 percent of all the fish trying to swim past their plumes?

**3. The only performance standard for fish passage in the Water Quality Certifications for the Kennebec dams is whatever effectiveness the dams happen to provide.**

When issuing licenses for wastewater treatment plants, Maine DEP establishes precise, numerical performance standards the plant must achieve. That is the whole point of the Maine DEP issuing licenses. If a Maine DEP license contains no measurable performance standards -- what is the point of issuing it ?

Despite numerous opportunities, through written and oral testimony, State of Maine officials have failed to articulate to the BEP any specific, measurable performance benchmarks for fish passage effectiveness in the Water Quality Certifications for the four Kennebec dams.

#### **4. The WQCs contain no requirements for safe and effective downstream fish passage at the dams.**

The WQCs do not require installation of “permanent” downstream passage facilities at the dams unless and until “permanent” upstream fish passage is installed at each dam. The WQCs *expressly prohibit* any requirement for installation of “permanent” upstream fish passage facilities before 2010 at Lockwood and Hydro Kennebec, before 2012 at Shawmut and before 2014 at Weston. This means that the WQCs do not require *any specified and enforceable measure* of safe and effective downstream passage at the four dams for years (ie. until after 2014 at the Weston Dam, for example). This means that the four dams singly or together can kill 100 percent of downstream migrating fish every year and still be in full compliance with their Water Quality Certifications. This is exactly what the Maine DEP and Maine Attorney General said on October 18, 2004 (Watts Pre-Filed Testimony at page 26).

#### **5. Maine Law requires 100 percent safe passage at hydroelectric dams.**

Maine’s fish and game laws prohibit any and all taking, killing or destruction of fish in the inland waters of Maine -- except in specific manners, times and places allowed under law. 12 MRSA §12453. The taking, destruction and killing of fish in the turbines of hydro-electric dams is not a legal fishing method under Maine law. 12 MRSA §12654 ¶1. Therefore, the killing of fish in the turbines of a hydro-electric dam is an illegal fishing method. Any taking, destruction or killing of fish with an illegal fishing method is illegal fishing, a Class E Crime. 12 MRSA §12654 ¶2.

Maine law defining the act of fishing does not depend on intent. Maine law defines “to fish” as: “Fish, the verb. To ‘fish’ means to take, catch, kill, molest or destroy fish *or* to attempt to take, catch, kill, molest or destroy fish.” 12 MRSA §10001 ¶23. (emphasis added). The word “or” in the definition is key. This construction is necessary to prevent someone dynamiting a stream from claiming they weren’t doing it with the intent to kill fish, even if that was the result. Once fish have actually been taken, killed and destroyed, the intent of the actor and action is not relevant. The law simply declares that “to fish” means “to take, catch, kill, molest or destroy fish.”

Once it is known that fish have been taken, molested and destroyed, the only question is whether such taking and destruction was conducted in a legal place, time and manner. If not, the act of taking, killing and destroying is *prima facie* illegal. Because of the statute's negative construction, all methods of take except those explicitly described in statute as legal fishing methods are illegal fishing methods. Taking and killing fish in the turbines of a hydro-electric dam is not explicitly listed in statute as a legal fishing method. As such, it is illegal.

**6. Assertions the dam owners have a legal right to kill an indefinite number of fish in their turbines because they “can’t help doing it” have no basis in law.**

The State of Maine admits the subject dams can and do kill fish in their turbines (Watts Pre-Filed Testimony at 5; Maine DMR and Maine ASC Written Testimony at 3). Dam owner FPLE admits American eels are being killed in the turbines of the Shawmut and Lockwood Dams on an annual basis (Pre-Filed Testimony of Robert Richter at 14).

The State of Maine has repeatedly asserted that even in the “best of circumstances” the killing of fish in dam turbines cannot be avoided. See: Maine BEP Draft Order of Jan. 19, 2006:

“The Board notes that current state-of-art downstream fish passage facilities are not 100% effective in safely passing fish. This means that, even in the best of circumstances, there will be some fish that are killed or injured while migrating downstream through these facilities.”

