

Eel Weir Hydropower Project WQC

- Water Quality Certification under Appeal # L-19937-33-J-N



STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION

PAUL R. LEPAGE
GOVERNOR

PATRICIA W. AHO
ACTING COMMISSIONER

VIA ELECTRONIC FILING

COMMENTS

August 31, 2011

Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission
888 First Street, N.E.
Washington, DC 20426

RE: Water Quality Certification
Eel Weir Hydropower Project
FERC No. 2984

Dear Secretary Bose:

This is in response to the Application for New License filed by S.D. Warren Company for the existing Eel Weir Hydropower Project, FERC No. 2984, located on Sebago Lake and the Presumpscot River, Cumberland County, Maine. The application was originally filed on March 29, 2002, and was subsequently supplemented on May 26 and June 6, 2011.

The Maine Department of Environmental Protection (MDEP) has now issued a final water quality certification for the proposed relicensing of the Eel Weir Project. A copy of the Department Order granting certification is attached. This Order includes a response to comments on a draft certification issued on July 26, 2011.

In summary, the MDEP has certified that the continued operation of the Eel Weir Project will meet applicable water quality standards, subject to the following conditions:

1. Except as modified by specified conditions, lake levels shall be managed within a target range between 266.65 feet msl and 262.0 feet msl, with lake levels above or below this range triggering increased or decreased flow releases, respectively, from the project dam, and with the goal of achieving a level of 266.0 feet msl (0.65 feet below spillway crest elevation) between May 1 and June 15 annually, in accordance with the applicant's lake level management plan and operating parameters for Sebago Lake dated May 26, 2011, as revised June 6, 2011.

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2. Except as modified by specified conditions:
 - A. A total minimum flow of 270 cfs (16,200 cfm) shall be released from the project at all times, except that a total minimum flow of 408 cfs (24,500 cfm) shall be released from the project between June 1 and September 30 annually whenever spillage is required at the downstream Dundee and Gambo Dams to maintain dissolved oxygen levels in the Presumpscot River. The MDEP reserves the right, after notice to the applicant and opportunity for hearing, to reopen and modify the terms of the certification to require such changes in the required minimum flow and/or such other measures as may be deemed necessary to meet Class B dissolved oxygen standards in the Presumpscot River from Dundee Dam to Saccarappa Dam under dry weather conditions.
 - B. An instantaneous minimum flow of 75 cfs (4,500 cfm) shall be released into the bypassed river reach (Eel Weir Bypass) below the project dam at all times, and the occurrence of flow releases greater than 300 cfs (18,000 cfm) into the Eel Weir Bypass shall be minimized. The flow released into the Eel Weir Bypass shall be counted as part of the total minimum flow release specified in Part A of this condition.
3. Except as modified by specified conditions, flows from the project shall be capped at 1,000 cfs (60,000 cfm) during the landlocked salmon spawning season from October 16 through November 15 annually. Upon notification from the Department of Inland Fisheries and Wildlife that there is evidence that project flows are attracting landlocked salmon to the outlet dam during the spawning season, the MDEP reserves the right, after notice to the applicant and opportunity for hearing, to reopen this certification for consideration of making such changes in the flow cap required by Part A of this condition as may be deemed necessary to protect landlocked salmon during their annual spawning runs.
4. Upstream eel passage facilities shall be installed and operational at the Eel Weir Project within 2 years following the issuance of a new FERC license for the project, and an upstream eel passage effectiveness study shall be conducted by the applicant, in consultation with the Maine Department of Marine Resources. The MDEP reserves the right, after notice to the applicant and opportunity for hearing, to reopen and modify the terms of the certification to require reasonable changes in the design and/or operation of the upstream eel passage facilities as may be deemed necessary to effectively pass eels upstream through the project.
5. Downstream eel passage facilities shall be installed and/or operational measures to provide downstream eel passage shall be implemented at the Eel Weir Project within 2 years following the issuance of a new FERC license for the project, and a downstream eel passage effectiveness study shall be conducted by the applicant, in consultation with the Maine Department of Marine Resources. The MDEP reserves the right, after notice to the applicant and opportunity for hearing, to reopen and modify the terms of the certification to require

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changes in the design and/or operation of the downstream eel passage facilities installed and/or the operational measures implemented as may be deemed necessary to effectively pass eels downstream through the project.

6. Upon notification from the Department of Inland Fisheries and Wildlife and/or the Department of Marine Resources that circumstances or conditions warrant the installation of fish passage facilities at the Eel Weir Dam, the MDEP reserves the right, after notice to the applicant and opportunity for hearing, to reopen this certification for consideration of requiring the installation of such fish passage facilities as may be deemed necessary to pass anadromous and/or resident fish species, including but not limited to landlocked Atlantic salmon, upstream and downstream through the project area.
7. Upon any future determination by the MDEP that the water quality of Sebago Lake is declining and that the operation of the Eel Weir Project, as approved by this certification and as conditioned by the new FERC license for the project, may be causing or contributing to this decline in water quality, the MDEP reserves the right, after notice to the applicant and opportunity for hearing, to reopen this certification for consideration of requiring such modification of the lake level management plan in effect for the project as may be deemed necessary to ensure that the operation of the project does not cause or contribute to any decline in the water quality of Sebago Lake.
8. The applicant shall provide improved public boat access to Sebago Lake and shall, in consultation with the Department of Inland Fisheries and Wildlife, conduct a study to evaluate the options for providing such improved access. After notice and opportunity for hearing, MDEP will reopen this certification to require such improved public boat access to Sebago Lake as is deemed necessary and appropriate to meet public recreational demand.

In compliance with the provisions of Sections 401(a) and (b) of the Clean Water Act, the conditions of the State's water quality certification must be included in the articles of any new license issued for the Eel Weir Hydropower Project.

By Executive Order of the Governor of the State of Maine, the terms and conditions in the attached water quality certification represent the State's sole, official recommendations regarding the subject Application for New License, superceding all preliminary recommendations by individual State agencies.

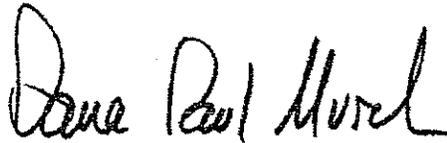
The MDEP notes that, while S.D. Warren has proposed a flow-based lake level management plan with specific target lake levels and flow ranges, there are a virtually limitless number of lake level management plans and corresponding lake levels that will meet state water quality standards. It is not the MDEP's responsibility to choose among these possible plans, or to set specific lake level requirements. It is the MDEP's position that the continued operation of the Eel Weir Project will meet applicable water quality standards, subject to the conditions attached

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to our water quality certification and as summarized above. It is up to FERC, under Section 10(a) of the Federal Power Act, to determine, within the constraints imposed by the MDEP's certification, whether Warren's proposed management plan is best adapted to a comprehensive plan for improving or developing a waterway or waterways for all beneficial public uses.

Thank you for this opportunity to comment.

Sincerely,



Dana Paul Murch
Hydropower Specialist
Maine Department of Environmental Protection

Attachment

Cc: Nancy Skancke, GKRSE

Maureen Winters, Free-Flow Power
Nathan Whalen, Portland Water District
Roger Wheeler, Friends of Sebago Lake
Stephen Kasprzak, Friends of Sebago Lake
Charles Frechette, Sebago Lake Marina
Dusti Faucher, Friends of Presumpscot River
Curtis Bohlen, Casco Bay Estuary Project
Robert Marvinney, Maine Geological Survey
Wayne Fournier, Town of Frye Island
Douglas Watts
Francis Brautigam, Maine Department of Inland Fisheries & Wildlife
Steve Timpano, Maine Department of Inland Fisheries & Wildlife
Gail Wippelhauser, Maine Department of Marine Resources
Amy Hudnor, Maine Department of Conservation
Arthur Spiess, Maine Historic Preservation Commission
Todd Burrowes, Maine State Planning Office
Peter Newkirk, Maine Department of Environmental Protection
Roy Bouchard, Maine Department of Environmental Protection
Jeanne DiFranco, Maine Department of Environmental Protection
Angela Dubois, Maine Department of Environmental Protection



STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION
17 STATE HOUSE STATION
AUGUSTA, ME 04333

DEPARTMENT ORDER
FINAL

IN THE MATTER OF

S.D. WARREN COMPANY)	WATER QUALITY CERTIFICATION
Standish, Windham, Sebago, Naples, Casco,)	
Raymond, and Frye Island)	
Cumberland County)	
EEL WEIR HYDROPOWER PROJECT)	
#L-19937-33-J-N (Approval))	FINDINGS OF FACT AND ORDER

Pursuant to the provisions of the *Water Classification Program*, 38 M.R.S.A. §§ 464–470, and Section 401 of the Federal Water Pollution Control Act (a.k.a. Clean Water Act), the Department of Environmental Protection has considered the application of S.D. WARREN COMPANY with its supportive data, agency review, and other related materials on file, and FINDS THE FOLLOWING FACTS:

1. APPLICATION SUMMARY

The applicant, S.D. Warren Company, proposes the continued operation of the existing Eel Weir Hydropower Project, located on the Presumpscot River and Sebago Lake in the Towns of Standish, Windham, Sebago, Naples, Casco, Raymond, and Frye Island, Cumberland County, Maine (see Exhibits 1, 2, and 3).

The project consists of a dam (Eel Weir Dam) and its impoundment (Sebago Lake), a fish screen and intake structure, a canal, and a powerhouse. The project operates in a store and release mode, within the limits prescribed by an approved lake level management plan, for generation at the Eel Weir powerhouse and at Warren’s five downstream projects on the Presumpscot River (Dundee, Gambo, Little Falls, Mallison Falls, and Saccarappa).¹

2. REGULATORY HISTORY

- a. Original License. On March 16, 1984, the Federal Energy Regulatory Commission (FERC) issued a license under the Federal Power Act for the continued operation and maintenance of the constructed Eel Weir Project. The license was issued with an expiration date of March 31, 2004. The license did not contain any specific conditions regarding the management of lake levels or the installation of fish passage facilities at the project.² The project was owned and operated by S. D. Warren Company (Warren).

¹ See Section 3 of this order for a more detailed description of project facilities and operation.
² By letter dated November 22, 1978, the DEP waived water quality certification for the project.

- b. Dam Stabilization Permit. By Order #L-16981-34-A-N dated June 12, 1990, the Department approved a permit under the Maine Waterway Development and Conservation Act and water quality certification under the Clean Water Act for various maintenance and repair activities designed to stabilize the existing Eel Weir Dam in compliance with FERC dam safety regulations.
- c. Notice of Complaints. On March 21, 1990, FERC published notice of complaints filed by two individuals alleging that Warren was operating the Eel Weir Project in violation of the terms of its license.
- d. Notice of Withdrawal of Complaints. On July 16, 1991, FERC published notice that the complaints filed against the operation of the Eel Weir Project had been withdrawn.³
- e. Minimum Flow Requirement. On January 7, 1992, FERC issued an order establishing minimum flow requirements from the Eel Weir Dam into the bypass reach of the Presumpscot River between the dam and the project powerhouse discharge.⁴
- f. Notice of Complaints. On December 28, 1992, FERC published notice of complaints filed by Friends of Sebago Lake and several individuals alleging that Warren was operating the Eel Weir Project in violation of the terms of its license.
- g. Order on Complaints. On August 4, 1994, FERC issued an order on complaints concluding that Warren was not in violation of the terms and conditions of the license for the Eel Weir Project and dismissing the pending complaints. In this order, FERC also found that the uses of the waters of Sebago Lake at times conflict in a manner not realized at the time the project was licensed, and directed Warren to file, for FERC approval, a lake level management plan, prepared in consultation with the relevant state, federal, and local agencies and other interested entities, that balances the various competing uses of Sebago Lake.
- h. Notice of Lake Level Management Plan. On April 26, 1995, FERC published notice of and invited comments, protests, or motions to intervene on, S.D. Warren's filing of its proposed lake level management plan for Sebago Lake, as required by FERC's August 4, 1994 Order on Complaints.
- i. FERC Draft Environmental Impact Statement. In March, 1996, in accordance with the National Environmental Policy Act (NEPA), FERC issued for public review and comment a Draft Environmental Impact Statement (DEIS) for the proposed Sebago Lake water level management plan. In the DEIS, FERC analyzed the environmental

³ The withdrawal of the complaints was made following Warren's voluntary agreement to operate the Eel Weir Project in accordance with a compromise target water level management plan, as filed with FERC on May 7, 1991.

⁴ The approved minimum flow requirements remain in effect. See Section 4 of this Order.

impacts of S.D. Warren's proposed lake level management plan and various lake level management alternatives.⁵ The DEIS concluded that the alternative plan developed by FERC staff was the preferred lake level management plan.⁶

- j. Notice of Settlement Offer. On August 30, 1996, FERC published notice of and invited comments on an offer of settlement, in the form of a compromise water level management plan for Sebago Lake, submitted by the State of Maine, Departments of Environmental Protection, Conservation, and Inland Fisheries and Wildlife.⁷
- k. FERC Final Environmental Impact Statement. In January 1997, in accordance with NEPA, FERC issued a Final Environmental Impact Statement (FEIS) for the proposed Sebago Lake water level management plan. The FEIS concluded that the settlement plan offered by the State of Maine and the alternative plan developed by FERC staff were both acceptable.
- l. Order Approving Settlement and Amending License. On April 21, 1997, FERC issued an order approving, with certain clarifications, the compromise lake level management plan⁸ for Sebago Lake submitted as a settlement plan by the State of Maine, and amending the existing license for the Eel Weir Project to incorporate the settlement plan and various additional study requirements.⁹
- m. Order on Rehearing. On August 6, 1997, FERC issued an order on rehearing modifying the requirements of the April 21, 1997 order with respect to the plans for conducting the various studies required by the order.

⁵ The alternative evaluated included: a high lake alternative; a low lake alternative; an alternative proposed by the State of Maine; an alternative developed by FERC staff; and a no-action alternative.

⁶ The FERC staff alternative only differed from the plan proposed by the State of Maine from September through November, when the FERC staff alternative proposed a slightly lower target level curve.

⁷ The compromise State water level management plan, as revised August 12, 1996, was developed by DEP, DOC and DIFW in consultation with other interested parties and had been accepted by S.D. Warren, Friends of Sebago Lake, Portland Water District, Sebago Lake Anglers Association, Sebago Lake Boating Club, Sebago Lake Landowners and Users Coalition, Sebago Lake Marinas Association, Maine Marine Trades Association, Maine State Bass Federation, and Frye Island Corporation.

⁸ The approved lake level management plan, as subsequently modified by FERC on August 28, 2000, remains in effect. See Section 4 of this Order.

⁹ The April 21, 1997 order directed S.D. Warren to identify which, if any, of the known archaeological sites along the margins of the lake would be adversely affected by the approved lake level management plan; to complete archaeological surveys of any identified sites to determine their eligibility for inclusion on the National Register of Historic Places; and to develop a plan for protection of, or mitigation of damage to, any eligible sites. See Ordering Paragraph (D). In addition, S.D. Warren was also required to conduct various studies on the effects of the lake level management plan. These studies included: (1) a wetlands inventory and evaluation to determine the potential impacts of changes in lake levels on wetlands; (2) the collection of beach profile data; (3) a monitoring and testing program to quantify near-shore water quality; and (4) a data collection program to obtain available information on identified recreational uses of the lake. See Appendix B of the April 21, 1997 order, as contained in a FERC Errata Notice dated May 6, 1997.

- n. Notice of Intent to File License Application. On April 13, 1999, FERC published notice of Warren's intent to file an application for a new license for the Eel Weir Project.
- o. Order Finding Violation of Lake Level Management Plan. On March 10, 2000, FERC issued a letter order finding Warren in violation of the approved lake level management plan by failing to meet the required target level on November 1, 1999. In this letter order, FERC also directed Warren to develop and file an operating plan describing specific actions Warren will implement to ensure compliance with the November 1 target level.
- p. Order Denying Rehearing. On June 2, 2000, FERC issued an order denying Warren's request for rehearing of the March 10, 2000 letter order finding Warren in violation of the approved lake level management plan.
- q. Notice of Amendment of License. On June 9, 2000, as modified by an errata notice dated June 26, 2000, FERC published notice of Warren's request to amend the approved lake level management plan.
- r. Order Amending Lake Level Management Plan. On August 28, 2000, FERC issued an order approving, with modifications, the amendments to the approved lake level management plan proposed by Warren.
- s. Order Granting Rehearing and Amending Lake Level Management Plan. On January 11, 2001, FERC issued an order granting Warren's request for rehearing of the August 28, 2000 order amending the approved lake level management plan, and further modifying the plan as requested by Warren.
- t. Order Finding Compliance With Lake Level Management Plan. On July 17, 2001, FERC issued a letter order concluding that Warren's inability to meet the required minimum lake level on May 1, 2001, will not be considered a violation of the approved lake level management plan.
- u. Order Finding Compliance with Lake Level Management Plan. On September 26, 2001, FERC issued a letter order concluding that Warren's inability to meet the required lake level on August 1, 2001, and the required minimum lake level range through September 1, 2001, will not be considered a violation of the approved lake level management plan. In this letter order, FERC also directed Warren to file another report describing lake level management from September 1, 2001 through January 1, 2002.
- v. Order Finding Compliance with Lake Level Management Plan. On December 14, 2001, FERC issued a letter order concluding that Warren's inability to maintain lake levels within the required operating range from September 2 through October 5, 2001, will not be considered a violation of the approved lake level management plan.

- w. Water Quality Certification Application. On March 19, 2002, Warren filed an application with the Department for water quality certification in conjunction with the proposed relicensing of the Eel Weir Project.¹⁰
- x. Relicensing Application. On March 29, 2002, Warren filed an application with FERC for a new license for the existing Eel Weir Project.
- y. Notice of Application. On April 5, 2002, FERC published notice of Warren's March 29, 2002 filing of an application for a new license for the Eel Weir Project, No. 2984. In this notice, FERC solicited additional study requests and established procedures for relicensing and a deadline for submission of final license applications amendments.
- z. Notice of Application Accepted for Filing. On August 2, 2002, FERC published notice that Warren's application for a new license for the Eel Weir Project has been accepted for filing, but was not ready for environmental analysis. In this notice, FERC solicited motions to intervene and protests on Warren's application and established procedural milestones for the relicensing proceeding.
- aa. Order Finding Compliance with Lake Level Management Plan. On October 4, 2002, FERC issued a letter order concluding that Warren's failure to achieve the required minimum lake level on May 1, 2002 and failure to meet the required minimum lake level range from May 2 through May 28, 2002, will not be considered a violation of the approved lake level management plan.
- bb. Order Finding Compliance with Lake Level Management Plan. On November 19, 2002, FERC issued a letter order concluding that Warren's failure to operate the project within the required lake level range from May 29 through September 10, 2002, and from September 13 through September 15, 2002, will not be considered violations of the approved lake level management plan.
- cc. Order Finding Violation of Lake Level Management Plan. On September 11, 2003, FERC issued a letter order finding Warren in violation of the approved lake level management plan by failing to take timely, proactive measures to achieve the required fill-up from May 1 through the second week of June, 2003.
- dd. Order Finding Compliance with Lake Level Management Plan. On February 10, 2004, FERC issued a letter order concluding that Warren's inability to meet the required lake level on August 1, 2003, and failure to operate the project within the required lake level range from October 22 through November 10, 2003, will not be considered violations of the approved lake level management plan.

¹⁰ Warren's application for water quality certification for the Eel Weir Project was accepted for processing by the Department on June 4, 2002.

- ee. Notice of Authorization for Continued Project Operation. On April 7, 2004, FERC published notice of authorization for Warren to continue to operate the Eel Weir Project after the March 31, 2004 license expiration under a self-renewing annual license, effective until such time as FERC acts on the pending application for a new license for the project.
- ff. Order Finding Compliance with Lake Level Management Plan. On January 18, 2005, FERC issued a letter order concluding that Warren's exceedance of the required upper lake level limits on July 24 and 28 and August 1 and 2, 2004, will not be considered violations of the approved lake level management plan.
- gg. Order Finding Compliance with Lake Level Management Plan. On April 26, 2005, FERC issued a letter order concluding that Warren's exceedance of the required upper lake level limits between December 7 and 14, 2004, will not be considered violations of the approved lake level management plan.
- hh. FERC Draft Environmental Assessment. On July 11, 2005, in accordance with the National Environmental Policy Act (NEPA), FERC issued for public review and comment a Draft Environmental Assessment (DEA) for the proposed relicensing of the Eel Weir Hydroelectric Project. In the DEA, FERC analyzed the effects of relicensing the project (1) as proposed by Warren, (2) as proposed by Warren with FERC staff modifications, and (2) as required by the existing license. In the DEA, FERC also evaluated numerous changes to the current lake level management plan, as recommended by various parties, including the State of Maine.
- ii. FERC Final Environmental Assessment. On November 29, 2005, in accordance with the National Environmental Policy Act (NEPA), FERC issued a Final Environmental Assessment (FEA) for the proposed relicensing of the Eel Weir Hydroelectric Project. The FEA recommended licensing the project as proposed by Warren with some modifications and additional measures developed by FERC staff.¹¹ In the FEA, FERC staff concluded that issuing a new license for the project, with the recommended environmental measures, would not be a major federal action significantly affecting the quality of the human environment.
- jj. Order Finding Compliance with Lake Level Management Plan. On December 19, 2005, FERC issued a letter order concluding that Warren took reasonable measures to comply with the approved lake level management plan during late April and early May, 2005.
- kk. Order Finding Compliance with Lake Level Management Plan. On March 28, 2006, FERC issued a letter order concluding that Warren's exceedance of the approved lake level range from July 22 through August 29, 2005 and from October 10 to October

¹¹ The FEA states that the recommended FERC staff modification and additional measures include, or are based in part on, recommendations made by federal and state agencies and other entities that have an interest in the resources potentially affected by continued operation.

- 31, 2005, will not be considered violations of the approved lake level management plan.
- ii. Order Finding Compliance with Lake Level Management Plan. On March 28, 2006, FERC issued a letter order concluding that Warren's inability to achieve the 261.0 lake level in two out of every nine years during 2005 will not be considered a violation of the approved lake level management plan.
- mm. Order Finding Compliance with Lake Level Management Plan. On October 23, 2006, FERC issued a letter order concluding that Warren's exceedance of the required lake level limit from June 8 through 18, June 29 through July 4, and on July 13, 23 and 31, 2006 will not be considered violations of the approved lake level management plan.
- nn. Order Finding Compliance with Lake Level Management Plan. On April 25, 2007, FERC issued a letter order concluding that Warren's deviations from the required lake level target range on August 25-27 and August 29 through September 3, 2006 will not be considered violations of the approved lake level management plan. In this letter, FERC further concluded that Warren's inability to achieve in 2-in-9-year low lake level of 261.0 feet during 2006 will not be considered a violation of the approved lake level management plan.
- oo. Order Finding Compliance with Lake Level Management Plan. On September 19, 2007, FERC issued a letter order concluding that Warren's exceedance of the required lake level limits from April 21 through 29, 2007 will not be considered a violation of the approved lake level management plan.
- pp. Order Finding Compliance with Lake Level Management Plan. On December 4, 2007, FERC issued a letter order concluding that Warren's failure to achieve the required lake level elevation on August 1, 2007 and Warren's exceedance of the required lake level limits from July 25 through August 7, August 19 through 30, September 2 & 3, and September 5 through 8, 2007 will not be considered violations of the approved lake level management plan.
- qq. Order Finding Compliance with Lake Level Management Plan. On November 7, 2008, FERC issued a letter order concluding that Warren's exceedance of the required lake level limit from June 2 through July 12, July 24 through August 9, and September 9 through 17, 2008 will not be considered violations of the approved lake level management plan.
- rr. Order Finding Compliance with Lake Level Management Plan. On November 24, 2008, FERC issued a letter order concluding that Warren's exceedance of the required lake level limit from September 8 through October 8 and from October 30 through November 30, 2008 will not be considered violations of the approved lake level management plan.

- ss. Order Finding Compliance with Lake Level Management Plan. On January 9, 2009, FERC issued a letter order concluding that Warren's exceedance of the required lake level limit from November 16 through December 14, 2008 will not be considered a violation of the approved lake level management plan.
- tt. Order Finding Compliance with Lake Level Management Plan. On April 1, 2009, FERC issued a letter order concluding that Warren's exceedance of the required lake level limit from December 16, 2008 through January 13, 2009 will not be considered a violation of the approved lake level management plan.
- uu. Order on Complaint. On March 4, 2010, FERC issued a letter order dismissing a complaint filed by Friends of Sebago Lake alleging that Warren was in violation of its license for the Eel Weir Project by failing to comply with the requirement to lower Sebago Lake to elevation 261 feet in two out of every nine years.
- vv. Order Finding Compliance with Lake Level Management Plan. On March 5, 2010, FERC issued a letter order concluding that Warren's exceedance of the required lake level limit from June 16 through August 5, 2009, and from December 3, 2009 through January 3, 2010, will not be considered a violation of the approved lake level management plan. In this letter, FERC directed Warren to file a report by February 1, 2011, summarizing Warren's consultations with resource agencies and attempt to reach the low lake level of 261 feet between November 1, 2010 and January 1, 2011.
- ww. Notice on Rehearing. On June 1, 2010, FERC issued a notice rejecting the request for rehearing filed by an individual of FERC's March 4, 2010 letter order dismissing the complaint filed by Friends of Sebago Lake.
- xx. Order Finding Compliance with Lake Level Management Plan. On July 6, 2010, FERC issued a letter order concluding that Warren's exceedance of the required lake level limit at various times between January 4 and April 12, 2010 will not be considered a violation of the approved lake level management plan.
- yy. Order Finding Compliance with Lake Level Management Plan. On August 16, 2010, FERC issued a letter order concluding that Warren's operation of the Eel Weir Project and the resulting Sebago Lake water levels from April 12 through August 4, 2010 will not be considered a violation of the approved lake level management plan.
- zz. Order Finding Compliance with Lake Level Management Plan. On January 19, 2011, FERC issued a letter order concluding that Warren's operation of the Eel Weir Project and the resulting water levels from August 5 to December 22, 2010 will not be considered a violation of the approved lake level management plan.
- aaa. Order Finding Compliance with Lake Level Management Plan. On May 18, 2011, FERC issued a letter order concluding that Warren's exceedance of the required lake

level limit from December 23, 2010 through January 3, 2011 will not be considered violations of the approved lake level management plan.

- bbb. Supplement to Relicensing Application. On May 26, 2011, and as revised on June 6, 2011, Warren filed a supplement to its March 2002 application for a new license for the existing Eel Weir Project.
- ccc. Notice of Supplement to Application. On June 9, 2011, FERC published notice of Warren's filing of a supplement to its pending application for new license for the Eel Weir Project.

3. DESCRIPTION OF EXISTING PROJECT FACILITIES

The existing Eel Weir Hydropower Project is located at the outlet of Sebago Lake and controls water levels in Sebago Lake and flows in the downstream Presumpscot River, which runs about 25 miles to head-of-tide in Falmouth (see Exhibit 1).¹² A dam has existed at the site since at least 1827.¹³ The present dam was constructed by the Presumpscot Water Power Company (now a wholly-owned subsidiary of S.D. Warren) in 1878, to a height five feet above the top of the existing dam.¹⁴ The existing power canal and powerhouse were constructed in 1903.

The project includes a dam, an impoundment (Sebago Lake), a power canal, a powerhouse, tailrace channel, and ancillary facilities (see Exhibits 2-4).

The Eel Weir Dam is a 22-foot-high, 1,350-foot-long stone masonry, concrete and earthen structure that consists of (a) a 900-foot-long non-overflow concrete retaining wall and earth-fill east embankment section, (b) a 115-foot-long overflow spillway section, (c) a 35-foot-long river gatehouse section, with five 6.4-foot-high by 4.8-foot-wide wooden gates, (d) a 260-foot-long stone masonry and earth fill west embankment section, incorporating a 40-foot-long canal intake structure, and (e) a 90 foot-long fish screen with 3/4th inch spacing located immediately upstream of the canal intake structure.