Basically, the State of Maine argues that because even the most perfectly designed dam facility could possibly kill one fish -- a fish -- this one potential dead fish creates a legal right for the dams to kill hundreds, thousands or tens of thousands of fish every year. Ie. if we cannot stop all crimes, we surrender our right to stop any.

**7. There are many proven and effective ways for dam owners to not kill fish in their dams. This leaves the State of Maine with no excuse for not requiring such methods to be used - and no excuse for dam owners to not use them.**

No law prevents the State of Maine from ordering hydro-electric turbine intakes to be fully screened to prevent fish from contacting the turbines. No law prevents the State of Maine from ordering periodic turbine shutdowns to prevent the death of migrating fish.

Record evidence shows that two effective methods exist to prevent turbine mortality of migrating fish, particularly large fish such as adult eels, salmon and shad. These are (a) installing physical barriers at turbine intakes to prevent fish from entering turbines; and (b) evening turbine shutdowns during the approx. 8 week fall American eel migrations season.

Full physical screening at turbine intakes is now being used at the Benton Falls Dam and the American Tissue Dam with considerable success. Since 2003, the State of Maine has ordered an 8 week, 8-hour evening turbine shutdown at S.D. Warren's Presumpscot River dams during the fall to allow for safe American eel migration at the dams. This requirement has been upheld by Maine's highest court. This was also the method employed from 2002-2004 by Maine DEP enforcement staff at the American Tissue Dam on Cobbossee Stream in Gardiner, Maine until the dam owner successfully installed steel "punch plate" across the dam turbine intake to keep fish from entering the turbine (Watts Pre-Filed Testimony at 9-13).

The State of Maine's only claim to the existence of a legal "right" for dam owners to kill fish is that even under the "best circumstances" some fish may be killed at a dam. The above examples show this claim is false. First, the State could order the dam removed by revoking its water quality certification. Second, the State could require mandatory operational shutdowns during specific migration periods, as is now being done on the Presumpscot River. Third, the State could require the full screening of turbine intakes to prevent migrating fish from entering the turbines, as is being done at the American Tissue Dam and Benton Falls Dam.<sup>1</sup>

**8. The task of defining the word "safe and effective" fish passage cannot be left to Maine fisheries agencies or Maine DEP -- because none of these agencies can define these terms themselves.**

In direct testimony to the Maine BEP, State of Maine fisheries agencies and Maine DEP

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<sup>1</sup> Boiled to its essence, the State argues that because some motorists are killed even with seat belts, the State is prohibited from requiring motorists to wear seat belts.

admitted they have no benchmarks or standards as to what distinguishes “safe” fish passage from “unsafe” fish passage and what separates “effective” fish passage from “ineffective” fish passage. This was shown in oral testimony by Dr. Gail Wippelhauser of Maine DMR, who stated that Maine DMR does not have any numeric fish passage effectiveness goals or benchmarks for dams.

Simple arithmetic shows that fish migrating downstream from the Kennebec River above the Weston Dam in Skowhegan will suffer almost complete annihilation unless survival rates at each of the four subject dams are near 100 percent (Watts Pre-Filed Testimony at 4-6). Even at 95 percent survival at each dam, nearly one fifth (19 percent) of all fish migrating from the Kennebec River above Skowhegan will be killed by dams before they reach the head of tide in Augusta.

All record evidence in this proceeding suggest the subject dams fall far short of survival rates of 96, 97, 98, 99 or 100 percent for downstream migrating fish. No party to this proceeding, be it the State of Maine or dam owners claims that the subject dams are now achieving 96-100 percent survival of downstream migrants. The State of Maine will not even predict whether such survival rates can be achieved at dams equipped with “state of art” downstream fish passage facilities. None of the subject dams today possess anything close to “state of art” downstream passage facilities for all migrating fish species.

It is up to this Board at this procedural moment to precisely define the level of fish passage required by Maine law and to establish clear performance benchmarks so as to make the Board’s standards enforceable under law.

Dated April 9, 2007

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Douglas H. Watts, Petitioner