The dam creates an impoundment, Sebago Lake, with a surface area of about 28,771 acres (45.6 square miles) at a normal full pond elevation of 266.65 feet msl (spillway crest elevation). Sebago Lake is a natural glacial lake with a maximum depth of over 300 feet. Prior to the construction of any dams at the outlet of the lake, lake levels varied between a

¹² There are currently six hydroelectric projects on the Presumpscot River downstream from the Eel Weir Project. The first of these projects (North Gorham) is owned by FPL Energy Maine Hydro LLC. The five remaining projects (Dundee, Gambo, Little Falls, Mallison Falls, and Saccarappa) are owned by S.D. Warren. A seventh project (Smelt Hill, located near head-of-tide in Falmouth) was removed in 2002. In addition, S.D. Warren owns the Cumberland Mills Dam which provides process and fire protection water to Warren's Westbrook paper mill.

¹³ In 1827, a wooden dam was constructed at the site as part of the Cumberland and Oxford Canal system. There may have been an earlier sawmill dam built at or near this site.

¹⁴ Sebago Lake did not fill to the top of the new dam until the summer of 1884.

minimum of about 256 feet msl and a maximum of about 258 feet msl,¹⁵ and outflows from the lake varied between a drought flow of about 40 cfs and a flood flow of about 29,000 cfs.¹⁶ The drainage area at the outlet of the lake is about 440 square miles.¹⁷

The power canal is an excavated clay and gravel-lined structure measuring 4,800 feet in length and 15 feet in depth,¹⁸ and includes (a) a 40-foot-long canal waste gate structure, located adjacent to the dam, with three 17-foot-wide by 17-foot-high steel slide gates, each with an integral 25 cfs minimum flow gate, and two sluice gates, located adjacent to the powerhouse.

The powerhouse is a 69-foot-wide by 32-foot-long concrete and brick structure containing three turbine-generator units with a total installed capacity of 1,800 kW at a gross head of 40 feet. The minimum and maximum hydraulic capacities of the powerhouse are 100 cfs and 822 cfs, respectively.

The tailrace channel is an excavated bedrock and earthen channel measuring 200 feet in length by 32 feet in width.

The project creates a 6,700-foot-long bypass reach (Eel Weir Bypass) between the dam and the downstream end of the tailrace channel.¹⁹ The Eel Weir Bypass ranges in width from 45 feet to 215 feet, with an average width of 188 feet.

Finally, the project includes a 3.5-mile-long, 11-kilovolt transmission line and appurtenant facilities.

4. DESCRIPTION OF CURRENT PROJECT OPERATION

The Eel Weir Project is currently operated in a store-and-release mode in accordance with a 1992 FERC order establishing minimum flow requirements in the Eel Weir Bypass²⁰ and a 1997 FERC order, as amended in 2000, establishing a lake level management plan.²¹

¹⁵ See Memo to Eel Weir Project File from Dana Murch, DEP Project Manager, dated June 29, 2011, regarding natural water levels of Sebago Lake.

¹⁶ Natural 7Q10 low flow (7 day average low flow with a 1-in-10-year recurrence interval) and 100-year high flow are as calculated by the U.S. Geological Survey. For water years 1996-1999, USGS has calculated average annual evaporation for Sebago Lake as 23 inches per year (this is equivalent to about 80 cfs). See Water-Resources Investigations Report 01-4235, "Water Budget for Sebago Lake, Maine, 1996-99, U.S. Geological Survey (2001).

¹⁷ The principal tributary to Sebago Lake is the Songo River with a drainage area of 275 square miles (including the drainage area of the Crooked River, which flows into the Songo River about 2 miles from the lake). The next largest tributaries are Panther Run (drainage area of 30.6 square miles) and the Northwest River (drainage area of 23.5 square miles).

¹⁸ The power canal, originally part of the Cumberland and Oxford Canal system, was deepened and widened to accommodate power generation at the site.

¹⁹ The upstream limit of the impoundment created by the North Gorham Dam is at the downstream end of the Eel Weir Project tailrace channel, at the point where the tailrace and bypass channels channel converge.

²⁰ See Order Establishing Minimum Flow Release Requirement, issued January 7, 1992 [58 FERC ¶ 62,006]. Prior to this Order, there was no required minimum bypass flow release from the project. As a result, whenever flow

Under the current lake level management plan, lake levels in Sebago Lake are managed under an annual cycle of drawdown and refill. Specifically:

- (1) Whenever possible, the lake is managed during spring refill to reach a target level of 266.65 feet msl (spillway crest elevation) no sooner than May 1 and no later than the second week in June. The target level range on May 1 is spillway crest elevation plus or minus ½ foot;
- (2) Lake levels are to be maintained at or above spillway crest elevation for no longer than 3 weeks during any year;
- (3) After spring refill, whenever possible, the lake is managed to achieve a target level of 265.17 feet msl on August 1;
- (4) After August 1, the lake is managed to reach a target level on November 1 of 262.5 feet msl (4.15 feet below spillway crest elevation). The target level range on November 1 is 262.5 feet plus or minus ½ foot;
- (5) Between May 1 and November 1, lake levels above or below an established target level range trigger increased or decreased flows to move the lake back within the established target level range;²²
- (6) After November 1, the lake is managed to reach a level of 261.0 feet msl (5.65 feet below spillway crest elevation) or lower in two out of every nine years by January 1;²³

releases from Sebago Lake were less than or equal to the hydraulic capacity of the powerhouse, flows in the Eel Weir Bypass were limited to leakage from the dam and runoff from the adjacent drainage area.

²¹ See Order Approving Settlement and Amending License, issued April 21, 1997 [79 FERC ¶ 61,064], and unreported May 6, 1997 Errata Notice; and Order Amending Lake Level Management Plan, issued August 28, 2000 [92 FERC ¶ 62, 180]. Prior to the April 27, 1997 Order, there were no lake level management requirements. However, between 1991 and 1997, Warren voluntarily managed lake levels in accordance with a water level management plan developed by the DEP in consultation with Warren and other interested parties. The DEP plan, which was developed in response to complaints about erosion due to high water levels, was devised as a compromise among competing water level interests that would (1) be workable, (2) reduce erosion and septic system pollution due to high water, (3) restore reasonable use of the State Park beaches during the prime visitation months of July and August, (4) encourage beach rebuilding, and (5) maintain historic water levels during the late boating and fishing season (September 1 to October 15).

²² The upper limit of the May 1 to November 1 target level range begins at 267.15 feet from May 1 to the second week in June, then declines on a line to 265.17 feet on August 1, then declines further on a line to 265.0 on September 1, then declines further on a line to 263.3 feet on October 15, and finally declines on a line to 263.0 on November 1. The lower limit of the May 1 to November 1 target level range begins at 266.15 feet on May 1, then declines on a line to 265.17 feet on August 1, then declines further on a line to 262.0 feet on November 1. On August 1, the upper and lower limits of the target level range converge on a level of 265.17 feet, so that the target level range on that date is effectively a point.

²³ Warren and the State of Maine (represented by the DEP, the Department of Inland Fisheries and Wildlife, and the Maine Geological Survey) jointly determine the years in which to manage lake levels to the periodic 261.0 elevation.

- (7) Between October 15 and November 15, flows out of the lake are capped at 1,000 cubic feet per second (cfs)²⁴ unless the lake level is above the target level range and is rising;²⁵ and
- (8) Between November 1 and the following May 1, lake levels are managed as appropriate based on precipitation, snow pack conditions, energy needs and other considerations, with the goal of reaching the spillway crest target level between May 1 and the second week in June.²⁶

Under the current lake level management plan, flow releases from Sebago Lake are managed as follows:

- Whenever lake levels are within the established target level range between May 1 and November 1, flows released from Sebago Lake may vary between 333 cfs (20,000 cfm) and 1,000 cfs (60,000 cfm).
- When lake levels are above the established target level range, flows are increased in stages to move the lake level back within the target level range.²⁷
- When lake levels are below the established target level range, flows are reduced to the minimum flow required to maintain water quality standards in the lower Presumpscot River, as determined by the DEP.²⁸

During the period from 1910, when lake level records began to be kept by the Portland Water District, until 1997, when the lake level management plan was initially approved, the level of Sebago Lake has varied from a high of 267.72 feet msl (1.1 feet above spillway crest elevation) to a low of 257.22 feet msl (9.4 feet below spillway crest elevation).

²⁴ This is equivalent to 60,000 cubic feet per minute (cfm). S.D. Warren reports flows in cfm.

²⁵ This flow cap is intended to reduce the attraction of landlocked salmon to the outlet during their spawning season.

²⁶ Whenever possible, lake levels between November 1 and the following May 1 are managed to be no higher than a line that begins at 263.0 feet on November 1, then increases to 263.5 feet on January 1, and then increases to 266.65 feet on May 1.

²⁷ Stage 1 flows of up to 1,667 cfs (100,000 cfm) are released if flows have been 1,000 cfs (60,000 cfm) for more than five days and the lake level is above the target level range. Stage 2 flows of up to 2,667 cfs (160,000 cfm) are released if Stage 1 flows have been released for one week and the lake level is not moving toward the target level range. Stage 3 flows of up to 3,500 cfs (210,000 cfm) are released if Stage 2 flows have been released for one week and the lake level is not moving toward the target level range.

²⁸ Except when emergency low lake level conditions exist, the minimum flow release from Sebago Lake is 270 cfs (16,200 cfm) or such higher flow as required by the DEP's Final Temperature Based Flow Regulation Curve for the Presumpscot River. Under this curve, flows are increased incrementally as river temperatures rise above 22 degrees Celsius, up to a maximum flow of 470 cfs at a river temperature of 30 degrees Celsius. Emergency low lake level conditions exist when the level of Sebago lake is 1 foot or more below the target level range and flows releases from Sebago Lake has been greater than 270 cfs for 4 or more consecutive weeks. Under these conditions, flow releases from the lake are capped at 250 cfs (15,000 cfm).

Since the lake level management plan was approved in April of 1997, lake levels have varied between a high of 267.31 feet msl (0.66 feet above spillway crest elevation) and a low of 260.72 feet msl (5.93 feet below spillway crest elevation).

During the period from 1902, when flow releases from Sebago Lake began to be reported by the U.S. Geological Survey, until 1997, when the lake level management plan was initially approved, flow releases from Sebago Lake have varied from a high of 6,670 cfs to a low of 58 cfs.²⁹

Since the lake level management plan was approved in April of 1997, flow releases from the lake have varied between a high of 3,500 cfs (210,000 cfm) and a low of 133 cfs (8,000 cfm).³⁰

Current minimum flow requirements in the Eel Weir Bypass are as follows:

- 25 cfs (1,500 cfm) from November 1 through March 31;
- 75 cfs (4,500 cfm) from April 1 through June 30;
- 50 cfs (3,000 cfm) from July 1 through August 31; and
- 75 cfs (4,500 cfm) from September 1 through October 31.

5. PROPOSED PROJECT FACILITIES AND OPERATION

Warren is proposing no changes to existing project facilities.

In its March 2002 Application for New License, Warren proposed the following project operational and non-operational measures for the protection, mitigation and enhancement of public resources:

- Continue to operate the project in a store-and-release mode in accordance with the approved lake level management plan, as modified to establish a 3-inch range for the August 1 target lake level of 265.17 feet;³¹

²⁹ Since 1902, monthly average flow releases from Sebago Lake have ranged from a high of 4,205 cfs for April of 1902, to a low of 159.4 cfs for August of 1911, while average annual flows have ranged from a high of 1,091 cfs in 1984 to a low of 298 in 1985. The average annual outflow from Sebago Lake for the period from 1902 through 2000 was 642 cfs.

³⁰ Flow releases from Sebago Lake were both higher and lower for longer periods of time prior to implementation of the current lake level management plan. See Memo to Eel Weir Project File from Dana Murch, DEP Project Manager, dated May 5, 2011, regarding regulated and unregulated flows from Sebago Lake.

³¹ In a letter to FERC dated July 15, 2004, Warren requested that the 2-in-9-year low lake level requirement of the current lake level management plan be removed as being unnecessary and unworkable. In a letter to FERC dated October 17, 2005, Warren again stated that it did not support maintaining the 2-in-9-year low lake level requirement, but indicated that it would be willing to seek to achieve this requirement if the lake level management plan was modified to (1) extend the deadline for achieving the low lake target level of 261.0 feet msl from January 1 to the

- Continue to operate the existing lake level gage, located near White's Bridge;
- Continue to release minimum flows to the Eel Weir Bypass as currently approved;
- Continue to monitor lakeshore wetlands every five years;
- Whenever possible, discharge up to 1,000 cfs through the project power canal during high flow events;
- Consult with resource agencies regarding the need for upstream and downstream eel passage at the Eel Weir Project following the installation of, and demonstrated use by eels of, upstream and downstream eel passage facilities at all downstream projects on the Presumpscot River;
- After consultation with the Maine Historic Preservation Commission, take actions to protect and mitigate project-related effects on archaeological sites, and to protect project structures that have been determined to meet National Register of Historic Places criteria;
- Conduct periodic recreational use monitoring as required by FERC; and
- Evaluate opportunities for establishing a conservation easement on lands around the Eel Weir Bypass with the Town of Windham or the Land for Maine's Future program.

In its May 26, 2011 supplement (revised June 6, 2011) to the March 2002 Application for New License, Warren proposed to operate the project under a modified flow-based lake level management plan. Under Warren's modified proposal, outflows would be maintained within a specified range during established periods, with adjustments to higher or lower flows if lake levels rise above 266.65 feet msl (spillway crest elevation) or fall below 262.0 feet msl (4.65 feet below spillway crest elevation). Specifically:

- Between April 1 and June 15, flows will be maintained in a range from 500 cfs (30,000 cfm) to 1,167 cfs (70,000 cfm), with the goal of achieving a lake level of 266.0 feet (0.65 feet below spillway crest elevation) between May 1 and June 15, except that flows will be increased if the lake level is at or above 266.65 feet msl (spillway crest elevation) for three consecutive weeks, and flows will be reduced if the lake level is at or below 262.0 feet (4.65 feet below spillway crest elevation);
- Between June 16 and October 15, flows will be maintained in a range from 408 cfs (24,500 cfm) to 1,000 cfs (60,000 cfm), except that flows will be increased if the lake level is at or above 266.65 feet msl (spillway crest elevation), and minimum flows will be

end of February, and (2) acknowledge the impact of achieving the low lake target level on Warren's ability to refill the lake by waiving the need to achieve full pond during the following spring.

maintained if the lake level is at or below 262.0 feet (4.65 feet below spillway crest elevation);

- Between October 16 and November 15, flows will be maintained in a range from 500 cfs (30,000 cfm) to 1,000 cfs (60,000 cfm), except that flows will be increased if the lake level is at or above 266.65 feet msl (spillway crest elevation), and flows will be reduced if the lake level is at or below 262.0 feet (4.65 feet below spillway crest elevation); and
- Between November 16 and the following March 31, flows will be maintained in a range from 500 cfs (30,000 cfm) to 1,167 cfs (70,000 cfm), except that flows will be increased if the lake level is at or above 266.65 feet msl (spillway crest elevation), and flows will be reduced if the lake level is at or below 262.0 feet (4.65 feet below spillway crest elevation).
- Proposed outflows are the combination of power canal (generating) flows and Eel Weir Bypass flows. Flows will first be directed to the bypass to fulfill minimum flow requirements. Flows of up to 1,083 cfs (65,000 cfm) will then be directed to the power canal. Any additional flows would also be directed to the bypass.

Under Warren's modified proposal, flows would be increased or reduced in accordance with the following operating parameters:

- Whenever lake levels are at or above 266.65 feet msl (spillway crest elevation), flows will be increased up to 1,500 cfs (90,000 cfs) and will be maintained at these increased rates as needed until the lake level drops below 266.65 feet msl;
- Whenever lake levels are above 267.0 feet msl (0.35 feet or about 4.2 inches above spillway crest elevation),³² Warren shall be able to increase flows above the maximum rate specified in the plan if needed to reduce lake levels below 266.65 feet msl;
- Whenever lake levels are at or below 262.0 feet msl (4.65 feet below spillway crest elevation), flows will be reduced to 408 cfs (24,500 cfm) and will be maintained at this reduced rate as needed until the lake level rises above 262.0 feet msl;³³
- Minimize the duration of releases above 75 cfs (4,500 cfm) into the Eel Weir Bypass, except as increased flows are needed to reduce lake levels below 266.65 feet msl;

³² Warren currently owns or holds flowage easements to all lands around Sebago Lake up to an elevation of 267.15 feet msl (6 inches above spillway crest elevation).

³³ Reduced flows will consist of the currently required minimum flows in the Eel Weir Bypass of 25 cfs (1,500 cfm) from November 1 through March 31, 50 cfs (3,000 cfm) from July 1 through August 31, and 75 cfs (4,500 cfm) from April 1 through June 30 and again from September 1 through October 31, with the balance of the total flow of 408 cfs (24,500 cfm) going to the power canal.

- Warren will not make more than one change in flows of more than 333 cfs (20,000 cfm) in any calendar week except as needed in an attempt to avoid lake levels rising above 266.65 feet msl or falling below 262.0 feet msl.
- Warren may temporarily adjust flows to rates above or below those specified in the plan in the event of equipment failure, approved maintenance activities or construction of fish passage facilities at any of Warren's downstream hydro facilities, power supply emergencies, downstream flooding, public safety considerations, existing or predicted extreme meteorological events (including abnormal storm events and drought), or by order of local, State or Federal authorities.

Finally, in its May 26, 2011 supplement to the March 2002 Application for New License, Warren specifically proposed to eliminate the current 2-in-9-year low lake level requirement and to eliminate any further wetlands monitoring.

6. JURISDICTION

The proposed continued operation of the Eel Weir Hydropower Project qualifies as an "activity... which may result in (a) discharge into the navigable waters (of the United States)" under the Clean Water Act (CWA), 33 USC § 1251 *et seq.* Section 401 of the CWA requires that any applicant for a federal license or permit to conduct such an activity obtain a certification from the State in which the discharge occurs that the activity will comply with applicable state water quality standards. State law authorizes the Department to issue a water quality certification pursuant to Section 401 of the CWA when the standards of classification of the water body and the State's antidegradation policy are met. 38 M.R.S.A. § 464(4)(F)(3).

On March 29, 2002, Warren filed an Application for New License to continue to operate the Eel Weir Hydropower Project.³⁴ This application is currently pending before FERC. In accordance with FERC relicensing regulations, the Eel Weir Project is currently operating under an annual license which is automatically renewed each year until a relicensing decision is made.

The Department has been designated by the Governor of the State as the certifying agency for issuance of Section 401 Water Quality Certification for all activities in the State not subject to Land Use Regulation Commission (LURC) permitting and review. The Eel Weir Project is located in several organized municipalities that are not subject to LURC's regulatory jurisdiction. Therefore, the Department is the certifying agency for the project.

³⁴ Under the terms of the Federal Power Act, upon the expiration of an original license, the federal government can take over a project, FERC can issue a new license to either the existing licensee or a new licensee for a period of 30 to 50 years, or the project can be decommissioned.

7. APPLICABLE WATER QUALITY STANDARDS

- a. Classification. The receiving waters that are or may be affected by the Eel Weir Project are currently classified as follows:

- Sebago Lake—Class GPA. 38 M.R.S.A. § 465-A.
- Dundee Pond—Class GPA. 38 M.R.S.A. § 467(9)(A)(1) and (1)(A).
- Presumpscot River, main stem, from the outlet of Sebago Lake to its confluence with the Pleasant River, and excluding Dundee Pond—Class A. 39 M.R.S.A. § 467(9)(A)(1) and (1-A).
- Presumpscot River, main stem, from its confluence with the Pleasant River to Saccarappa Falls—Class B. 38 M.R.S.A. § 467(9)(A)(2) and (3).
- Presumpscot River, main stem, from Saccarappa Falls to tidewater—Class C. 38 M.R.S.A. § 467(9)(A)(4).
- Presumpscot River estuary—Class SC. 38 M.R.S.A. § 469(1)(C).
- Casco Bay—Class SB and Class SC. 38 M.R.S.A. § 469(1)(C), (E), and (F).

- b. Designated Uses. The designated uses for the receiving waters are as follows.

Class GPA, Class A, Class B, and Class C waters must be of such quality that they are suitable for the designated uses of drinking water after disinfection; recreation in and on the water; fishing; industrial process and cooling water supply; hydroelectric power generation; navigation; and as habitat for fish and other aquatic life. 38 M.R.S.A. §§ 465(2)(A), 465(3)(A), 465(4)(A), and 465-A(1)(A).

Class SB and Class SC waters must be of such quality that they are suitable for the designated uses of recreation in and on the water, fishing, aquaculture, propagation and harvesting of shellfish, industrial process and cooling water supply, hydroelectric power generation, navigation, and as habitat for fish and other estuarine and marine life. 38 M.R.S.A. §§ 465-B(2)(A) and 465-B(3)(A).

- c. Numeric Standards. The numeric standards for the receiving waters are as follows:

The dissolved oxygen content of Class A waters shall be not less than 7 parts per million or 75% of saturation, whichever is higher, and the aquatic life and bacteria content of these waters shall be as naturally occurs. 38 M.R.S.A. § 465(2)(B).

The dissolved oxygen content of Class B waters may not be less than 7 parts per million or 75% of saturation, whichever is higher, except that for the period from October 1st to

May 14th, in order to ensure spawning and egg incubation of indigenous fish species, the 7-day mean dissolved oxygen concentration shall not be less than 9.5 parts per million and the 1-day minimum dissolved oxygen concentration shall not be less than 8.0 parts per million in identified fish spawning areas. 38 M.R.S.A. § 465(3)(B).

The dissolved oxygen content of Class C waters may not be less than 5 parts per million or 60% of saturation, whichever is higher, except that in identified salmonid spawning areas where water quality is sufficient to ensure spawning, egg incubation and survival of early life stages, that water quality sufficient for these purposes must be maintained. 38 M.R.S.A. § 465(4)(B).

The dissolved oxygen content of Class SB waters must be not less than 85% of saturation. 38 M.R.S.A. § 465-B(2)(B).

The dissolved oxygen content of Class SC waters must be not less than 70% of saturation. 38 M.R.S.A. § 465-B(3)(B).

- d. Narrative Standards. The narrative standards for the receiving waters are as follows:

The habitat of Class GPA waters shall be characterized as natural. 38 M.R.S.A. § 465-A(1)(A).

Class GPA waters shall be described by their trophic state based on measures of the chlorophyll "a" content, Secchi disk transparency, total phosphorus content and other appropriate criteria. Class GPA waters shall have a stable or decreasing trophic state, subject only to natural fluctuations and shall be free of culturally induced algal blooms which impair their use and enjoyment. 38 MRSA § 465-A(1)(B).

There may be no new direct discharge of pollutants into Class GPA waters. Discharges into these waters licensed prior to January 1, 1986 are allowed to continue only until practical alternatives exist. 38 MRSA §465-A (1)(C)

The habitat and aquatic life criteria of Class GPA waters are deemed to be met in an existing impoundment classified as GPA if the impounded waters, at a minimum, satisfy Class C aquatic life criteria (the receiving waters shall be of sufficient quality to support all species of fish indigenous to the receiving waters and maintain the structure and function of the resident biological community), provided that, where the actual quality of the impounded waters attains any more stringent characteristic or criteria, that existing water quality must be maintained and protected. 38 MRSA §464(9).

The habitat of Class A waters shall be characterized as natural. 38 M.R.S.A. § 465(2)(A).

New direct discharges to Class A waters are permitted only if, in addition to satisfying all other requirements, the effluent is equal to or better than the existing water quality of the

receiving water. Discharges into these waters licensed prior to January 1, 1986 are allowed to continue only until practical alternatives exist. 38 MRSA § 465(2)(C).

The habitat of Class B waters shall be characterized as unimpaired. 38 M.R.S.A. § 465(3)(A).

Discharges to Class B waters shall not cause adverse impact to aquatic life in that the receiving waters shall be of sufficient quality to support all aquatic species indigenous to the receiving water without detrimental changes in the resident biological community. 38 MRSA §465(3)(C).

The habitat characteristics and aquatic life criteria of Classes A and B are deemed to be met in existing impoundments classified as A or B if the impounded waters satisfy Class C aquatic life criteria (the receiving waters shall be of sufficient quality to support all species of fish indigenous to the receiving waters and maintain the structure and function of the resident biological community), provided that any reasonable changes are implemented that do not significantly affect existing energy generation capability and would result in improvement in the habitat and aquatic life of the impounded waters, and further provided that, when the actual quality of the impounded waters attains any more stringent habitat characteristic or aquatic life criteria than required under Class C standards, that water quality must be maintained and protected. 38 MRSA § 464(10).

Discharges to Class C waters may cause some changes to aquatic life, provided that the receiving waters shall be of sufficient quality to support all species of fish indigenous to the receiving waters and maintain the structure and function of the resident biological community. 38 MRSA § 465(4)(C).

The habitat characteristics and aquatic life criteria of Class C are deemed to be met in an existing impoundment which is classified C provided that any reasonable changes are implemented that do not significantly affect existing energy generation capability and that would result in an improvement in the habitat and aquatic life of the impounded waters. Where the actual quality of the impounded waters attains any more stringent habitat characteristic or aquatic life criteria than that required under Class C, that existing water quality must be maintained and protected. 38 MRSA § 464(10).

Discharges to Class SB waters shall not cause adverse impact to estuarine and marine life in that the receiving waters shall be of sufficient quality to support all estuarine and marine species indigenous to the receiving water without detrimental changes in the resident biological community. There shall be no new discharge to Class SB waters which would cause closure of open shellfish areas by the Department of Marine Resources. 38 M.R.S.A. § 465-B(2)(C).

Discharges to Class SC waters may cause some changes to estuarine and marine life provided that the receiving waters are of sufficient quality to support all species of fish

indigenous to the receiving waters and maintain the structure and function of the resident biological community. 38 M.R.S.A. § 465-B(3)(C).

- e. Antidegradation. The Department may only approve water quality certification if the standards of classification of the waterbody and the requirements of the State's antidegradation policy will be met. The Department may approve water quality certification for a project affecting a waterbody in which the standards of classification are not met if the project does not cause or contribute to the failure of the waterbody to meet the standards of classification. 38 M.R.S.A. § 464(4)(F).

8. FISH RESOURCES AND FISHING—PRESUMPSCOT RIVER

- a. Existing Conditions. The main stem Presumpscot River supports self-sustaining populations of several resident warmwater fish species (including smallmouth and largemouth bass, yellow perch, and chain pickerel) and migratory American eel. The main stem river does not currently support self-sustaining populations of coldwater fish. However, several species of coldwater fish (including brook trout, brown trout, and landlocked Atlantic salmon) are present in the river, and are supported primarily by annual stocking.

The Eel Weir Bypass currently provides a very popular year-round fishery for stocked coldwater fish (including brook trout, brown trout, and landlocked Atlantic salmon) and for indigenous landlocked Atlantic salmon that drop down from Sebago Lake.

- b. Fishery Management Plans. In December 2001, the Maine Department of Marine Resources (DMR), Department of Inland Fisheries and Wildlife (DIFW), and Atlantic Salmon Commission (now part of DMR) jointly issued a "Draft Fishery Management Plan for the Presumpscot River Basin."

Under the Draft Plan, management goals include: providing migratory routes and habitat for catadromous American eel and various anadromous species including river herring, American shad, striped bass, and Atlantic salmon, and possibly Atlantic sturgeon, rainbow smelt, sea-run brook trout, sea-run brown trout, and tomcod; sustaining the production of existing riverine species and targeted anadromous and catadromous species; promoting existing and potential commercial and sport fisheries for anadromous, catadromous, and resident species; establishing a recreational fishery for stocked trout in the mainstem; and managing specific tributaries for the production of wild brook trout.

The Draft Plan calls for restoration of anadromous species to occur in two phases, allowing the fisheries agencies to assess potential interactions between resident and anadromous species and changes in fishing opportunities. Phase I involves restoring anadromous fish up to the base of the Gambo Dam. If the three fisheries agencies agree, Phase II will involve restoring anadromous fish from Gambo dam up to the base of the Eel Weir Dam.

DIFW's current management objectives for the Eel Weir Bypass are to manage the bypass primarily for brook trout and secondarily for landlocked Atlantic salmon to provide a quality, year-round, high-use recreational coldwater fishery.

- c. Existing Fish Passage Facilities and Requirements. Historically, there were a total of nine dams on the Presumpscot River. While some of these dams had working upstream fish passage facilities at various times in the past, as of the turn of the 21st century, there were no operating fishways at any of the dams on the river.

By Order dated January 16, 2002,³⁵ the DEP issued a permit approving the removal of the Smelt Hill Dam, located near head-of-tide on the Presumpscot River.³⁶ The dam was removed later that year by the U.S. Army Corps of Engineers as an aquatic ecosystem restoration project, fully restoring natural habitat conditions and unimpeded upstream and downstream passage for migratory fish, including river herring, American shad and American eel, in the lower Presumpscot River.

By Order dated April 30, 2003,³⁷ the DEP issued water quality certification, with conditions, for the continued operation of Warren's Presumpscot River Hydro Projects (Saccarappa, Mallison Falls, Little Falls, Gambo, and Dundee) under new FERC licenses. This certification included a condition requiring the phased installation of upstream and downstream anadromous fish passage facilities at all five projects, with the first of these facilities to be operational at the Saccarappa Dam no later than 2 years after passage is available at the Cumberland Mills Dam,³⁸ and with the sequential installation of passage facilities at the upriver dams based on specific numbers of returning fish at each dam. The certification also contained a condition requiring the implementation of provisions for upstream and downstream eel passage at all five projects, with passage to be provided no later than 2 years after issuance of new FERC licenses for the projects.³⁹

On June 29, 2009, the Commissioner of DIFW issued an order⁴⁰ directing Warren to construct upstream and downstream fish passage facilities at the Cumberland Mills Dam to conserve, develop or restore anadromous or migratory fish resources to the Presumpscot River.⁴¹ Under the DIFW Order, upstream and downstream anadromous fish passage facilities are to be installed and operational at the Cumberland Mills Dam by May 1, 2013, unless river flows or other conditions beyond Warren's control preclude

³⁵ Department Order #L-20703-34-A-N.

³⁶ Prior to its removal, the Smelt Hill Dam had been part of a FERC-approved hydropower project. The project generating and fish passage facilities were severely damaged in a flood in October 1996. In 2001, the project was purchased from Central Maine Power by DMR for the purpose of dam removal.

³⁷ Department Order #L-19713/14/15/16/17-33-E-N.

³⁸ Because the Cumberland Mills Dam is not used to generate power, it is not subject to FERC licensing.

³⁹ Upstream eel passage facilities are currently in place at all five of Warren's Presumpscot River Hydro Projects. Downstream passage for eels is currently provided at all five river projects via generation shutdowns for 8 hours per night from September 1 through October 31 annually.

⁴⁰ The DIFW Order was issued pursuant to 12 M.R.S.A. § 12760.

⁴¹ Fish passage facilities are required to be constructed in accordance with a Joint Proposal for Fish Passage offered by Warren, DEP, DMR, American Rivers, and Friends of the Presumpscot River.

installation and operation by that date, in which case the facility(ies) shall be installed and operated as soon as practicable thereafter.⁴² Also under the DIFW Order, upstream eel passage facilities are to be installed and operational at the Cumberland Mills Dam by June 1, 2014, unless river flows or other conditions beyond Warren's control preclude installation and operation by that date, in which case the facility(ies) shall be installed and operated as soon as practicable thereafter.

There are currently no requirements for anadromous fish or eel passage at the North Gorham Project.⁴³

- d. Habitat/Fishing Studies. The applicant conducted an instream flow study in the Eel Weir Bypass in the summer of 2001, in accordance with a study plan developed in consultation with state and federal fisheries agencies. Aquatic habitat suitability in the bypass was evaluated using the Instream Flow Incremental Methodology (IFIM) and employed the Physical Habitat Simulation Model (PHABSIM) to quantify habitat and flow relationships wherever possible. Modeled flows ranged from 25 cfs to 440 cfs.⁴⁴

Habitat suitability in the bypass was evaluated for various life stages of brook trout, landlocked Atlantic salmon, and smallmouth bass, with the amount of habitat for each species and life stage expressed as Weighted Usable Area (WUA).⁴⁵ In addition, the impact of flow releases from Sebago Lake on coldwater refugia in the bypass was evaluated for a range of flows. Finally, the suitability of the bypass for angling was evaluated by an independent group of anglers for a range of flows.

- e. Habitat Suitability Data. The Eel Weir Bypass consists of a mixture of pool (about 52%), riffle-run (about 41%), and braided channel habitats (about 7%). Weighted Usable Area for all species and life stages in the riffle-run and braided channel habitats increased between flows of 25 cfs and 440 cfs, with the greatest rate of increase in WUA occurring between 25 cfs and 100 cfs. The WUA for adult and juvenile brook trout exceeded that for all life stages of all other species at all modeled flows. The WUA for all adult species at the maximum modeled flow of 185 cfs in the braided channel habitat was less than, or

⁴² As stated above, the DEP's April 30, 2003 water quality certification for the Presumpscot River Hydro Projects requires that upstream and downstream passage facilities for anadromous fish be installed and operational at the next upstream dam (Saccarappa) within 2 years after passage is available at the Cumberland Mills Dam. Therefore, assuming that the required upstream and downstream fish passage facilities are installed and operational at Cumberland Mills by May 1, 2013, passage must be installed and operational at Saccarappa by May 1, 2015. Under the terms of the DEP's April 30, 2003 water quality certification, upstream and downstream fish passage facilities must be installed and operational at the first dam above Saccarappa (Mallison Falls) no later than 2 years after passage of at least 2,960 American shad or 18,020 blueback herring in any single year at the Saccarappa Project. It is not known when this rigger number of returning fish will be reached.

⁴³ The North Gorham Project is licensed to FPL Energy Maine Hydro LLC. The current license is set to expire on December 31, 2034.

⁴⁴ A 25 cfs minimum flow release is currently provided in the bypass from November 1 through March 31. A flow of 440 cfs represents the aquatic base flow for fall/winter fish spawning (calculated as 1.0 cfs per square mile of drainage area).

⁴⁵ Weighted Usable Area (WUA) is expressed as the area of suitable habitat available per unit length of a stream reach at a given flow.

only slightly greater than, the WUA for these species at the lowest modeled flow of 25 cfs in the riffle-run habitat.⁴⁶

Analysis of the study results for the riffle-run habitat indicates the following relationship between flows and WUA in the bypass for adult brook trout and adult landlocked Atlantic salmon, the primary life stage and species of management interest:

Flow	-----Weighted Usable Area-----			
	Adult Brook Trout	% Increase From Previous Flow	Adult Landlocked Salmon	% Increase From Previous Flow
25 cfs	47,889	---	4,801	---
50 cfs	67,464	41%	9,487	98%
75cfs	80,811	20%	14,027	48%
100 cfs	89,936	11%	18,224	30%
125 cfs	95,052	6%	21,422 ^e	18% ^e
150 cfs	99,600 ^e	5% ^e	24,620 ^e	15% ^e
175 cfs	104,148 ^e	4% ^e	27,818 ^e	13% ^e
200 cfs	108,694	4% ^e	31,016	11% ^e

^e = estimate for intermediate flows not modeled.⁴⁷

Weighted Usable Area for both juvenile and adult life stages of smallmouth bass, an introduced species, increased in the riffle-run and braided channel habitats with increasing flows. Smallmouth bass compete with trout and salmon species for space and forage and are known to prey on juvenile salmonids, including trout and salmon.

- f. Coldwater Refugia Data. There are two existing coldwater seeps in the Eel Weir Bypass that provide a refuge from unsuitable warm summer water temperatures for coldwater species, including brook trout, brown trout, and landlocked Atlantic salmon. Thermal refuge for these species would occur where the ambient water temperatures are less than about 68 degrees F.

Analysis of the study results indicate that, at the lowest monitored flow of 79 cfs, both coldwater seeps provided areas of thermal refuge for coldwater species, but that the temperature in these areas increased as flows increased,⁴⁸ resulting in one seep becoming unsuitable as a thermal refuge at flows of 115 cfs and higher and the second seep becoming unsuitable as a thermal refuge at flows of 172 cfs and higher.

⁴⁶ This is primarily a reflection of the limited amount of braided channel habitat that exists in the bypass.

⁴⁷ Estimates assume that the amount of WUA increases by the same amount for each incremental increase in flow between the modeled flows of 125 and 200 cfs for adult brook trout and between the modeled flows of 100 and 200 cfs for adult landlocked salmon.

⁴⁸ This is a result of the water released from Sebago Lake being warmer than the water from the seeps.

- g. Angling Suitability Data. While there was no single flow at which all anglers agreed that angling conditions were optimal, the angler survey showed that favorable angling conditions exist in the Eel Weir Bypass at measured flow releases of 79, 115, and 172 cfs, with overall suitability decreasing with increasing flows.⁴⁹ However, angling conditions were unanimously rated as poor or unacceptable at a flow of 310 cfs.
- h. Applicant's Proposals. The applicant proposes to continue to release minimum flows to the Eel Weir Bypass as currently approved.
- i. Discussion. See Section 9 of this Order for further discussion of Eel Weir Bypass flows. See Section 12 of this Order for further discussion of fish passage at Sebago Lake Dam.

9. AQUATIC LIFE—EEL WEIR BYPASS

- a. Existing Conditions. Except during periods of precipitation or runoff, all of the flow in the approximately 1.3-mile-long Eel Weir Bypass comes from the Eel Weir Dam and/or power canal waste gates. Extended periods of low flow may adversely affect habitat for aquatic life in the bypass. The DEP uses the benthic macroinvertebrate community as an indicator of the general condition of aquatic life for the purposes of attainment of classification standards.⁵⁰ The DEP also uses wetted area as an indicator of the habitat available for aquatic organisms under different flow conditions.⁵¹
- b. Macroinvertebrate Data. The applicant conducted benthic macroinvertebrate community monitoring in the Eel Weir Bypass during the summer of 2000, in accordance with DEP protocols. Samples were collected at a single site located about 150 meters upstream of the Route 35 Bridge.

Analysis of the monitoring data using the DEP's linear discriminant model indicates that the sampled community attains Class B standards and is indeterminate for attainment of Class A standards. Further analysis of the sampling results indicates that the majority of the organisms sampled were filter feeders, which are indicative of a Class B community. However, sensitive organisms were present in good numbers, indicating good water quality. The most likely cause of the presence of a predominantly filter feeder community in the bypass is the fact that minimum flows here come directly from Sebago Lake, resulting in an abundance of food to support a filter feeder community. Thus, the sampled macroinvertebrate community reflects natural conditions below a lake outlet.

⁴⁹ Angling suitability was rated for seven factors, including ability to walk the shoreline, number of quality fishing areas, wadeability, ability to cast to desirable locations, effectiveness of fishing fly presentation considering water velocity and depth, aesthetic quality of the bypass, and overall suitability of flows in the bypass.

⁵⁰ See 06-096 CMR 579, "Classification Attainment Evaluation Using Biological Criteria for Rivers and Streams," effective date May 27, 2003.

⁵¹ See DEP Bureau of Land and Water Quality Hydropower Project Flow and Water Level Policy, dated February 4, 2002.

Because of this, the Department has made a determination, based on professional judgment, that the sampled community meets Class A standards.⁵²

- c. Wetted Area Data. The applicant conducted an instream flow study in the Eel Weir Bypass in the summer of 2001, in accordance with a study plan developed in consultation with state and federal fisheries agencies. Aquatic habitat suitability in the bypass was evaluated using the Instream Flow Incremental Methodology (IFIM) and employed the Physical Habitat Simulation Model (PHABSIM) to quantify habitat and flow relationships wherever possible. Modeled flows ranged from 25 cfs to 440 cfs.⁵³

Analysis of the study results and accompanying photographic evidence indicates the following relationship between flows and wetted area in the bypass:

<u>Flow</u>	<u>Wetted Area</u>
25 cfs	42%
50 cfs	58%
75 cfs	73%
80 cfs	75%
133 cfs	100% (bank full)

- d. Applicant's Proposals. The applicant proposes to continue to release minimum flows to the Eel Weir Bypass as currently approved.
- e. Discussion.

The applicant has provided sufficient evidence to demonstrate that the benthic macroinvertebrate community in the Eel Weir Bypass meets applicable Class A standards under existing summer minimum flow release conditions.

There must be both sufficient quality and quantity of habitat for aquatic organisms to meet aquatic life standards. The Department has found that, generally, flows providing wetted conditions in a weighted average of 3/4ths of the cross-sectional area of a river or stream, as measured from bank full conditions, are sufficient to meet aquatic life and habitat standards. However, each waterway is different in terms of the value of various flows in providing habitat for aquatic life, and conflicts may exist between the habitat needs of various resident aquatic organisms and between various designated uses of the waterbody. As a result, on a case-by-case basis, the Department often establishes alternative flows based on identified site-specific conditions and data, where those

⁵² The DEP's Chapter 479 Rules provide that, where there is documented evidence of conditions that could result in uncharacteristic findings, including habitat conditions below lake outlets, allowances may be made to account for those situations by adjusting the classification attainment decision through use of professional judgment, as provided in the rules.

⁵³ A 25 cfs minimum flow release is currently provided in the bypass from November 1 through March 31. A flow of 440 cfs represents the aquatic base flow for fall/winter fish spawning (calculated as 1.0 cfs per square mile of drainage area).

alternative flows can be shown to meet all water quality standards. Such a case-by-case analysis of the flows needed to meet aquatic life standards and designated uses in the Eel Weir Bypass follows.

With respect to wetted area, a year-round minimum flow release of about 70 cfs is needed to provide wetted conditions in a weighted average of about 3/4ths of the cross-sectional area of the riffle-run habitat in the Eel Weir Bypass, for the purpose of meeting Class A aquatic life standards. The Department notes that minimum flow releases from the dam into the bypass will at times be augmented by precipitation and/or runoff from the adjacent watershed.

With respect to habitat for adult brook trout and landlocked Atlantic salmon, the species of primary fisheries management concern, habitat suitability increases with increasing flows in the Eel Weir Bypass. However, the incremental increase in habitat value of flows greater than 100 cfs is markedly lower than that for flows from 25 cfs to 100 cfs. In addition, habitat suitability for smallmouth bass also increases with increasing flows. To the extent that smallmouth bass compete with brook trout and landlocked Atlantic salmon, low flows in the bypass will improve habitat suitability for coldwater species. The evidence in the record indicates that limiting flows to 75 cfs will reduce habitat suitability for adult smallmouth bass by 17% when compared to a flow release of 100 cfs.

With respect to cold water refugia, at flows of 79 cfs or less, existing coldwater seeps provide two areas of thermal refuge flows from warm summer water temperatures for coldwater fish in the Eel Weir Bypass. At flows of 115 cfs and above, these areas of thermal refuge are reduced or eliminated.

With respect to the designated use of fishing, favorable angling conditions exist in the Eel Weir Bypass at flows from 79 cfs to 172 cfs. However, overall angler suitability decreases with increasing flows, and the bypass becomes essentially unfishable at flows greater than 310 cfs.

Finally, with respect to the designated use of hydropower generation, all flows released into the Eel Weir Bypass are flows that cannot be used to generate electricity at the Eel Weir powerhouse. Therefore, the larger the bypass flows, the greater the lost generation.⁵⁴

In view of the site-specific conditions discussed above, increasing current minimum flow releases in the Eel Weir Bypass to 75 cfs on a year-round basis will improve overall aquatic habitat conditions, will improve habitat suitability for adult brook trout and landlocked Atlantic salmon (the species of primary fisheries management concern), and will improve angling conditions, while maintaining thermal refugia for coldwater fish and most of the existing hydropower generation. In addition, limiting the occurrence of flow

⁵⁴ See Section 19 of this Order for further discussion of hydropower generation issues.

releases in the Eel Weir Bypass in excess of about 300 cfs will maintain the fishability of the bypass.⁵⁵

10. DISSOLVED OXYGEN—EEL WEIR BYPASS

- a. Existing Conditions. Except during periods of precipitation or runoff, all of the flow in the approximately 1.3-mile-long Eel Weir Bypass comes from the Eel Weir Dam and/or power canal waste gates. With the exception of the Route 35 bridge crossing, the area adjacent to the bypass is undeveloped. Extended periods of low flow may adversely affect dissolved oxygen in the bypass.
- b. Water Quality Data. The applicant conducted ambient water quality monitoring in the Eel Weir Bypass during the summer of 2000, in accordance with the DEP's River Sampling Protocol. Dissolved oxygen and temperature sampling was conducted at two locations (immediately upstream of the Route 35 bridge near the upper end of the bypass, and about 150 feet upstream of the powerhouse near the lower end of the bypass) on six days during periods with extended releases of 50 cfs from the dam into the bypass and with no significant precipitation or runoff.⁵⁶ Sampling was conducted in both early morning and mid-afternoon to determine the maximum diurnal fluctuation in dissolved oxygen levels.

Analysis of the monitoring data indicates that dissolved oxygen concentrations in the Eel Weir Bypass met or exceeded minimum Class A numeric criteria of 7 parts per million and 75% saturation, whichever is higher, during all sampling events.

- c. Applicant's Proposals. The applicant proposes to continue to release minimum flows to the Eel Weir Bypass as currently approved.
- d. Discussion. Dissolved oxygen standards are currently met in the Eel Weir Bypass under critical low flow/high water temperature conditions. The applicant's proposal to continue existing minimum flow releases will be sufficient to meet Class A dissolved oxygen standards in the bypass in the future.

11. DISSOLVED OXYGEN—PRESUMPCOT RIVER

- a. Existing Conditions. The Presumpscot River receives flows from Sebago Lake, from several major tributaries (including the Pleasant River, the Little River, and the Piscataqua River), and from numerous minor tributaries (including Otter Brook, Nason Brook, Black Brook, Colley Wright Brook, Inkhorn Brook, Mill Brook, Minnow Brook, and Meader Brook). Except during periods of heavy precipitation and/or high runoff, the majority of the flow in the river comes from Sebago Lake. The water from Sebago Lake

⁵⁵ The power canal has a design capacity of about 1,000 cfs (60,000 cfm), and Warren's consulting engineer has advised against increasing the flow capacity of the canal (see March 2002 Application for New License, Appendix D-9). As a result, all outflows from the lake in excess of power canal capacity must be released into the bypass.

⁵⁶ A 50 cfs (3,000 cfm) minimum flow release is currently provided in the bypass from July 1 through August 31.

is generally of high quality and has dissolved oxygen levels in excess of all riverine standards both at the surface and at depth. However, periodic non-attainment of dissolved oxygen standards has been monitored historically in the Class B and Class C segments of the river, as well as in the Class SC estuary. This non-attainment of dissolved oxygen standards is the result of (1) the existence of multiple impoundments in close proximity to one another, (2) the lack of natural reaeration below the existing dams on the river, (3) the overnight respiration of bottom attached algae, and (4) the impact of non-point sources of pollution (e.g., agricultural runoff and sedimentation from land use activities).

The river currently receives discharges of treated sanitary wastewater from three sources (Windham High School and municipal wastewater treatment plants in Westbrook and Falmouth). The river also receives discharges of treated process wastewater and cooling water from one industrial source (the S.D. Warren paper mill in Westbrook).

- b. Water Quality Model. In 1994, the DEP conducted a time-of-travel study and collected cross sectional data, sediment oxygen demand data, and water chemistry data from the Presumpscot River. These data were then used to calibrate and verify a water quality model for the river. This model was then used to predict dissolved oxygen levels in the river under different conditions.

The initial DEP model predicted that, under critical water quality conditions (i.e., summer low flow and high water temperature conditions), non-attainment of Class B dissolved oxygen standards would occur in a 2.4-mile-long reach of the river in the Little Falls and Mallison Falls impoundments. In addition, the model predicted that non-attainment of Class C and Class SC standards would occur immediately above and below the Smelt Hill Dam in Falmouth.⁵⁷

In 1998, the DEP conducted additional verification runs of the model using data reported by the U.S. Geological Survey during 1994 and 1995 from a four parameter monitor located at the Smelt Hill Dam. The re-calibrated model confirmed the earlier predictions of non-attainment of Class C and Class SC dissolved oxygen standards in the river below Westbrook. The re-calibrated model also predicted that, under critical water quality conditions, non-attainment of Class B dissolved oxygen standards would extend over an 8-mile-long reach of the river in the Little Falls, Mallison Falls, and Saccarappa impoundments.⁵⁸

Water quality monitoring conducted by the applicant, by DEP, and by the Presumpscot River Watch confirmed the occurrence of periodic non-attainment of Class B dissolved oxygen standards in the Little Falls, Mallison Falls, and Saccarappa impoundments.

⁵⁷ See DEP "Presumpscot River Waste Load Allocation Final Report," dated November 1995.

⁵⁸ See DEP "Presumpscot River, Supplemental Report to Waste Load Allocation," dated March 1998. In this report, the DEP recommended additional data collection to confirm non-attainment of Class B standards in the river above Westbrook.

Monitoring also showed periodic non-attainment in the lower Gambo impoundment, which is located above the reach of the DEP model.

- c. Implementation of Flow/Temperature Curve. In order to meet Class C and Class SC standards in the Presumpscot River below Westbrook, the DEP required in its July 9, 1998 renewal of the wastewater discharge license for the Westbrook pulp and paper mill that Warren release water from Sebago Lake in accordance with a final temperature based flow regulation curve. This curve established the instantaneous and monthly-average flows from Sebago Lake needed to meet dissolved oxygen standards in the lower river as a function of water temperature.⁵⁹ In addition, the DEP established a flow cap and corresponding reductions in pollutant loading from the Westbrook mill under emergency low lake level conditions.⁶⁰
- d. Implementation of Spillage Requirements. In order to meet Class B standards in the Presumpscot River above Westbrook, the DEP required in its April 30, 2003 water quality certification for the Presumpscot River Hydro Projects that Warren spill specified amounts of water, or take other equivalent measures, at the Dundee and Gambo Dams.⁶¹ The DEP also required that Warren conduct a study to determine the effectiveness of the measures taken in meeting Class B dissolved oxygen standards.⁶²

In response to the requirements of the April 30, 2003 water quality certification, Warren elected to institute the spillage of 50 cfs at the Dundee Dam and 100 cfs at the Gambo Dam.⁶³

- e. Effectiveness Monitoring. In 2008, 2009, and 2010, the applicant collected dissolved oxygen data from various locations on the river under suitable water quality conditions (i.e., high water temperatures and low flows from Sebago Lake and the tributaries

⁵⁹ Under this curve, flows are increased incrementally as river temperatures rise above 22 degrees Celsius. See Section 4 of this Order ("Description of Current Project Operation") for a more detailed explanation.

⁶⁰ By letter from DEP to FERC dated August 10, 1998, the conditions of the July 9, 1998 wastewater discharge license for the Westbrook mill establishing the flow regulation required from Sebago Lake to meet water quality standards in the Presumpscot River below Westbrook were incorporated as a supplement to the approved lake level management plan. By letter from DEP to Warren dated July 6, 1999, due to the opening of the Smelt Hill Dam and the closure of Warren's Westbrook pulp mill, DEP suspended compliance with the requirement of the final temperature-based flow regulation curve that 30-day average flows be provided from Sebago Lake based on 30-day average river temperatures. The requirement to provide instantaneous flows to meet minimum Class C dissolved oxygen levels remains in place.

⁶¹ The conditions of the DEP's water quality certification were subsequently incorporated in the new licenses issued by FERC for the Presumpscot River Hydro Projects.

⁶² Under the terms of the April 30, 2003 water quality certification, Warren is responsible for taking such actions as are needed to meet Class B dissolved oxygen standards from Dundee Dam to Saccarappa Dam, insofar as the project dams cause or contribute to a violation of these standards under dry weather conditions.

⁶³ Spillage is required at the dams whenever river water temperatures exceed 22 degrees Celsius for three days, as measured beginning June 1 annually at the Gambo Dam before 8 am, and continuing until river water temperatures are 22 degrees Celsius or less for three consecutive days, as measured at the Gambo Dam (this usually occurs before the end of September). See DEP Condition Compliance Order #L-19713-33-J-C dated October 9, 2007. Spillage was initiated in 2004 following the issuance of the new FERC licenses for the Presumpscot River Hydro Projects.

entering the Presumpscot River below Sebago Lake), in accordance with an approved monitoring plan, in order to determine the effectiveness of the required spillage flows in meeting Class B dissolved oxygen standards.

The 2008 and 2009 data indicates that river flows were reflective of wet weather conditions, and therefore were not considered for purposes of determining the effectiveness of the required spillage flows.

The 2010 data indicates that river flows and water temperatures were reflective of critical water quality conditions, and therefore would be considered for purposes of determining the effectiveness of the required spillage flows. Analysis of the 2010 data indicates that there were monitored dissolved oxygen levels of less than the 7.0 parts per million Class B standard on a number of days in the Gambo, Little Falls, Mallison Falls, and Saccarappa impoundments. Further analysis of the data indicates a strong correlation between low flows and low dissolved oxygen levels, particularly in the Gambo impoundment.⁶⁴

- f. Revised Water Quality Model. Subsequent to the development of the DEP's water quality model for the Presumpscot River, Warren closed the pulping operation at its Westbrook Mill, thus reducing the quantity and character of its treated wastewater effluent.⁶⁵ In addition, the downriver Smelt Hill Dam was removed, thus altering the hydraulic conditions in the portion of the river below the mill discharge. Both of these changes were expected to improve water quality conditions in the river and to reduce, if not eliminate, the need for releasing extra water from Sebago Lake to meet dissolved oxygen standards during hot summer conditions.

In order to determine the effect of the closure of the pulping operation and the removal of the Smelt Hill Dam on water quality conditions in the river, the DEP and others collected additional ambient water quality data and hydraulic data from the river. This data was then used to recalibrate and verify the DEP's water quality model to reflect current river conditions.

The revised DEP model predicts that dissolved oxygen standards will be met in the Presumpscot River below Westbrook under critical low flow,⁶⁶ high temperature,⁶⁷ and

⁶⁴ During the summer of 2010, because the lake was below its target level range, flows were reduced to 270 cfs (16,200 cfm) on August 18 and were maintained at that rate through September 12. The lowest dissolved oxygen levels of the year were recorded in the Gambo impoundment during this period, despite the fact that water temperatures were significantly lower than earlier in the summer, when flows were higher.

⁶⁵ Warren continues to discharge up to 10 million gallons per day of process and miscellaneous wastewater, up to 2.5 million gallons per day of sand filter backwash water, and up to 12 million gallons per day of non-contact cooling water from its paper mill and on-site biomass generating facility. See Maine Pollutant Discharge Elimination System Permit #ME0002321 and Maine Waste Discharge License #W002224-5L-D-R issued December 21, 2007.

⁶⁶ The revised model was run at a regulated 7 day average low with a 1-in-10-year recurrence interval (7Q10) at Westbrook of 300 cfs (consisting of 270 cfs from Sebago Lake plus 30 cfs from the intervening drainage between the lake outlet and Westbrook).

maximum loading conditions. The model also predicts that, with river temperatures at a daily maximum of 30 degrees Celsius, dissolved oxygen standards would be met below Westbrook without the need to release increased flows from Sebago Lake, as currently required by the final temperature based flow regulation curve.⁶⁸

- g. Applicant's Proposals. The applicant proposes to operate the project under a modified flow-based lake level management plan, as described in section 5 above, with a minimum flow release of 408 cfs (24,500 cfm) if the lake level is at or below 262.0 feet msl.
- h. Discussion. The evidence in the record indicates that, at a minimum flow release from Sebago Lake of 270 cfs (16,200 cfm), dissolved oxygen standards will be met in the Presumpscot River below Westbrook. However, the evidence in the record also indicates that, at this flow, dissolved oxygen standards will not be met in the river impoundments above Westbrook. Therefore, additional water must be released from Sebago Lake during the critical summer months to maintain required oxygen levels in this section of the river.

The applicant's proposed minimum flow release of 408 cfs (24,500 cfm) may be sufficient to meet dissolved oxygen standards in the river above Westbrook during the critical summer months. Warren should continue to monitor dissolved oxygen levels in the river, as required in the April 30, 2003 water quality certification for the Presumpscot River Hydro Projects, to determine whether this flow release, in combination with the spillage currently required at the Dundee and Gambo Dams, is sufficient to meet Class B dissolved oxygen standards in the river from Dundee Dam to Saccarappa Dam under dry weather conditions.

12. FISH RESOURCES AND FISHING—SEBAGO LAKE

- a. Existing Conditions. Sebago Lake supports self-sustaining populations of a number of resident coldwater and warmwater game and non-game fish species, including a nationally recognized fishery for landlocked Atlantic salmon,⁶⁹ one of only four indigenous populations of landlocked salmon in Maine.⁷⁰ Migratory American eel, a catadromous fish, are also present in the lake.

The native landlocked salmon fishery is supplemented with stocked hatchery salmon when wild salmon production is insufficient to support angler demand. The stocking of hatchery fish also maintains an artificial salmon run on the Jordan River to support DIFW's salmon hatchery operations.

⁶⁷ The revised model was run at an assumed maximum 7-day average river temperature of 26 degrees Celsius.

⁶⁸ See DEP "Presumpscot River Water Quality Model Recalibration and Status Report," dated July 2011.

⁶⁹ The current world record landlocked salmon (22.5 pounds) was caught by rod and reel on Sebago Lake in 1907.

⁷⁰ Landlocked salmon are a freshwater form of sea-run Atlantic salmon and are native to only four lakes in Maine: Sebago Lake in the Presumpscot River Basin; Sebec Lake in the Penobscot River Basin; Green Lake in the Union River Basin; and West Grand Lake in the St. Croix River Basin. See Maine Department of Inland Fisheries and Wildlife website at <http://www.maine.gov/ifw/fishing/species/identification/landlockedsalmon.htm>.

In addition to landlocked salmon, other game fish present include brook trout, burbot (cusk), lake trout (togue), smallmouth and largemouth bass, lake whitefish, chain pickerel, white and yellow perch, black crappie, redbreast sunfish, pumpkinseed, and brown bullhead (hornpout). Non-game species present include rainbow smelt, white sucker, longnose sucker, fallfish, creek chub, lake chub, common shiner, golden shiner, blacknose dace, ninespine stickleback, banded killifish, and slimy sculpin.

Invasive Northern pike and landlocked alewives are also present, having been illegally introduced in the lake in recent years.

- b. Fisheries Management Plans. In July 2008, DIFW issued an updated "Sebago Lake Landlocked Atlantic Salmon Management Plan." The stated goal of this management plan is to develop and maintain a sustainable landlocked salmon fishery characterized by higher size, quality and greater abundance, so as to provide a more equitable allocation between the salmon and lake trout angling communities.

To meet the stated goal, the plan identifies the following management objectives: (1) sustain an abundance of smelt consistent with the lake's carrying capacity and limit annual fluctuations; (2) reduce the competing lake trout population;⁷¹ (3) limit the threat to smelt and landlocked salmon (predation/competition) from illegally introduced aquatic organisms (northern pike and landlocked alewives) within the drainage; (4) maintain and where practical enhance the contribution of wild salmon to the lake and Crooked River fishery; (5) supplement the wild salmon fishery with hatchery fish when forage, wild salmon production, salmon growth, and angler exploitation support increased stocking; and (6) sustain high salmon growth rates to the extent practical to maximize growth potential, while considering the need to maintain acceptable salmon catch rates.

- c. Lake Level Assessment. In 2001, the applicant conducted an assessment of the effects of lake level fluctuations on fish and wildlife using Sebago Lake, in accordance with a study plan developed in consultation with state and federal fish and wildlife agencies. The objectives of the assessment were (1) to estimate the acreage, habitat types, and locations of areas exposed during seasonal lake level fluctuations in Sebago Lake, and (2) to use these estimated areas to qualitatively assess the potential impacts of seasonal lake level fluctuations on fish and wildlife habitat.⁷²

With respect to fish, the effects of lake level fluctuations were evaluated for various life stages of five representative fish species, including chain pickerel, white perch, golden shiner, smallmouth bass, and lake trout.⁷³

⁷¹ Lake trout is an introduced species that is not native to Sebago Lake.

⁷² See Section 17 of this Order for a discussion of wildlife habitat assessment results.

⁷³ While landlocked Atlantic salmon is the most popular game fish in Sebago Lake, the lake is used primarily by only juvenile and adult life stages of salmon. The habitat requirements of these life stages were represented in the lake level assessment by smallmouth bass and lake trout.

Analysis of the assessment results indicates that there are about 3,200 acres of lake bottom in the zone between elevation 266.65 feet msl (spillway crest elevation) and elevation 261.0 feet msl (current 2 in 9 year minimum lake level target elevation), and that the effects of lake level fluctuations are limited to those fish species/life stages that use shallow, vegetated littoral zone habitat within this zone. For four of the five representative fish species, spawning occurs in the spring during the period of rising and/or maximum water levels, and thus will not be affected by changes in water levels. For the fifth representative species, lake trout, spawning occurs during October when lake levels are generally falling, and thus may be adversely affected. However, DIFW's fisheries management objectives include reducing the lake trout population, which is in competition with the lake's landlocked salmon population. Other life stages of the representative fish species are more mobile and use both shallow and deep water habitats, and as a result are not significantly affected by seasonal changes in lake levels.

- d. Smelt Spawning Survey. In 2000 and 2001, the applicant conducted a survey to determine smelt access to and spawning activity in 15 significant tributaries⁷⁴ to Sebago Lake. The purposes of the assessment were (1) to identify any potential barriers to upstream smelt migration into lake tributaries during the spring smelt spawning period, and (2) to verify whether smelt spawning was occurring in these tributaries.

Analysis of the survey results indicates that none of the five largest tributaries (Crooked/Songo River, Northwest River, Jordan River, Stickey River, and Muddy River), as well as two smaller tributaries (Rich Mill Pond Outlet and Bachelder Brook), have any barriers to smelt migration, while the remaining eight tributaries were found to have one or more potential barriers⁷⁵ to smelt migration under low lake level conditions. However, under typical tributary flow conditions during the spring smelt spawning period, only three small tributaries (Thomas Pond Outlet, Trickey Pond Outlet, and the upper portion of Nason Brook) would not or may not be accessible at lake levels of 266.0 feet msl.

Smelt spawning runs have been documented by DIFW as occurring in Nason Brook, Bachelder Brook, Thompson Point Tributary, Crooked/Songo River, and Jordan River. During the survey, spawning was documented in only one additional tributary (Trickey Brook Outlet). However, DIFW reports that significant smelt spawning is now occurring along the lakeshore and that less spawning is occurring in tributaries.⁷⁶

- e. Landlocked Salmon Spawning. Landlocked salmon move into various tributaries to Sebago Lake from mid-October to mid-November on their annual spawning runs. DIFW has expressed concerns that high outflows from the outlet dam during the landlocked

⁷⁴ The tributaries surveyed included the Crooked/Songo River, Northwest River, Jordan River, Sticky River, Rich Mill Pond Outlet, Nason Brook, Bachelder Brook, Leavitt Brook, Muddy River, Trickey Pond Outlet, Thomas Pond Outlet, Long Beach tributary, River Road Tributary, Thompson Point Tributary, and Kettle Cove Tributary.

⁷⁵ Types of barriers identified included snag/debris dams, perched culverts or weirs, boulder fields, shallow riffles, and sand bars.

⁷⁶ DIFW has stated that lake shore smelt spawning may result in higher survival than tributary spawning. See FERC FEA, pages 107-111.

salmon spawning season may attract salmon to the outlet and away from DIFW's brood stock collection facility at Panther Run on the Jordan River. The current lake level management plan includes a cap of 1,000 cfs (60,000 cfm) during the salmon spawning season.⁷⁷ However, the precise flow at which attraction of spawning salmon to the outlet becomes a significant issue has not been determined.

- f. Eel Passage. DMR has recommended that upstream and downstream eel passage facilities be installed at the Eel Weir Dam. DMR has also recommended that Warren consult further with resource agencies on the design, location, operation, and effectiveness testing of these facilities.
- g. Anadromous/Resident Species Fish Passage. There are currently no plans to restore anadromous fish to Sebago Lake and its tributaries. As a consequence, DMR has not recommended the installation of fish passage facilities at the Eel Weir Dam for anadromous fish at this time.

DIFW has stated that it opposes the installation of a fishway for resident species, including landlocked salmon, at this time.⁷⁸ However, DIFW supports the inclusion of a reopener condition that would allow the issue of passage for resident fish species to be re-evaluated during the term of a new FERC license for the project, in the event that future circumstances or conditions warrant the installation of a fishway.

- h. Applicant's Proposals. The applicant proposes to operate the project under a modified flow-based lake level management plan, as described in section 5 above. The applicant also proposes to consult with resource agencies regarding the need for upstream and downstream eel passage at the Eel Weir Project following the installation of, and demonstrated use by eels of, upstream and downstream eel passage facilities at all downstream projects on the Presumpscot River.
- i. Discussion.

With respect to resident fish species, and especially landlocked salmon, the evidence in the record indicates that seasonal lake level fluctuations between full pond and elevation 261 feet msl (current 2 in 9 year minimum lake level target elevation) do not have any significant adverse impact on existing resident fish populations.

With respect to landlocked salmon spawning, the evidence in the record indicates that the applicant's proposal to cap outflows from Sebago Lake at 1,000 cfs (60,000 cfm) from October 16 through November 15 will likely help protect landlocked salmon spawning.

⁷⁷ Under the current lake level management plan, flows out of Sebago Lake are capped at 1,000 cfs (60,000 cfm) unless the lake level is above the target range and is rising.

⁷⁸ DIFW has expressed concerns that fish passage at the Eel Weir Dam would interfere with current landlocked salmon management plans and would allow access into Sebago Lake for invasive species. See letter from Francis Brautigam, DIFW Regional Fisheries Biologist, to Dana Murch, DEP, dated November 2, 2005.

However, this cap may need to be reduced in the future if DIFW provides evidence that landlocked salmon are being attracted to the outlet dam during the spawning season.

With respect to eel passage, the evidence in the record indicates that, while eels are currently present in Sebago Lake, overall eel populations would benefit from the increased access to habitat, reduced migratory delays, and reduced injury and mortality that would result from the installation of upstream and downstream passage facilities at the Eel Weir Dam. The applicant has not provided any convincing evidence to support its proposal that further consultation take place regarding the need for eel passage at the dam. Therefore, the evidence in the record supports the installation of eel passage at the Eel Weir Dam at this time, subject to consultation with appropriate resource agencies on the design, location and operation of these facilities, and further subject to follow-up effectiveness studies.

With respect to passage for anadromous and resident fish species, the evidence in the record indicates that passage for these species is not needed at this time. However, the need for passage for these species may have to be re-evaluated if DIFW and/or DMR provide evidence in the future that circumstances or conditions warrant the installation of such fish passage.

13. WATER QUALITY—SEBAGO LAKE

- a. Existing Conditions. Sebago Lake is classified as an oligotrophic lake and is characterized by low primary productivity. The waters of the lake are generally cold and clear and are relatively free of algae and other plant life. Sebago Lake has excellent water quality, based on measures of secchi disk transparencies, total phosphorus, and Chlorophyll-a. The potential for nuisance algal blooms on Sebago Lake is low. Recent dissolved oxygen profiles show no oxygen depletion at depth.⁷⁹

The average secchi disk transparency of Sebago Lake during 2010 was 9.7 meters (31.8 feet).⁸⁰

- b. Nearshore Water Quality Data. From 1998 to 2000, the applicant conducted three years of monitoring to quantify near-shore water quality in Sebago Lake. Monitoring was conducted at 31 sampling stations around the lake.

⁷⁹ For a summary of available water quality data for Sebago Lake, see <http://www.lakesofmaine.org> (Sebago Lake = MIDAS 5786). Lakesofmaine.org is a collaboration of the Maine Department of Environmental Protection, the Maine Volunteer Lakes Monitoring Program, the University of Maine, and KnowledgeBase for the Gulf of Maine and its watershed. Additional water quality data is available from the Portland Water District at <http://www.pwd.org>.

⁸⁰ Data from Maine Volunteer Lake Monitoring Program's "2010 Maine Lakes Report," available at <http://www.mainevolunteerlakemonitors.org>. Of 447 lakes for which secchi disk transparency data was collected in 2010, Sebago Lake had the 17th highest average secchi disk transparency.

Analysis of the monitoring results indicated that, based on measurements of total phosphorus, conductivity and turbidity, there was no substantial change in nearshore water quality during the monitoring period compared to historic (1977) data. In addition, monitoring results showed little difference between sampling stations for either chlorophyll-*a* or total biomass of attached benthic algae. Finally, sampling at eight erosion-prone areas around the lake revealed generally low levels of phosphorus in the soils.

- c. Erosion. Virtually all of the 105 miles of shoreline around Sebago Lake is currently stable and is not experiencing significant erosion.⁸¹ Those areas currently subject to erosion are predominantly steep bluffs composed of loose sands and gravels that are inherently unstable. Most erosion-prone shoreline areas have already been protected by retaining walls or riprap and have been stable for many years, despite changing lake levels. However, the shoreline of the lake is still in the process of coming into equilibrium with the higher water levels created by the construction of the outlet dam to its current elevation. As a result, both shoreline erosion and beach recession will continue in the future.
- d. Trophic State Report. The Portland Water District has monitored Sebago Lake for various trophic state parameters (chlorophyll-*a* content, Secchi disk transparency, and total phosphorus content) since the mid 1970s. In 2010, the District conducted an analysis of the available trophic state data and concluded that the water quality of Sebago Lake has undergone cyclical variation with an overall neutral trend.⁸²
- e. Analysis of Water Quality Trends. The DEP Lake Assessment Program staff has reviewed all of the available water quality data and analysis for Sebago Lake, and has contracted with an outside expert for an independent review of the data.⁸³

On the basis of this review, the DEP staff has concluded that Sebago Lake has exhibited no clear linear trend of declining water quality over the period from 1980 to 2005, but that the lake as a whole has demonstrated higher phosphorus and chlorophyll-*a* and lower clarity (Secchi disk transparency) readings during the 2006 to 2010 period, likely due to short-term factors such as precipitation, temperature and light conditions. The DEP staff has also concluded that recent water level management practices have not been shown to have any measureable effect on the water quality of the lake.⁸⁴

- f. Groundwater and Septic Systems Studies. In 1991, the Portland Water District conducted a study to determine the impact of lake levels on groundwater levels in areas adjacent to

⁸¹ The issue of beach erosion (or more properly, sand loss from beaches, along with the accretion of beach sand) on Sebago Lake is discussed in section 18 of this order.

⁸² See "Characterization of Sebago Lake Lower Bay Trophic State Since 1976," prepared by Nathan Whalen, Water Resources Specialist, Portland Water District, dated February 2010.

⁸³ See "20-year Trends in the Water Clarity of Sebago Lake, Maine," prepared for the Maine Department of Environmental Protection by Dr. Katherine E. Webster, dated August 23, 2011.

⁸⁴ See Memo from Roy Bouchard, DEP Lake Assessment Program, to Dana Murch dated July 6, 2011.

the lake and the impacts of these groundwater levels on the functioning of nearshore septic systems in the Harmons Beach and Long Beach areas. The study determined that, based on the average elevation of the ten lowest septic systems at each location, maximum lake levels of 262.6 feet msl and 263.7 feet msl would be needed at Harmons Beach and Long Beach, respectively, to maintain the minimum two-foot separation from these low-lying leach fields to groundwater needed to provide adequate treatment of wastewater. The study also estimated that, at a lake level of 266.7 feet (equivalent to spillway crest elevation), 88% of the Harmon Beach septic systems and 57% of the Long Beach septic systems would have less than a two-foot separation to groundwater.⁸⁵

In 1992, the Portland Water District conducted a study to determine whether shoreline septic systems are significant contributors of nutrients, particularly phosphorus, to Sebago Lake. The study determined that there were no major leach field breakouts or gross septic system failures around the shoreline of the lake, at least during dry weather conditions. The study also estimated that shoreline septic systems collectively account for less than 10% of the total annual phosphorus inputs to the lake.⁸⁶

- g. Milfoil. The invasive aquatic plant variable milfoil (*Myriophyllum heterophyllum*) has been documented in Brandy Pond, the Songo River, and in various locations in Sebago Lake. Current control efforts are focused on hand removal of plants and on the deployment of benthic barriers. Variable milfoil grows over a range of water levels and substrate types. To date, there is no clear evidence that past lake level management practices have contributed to the growth or spread of variable milfoil in Sebago Lake.
- h. Discussion. While there is currently no evidence that water level management practices are adversely affecting the water quality of Sebago Lake, given the size and volume of the lake, it may take years for any trend in declining water quality to become apparent. Therefore, the need for changes in the approved lake level management plan may have to be evaluated in the future if the DEP determines that the water quality of the lake is declining.

14. WATER QUALITY—CASCO BAY

- a. Existing Conditions. Casco Bay encompasses the coastal waters extending from Two Lights State Park in Cape Elizabeth to Small Point in Phippsburg. The bay supports commercial and recreational fishing and boating, shipping and tourism, swimming and other recreational uses.

The Casco Bay watershed has an area of 986 square miles, and extends inland to the headwaters of the Crooked River near Bethel. The major freshwater river systems in the

⁸⁵ See "Sebago Lake Groundwater Study," prepared for Portland Water District by C-E Environmental, Inc., dated September 1991.

⁸⁶ See "Sebago Lake Septic System Study," prepared for Portland Water District by Normandeau Associates Inc., dated December 1992.

watershed include the Crooked River/Sebago Lake/Presumpscot River system, and the Fore, Royal, and Stroudwater river systems.

In 1990, Casco Bay was designated as an “estuary of national significance” by the U.S. Environmental Protection Agency.

- b. State of the Bay Report. In its State of the Bay 2010 Report, the Casco Bay Estuary Partnership⁸⁷ reported that, while increasing population and urbanization, the spread of invasive species, continued pollutant loading, and climate change all pose threats, Casco Bay remains one of the healthiest estuaries in the National Estuary Program, with good overall water quality.
- c. “Red Tide” Report. In 2010, the Casco Bay Estuary Partnership issued a report examining the origin and development of blooms of *Alexandrium fundyense* (so-called “red tides”) in Casco Bay and the correlations between water quality, location, and bloom intensity for the period 2006-2008.⁸⁸ The report concluded that there was no correlation between elevated nutrient concentrations and the magnitude of red tide blooms or toxicity levels.⁸⁹

Additional analysis by DEP staff has concluded that there is not sufficient evidence to indicate that flows regulated from Eel Weir Dam since the inception of the current lake level management plan consistently affect salinity, nutrient concentrations, or the occurrence of red tides blooms within Casco Bay beyond what would be expected due to natural flows.⁹⁰
- d. Applicant’s Proposals. The applicant proposes to operate the project under a modified flow-based lake level management plan, as described in section 5 above.
- e. Discussion. Based on the evidence in the record, as cited above, the magnitude and timing of flow releases from Sebago Lake is not expected to adversely affect the water quality of Casco Bay.

⁸⁷ The Casco Bay Estuary Partnership includes various state and federal agencies, watershed municipalities, non-governmental organizations, businesses, educational institutions, and citizens. The Partnership’s mission is to preserve the ecological integrity of Casco Bay and to ensure compatible human uses of the Bay’s resources through public stewardship and effective management. See <http://www.cascobay.usm.maine.edu>.

⁸⁸ Blooms of the microorganism *Alexandrium fundyense* (so-called “red tides”) can result in the accumulation of neurotoxins in shellfish, which can in turn result in paralytic shellfish poisoning (PSP) in humans who consume these shellfish. PSP can cause severe illness and death. Red tides have become common in the Gulf of Maine and Casco Bay in recent decades.

⁸⁹ See “Red Tides in Inshore and Offshore Casco Bay and Their Relationship to Local and Gulf of Maine Physical and Biological Conditions,” prepared for Casco Bay Estuary Partnership by Scott Libby, Battelle Memorial Institute, and Dr. Donald Anderson and Bruce Keafer, Woods Hole Oceanographic Institution, dated October 2010.

⁹⁰ Letter and email from Angela Dubois, DEP Marine Unit, to Dana Murch dated April 26, 2011 and June 27, 2011, respectively.

15. AQUATIC LIFE—SEBAGO LAKE

- a. Existing Conditions. Water levels in Sebago Lake are controlled by the Eel Weir Dam and have varied by a total of 10.5 feet since 1910 (from 1.1 feet above spillway crest to 9.4 feet below spillway crest). Changes in water levels may adversely affect aquatic organisms.
- b. Applicant's Proposals. The applicant proposes to operate the project under a modified flow-based lake level management plan, as described in section 5 above.
- c. Discussion. There must be both sufficient quality and quantity of habitat for aquatic organisms to meet aquatic life standards. The Department has found that, generally, water levels providing wetted conditions for 3/4ths of the littoral zone of a lake or pond, as measured from full pond conditions, are sufficient to meet aquatic life and habitat standards. The Department defines the littoral zone as twice the average summer water clarity (i.e., secchi disk transparency) reading, or the depth at which 1% of incident light remains.

Based on an average secchi disk transparency of 9-10 meters (29.5-32.8 feet), the littoral zone of Sebago Lake extends to a depth of approximately 60 feet. The maximum historic drawdown of the lake (9.4 feet below spillway crest) will maintain significantly more than 75% of the littoral zone habitat of the lake.

16. PUBLIC WATER SUPPLY—SEBAGO LAKE

- a. Existing Conditions. Sebago Lake is used by the Portland Water District (PWD) as the public water supply for approximately 200,000 people in eleven communities in the greater Portland area.⁹¹ PWD's water intakes are located in Standish near the southern end of the lake (Lower Bay). PWD withdraws on average about 24 million gallons of water from the lake per day to serve its customers.⁹² Many year-round and seasonal homes also draw their water supplies directly from the lake.

PWD currently disinfects the water from Sebago Lake prior to distribution. Based on existing water quality conditions and an approved watershed protection program, PWD currently has a waiver from the filtration requirements of the federal Safe Drinking Water Act. To maintain this waiver, PWD must maintain an approved watershed control program and the source water cannot exceed specified fecal coliform/total coliform concentrations or turbidity levels.

⁹¹ The communities served by PWD include Cape Elizabeth, Cumberland, Falmouth, Gorham, Portland, Raymond, Scarborough, South Portland, Standish, Westbrook, and Windham. See Portland Water District website at <http://www.pwd.org>.

⁹² This is equivalent to a flow of about 36 cfs.

The discharge of excess nutrients into Sebago Lake and any resultant degradation of water quality have the potential to jeopardize the current filtration waiver for PWD. Loss of this waiver would increase the costs of treatment of the lake water used by PWD.

The Department of Health and Human Services⁹³ has stated that PWD is currently in compliance with all Safe Drinking Water Act requirements.⁹⁴

PWD has stated that it has not experienced a significant change in the quality of raw water at the Sebago Lake water treatment facility since it opened in 1994. PWD has also stated that, despite expected seasonal and annual variation, the trend in Secchi readings on Sebago Lake since the mid-1970s appears to be relatively flat, indicating that water quality is neither improving nor declining.⁹⁵

- b. Applicant's Proposals. The applicant proposes to operate the project under a modified flow-based lake level management plan, as described in section 5 above.
- c. Discussion. The evidence in the record indicates that the water quality of Sebago Lake is stable and that the proposed lake level management plan will not adversely affect the water quality of the lake. However, any approved lake level management plan for the lake may need to be re-evaluated in the future if the Department determines that the water quality of Sebago Lake is declining.

17. WETLANDS AND WILDLIFE RESOURCES—SEBAGO LAKE

- a. Existing Conditions. The Eel Weir Project area consists of a mixture of developed and undeveloped lands within the Northern Hardwoods Ecoregion of central and southern Maine. Nearly half of Sebago Lake's 105 miles of shoreline is occupied by seasonal camps and year-round homes. The other half of the shoreline is undeveloped, consisting of a mixed hardwood and conifer forest. Nearly three-quarters of the contributing watershed is forested. The project area supports a variety of wildlife species, including small mammals such as mice, chipmunks and squirrels, large mammals such as fox, snowshoe hare, black bear, and white-tailed deer, birds such as red-eyed vireo, woodpeckers, warblers, thrush, ruffed grouse, spotted sandpiper, mourning dove, hawks and various songbirds, amphibians, and reptiles. Waterfowl known to use the lake for feeding and/or breeding include loon, Canada goose, great blue heron, kingfisher, and various species of ducks and mergansers.

Significant wildlife habitat in the area includes several areas of moderate value waterfowl and wading bird habitat, located primarily in the vicinity of Jordan Cove/Raymond Point. Several deer wintering areas occur within one to four miles of the project.

⁹³ The U.S. Environmental Protection Agency has delegated primacy to administer the Safe Drinking Water Act in Maine to the Department of Health and Human Services.

⁹⁴ See letter from DHHS to Roger Wheeler, Friends of Sebago Lake, dated August 19, 2010. See also letter from EPA to Roger Wheeler, Friends of Sebago Lake, dated August 25, 2010.

⁹⁵ See letter from PWD to Susan Lessard, Chair, Board of Environmental Protection, dated December 1, 2009.

There are no known federally-listed threatened or endangered wildlife species in the project area, with the exception of transient bald eagles and peregrine falcons.

There are no known state-listed threatened or endangered wildlife species in the project area.

- b. Wetlands. Existing wetlands located within 250 feet of the shoreline of Sebago Lake and the Eel Weir bypass are relatively limited in extent. Many of these wetlands rely on periodic inundation during high lake levels and/or wicking of lake waters as the primary hydrologic inputs. Other wetlands are either located along tributary streams or are fed by runoff from the watershed, and thus are not affected by lake levels.

A 1998 wetland inventory survey conducted by the applicant delineated 540 acres of terrestrial habitat wetlands and 377 acres of aquatic habitat wetlands in and around the lake. Approximately 730 acres of these wetlands are located in the drawdown zone between 266.65 feet msl (spillway crest elevation) and 261.0 feet msl (periodic low water target level under current lake level management plan). Terrestrial wetlands types include palustrine emergent (206 acres), palustrine forested (179 acres), and palustrine scrub-shrub (156 acres). Aquatic wetland types include palustrine aquatic bed (226 acres), riverine unconsolidated bottom, permanently flooded (121 acres), and lacustrine unconsolidated bottom and shore (30 acres). Aquatic bed wetlands represent less than 1 percent of the total surface area of the lake, and are concentrated along the northern shore.

A review of published wetland inventory maps has identified an additional 7 acres of terrestrial habitat wetlands in and adjacent to the Eel Weir bypass, consisting primarily of palustrine scrub-schrub wetlands (6 acres).

- b. Wetland Monitoring. From 1999 to 2002, the applicant conducted four years of monitoring to assess the impacts of the lake level management plan on wetlands in and adjacent to Sebago Lake.

Analysis of the monitoring results indicates that there were minimal changes in species composition and the percent of total vegetative cover in the monitored wetlands. These changes may be the result of annual climatic and water level conditions. There is no evidence that water levels during the monitoring period resulted in any significant impacts on Sebago Lake vegetative communities or associated wetland functions and values.

- c. Applicant's Proposals. The applicant proposes to operate the project under a modified flow-based lake level management plan, as described in section 5 above.
- d. Discussion. The existing wetlands in and around Sebago Lake appear to be stable and are largely the product of past lake level management practices. To the extent that these

management practices generally continue in the future, and tend to mimic natural fluctuations in water levels during the growing season, there should be no significant impact on these wetlands.

18. RECREATIONAL ACCESS AND USE—SEBAGO LAKE

- a. Existing Conditions. Sebago Lake is one of the most highly prized and well-used lakes in Maine for water-related recreational activities, including boating, fishing (both open-water fishing and ice fishing), sunbathing, and swimming. Most recreational use occurs during the summer tourist season, between Memorial Day and Labor Day.

Public recreational facilities on or associated with Sebago Lake include the following:

- Sebago Lake State Park, a 1,342-acre fee-access facility in Casco and Naples, owned and operated by the Maine Department of Conservation, includes three campgrounds (Naples, Witch Cove, and Cub Cove), swimming beaches at Naples and Witch Cove campgrounds, a day-use beach and picnic area (Songo Beach), a snack bar, two boat launches (Songo River and Naples Beach), an amphitheater, shower and toilet facilities, and numerous parking lots.
- Tassaltop Park (Hall's Beach), a fee-access day use area, owned by the Maine Department of Conservation and operated by the Town of Raymond, includes a public beach, picnic, toilet and parking facilities, a snack bar, and a rental cabin.
- Songo Lock, owned and operated by the Maine Department of Conservation and located at the outlet of Brandy Pond in Naples, provides access for recreational and commercial boats between Sebago Lake and Long Lake via the Songo and Crooked Rivers.
- Jordan Bay Boat Launch and Recreation Area, owned by the Maine Department of Inland Fisheries and Wildlife and operated by the Town of Raymond, includes a beach, boat launch, floating dock, and parking facilities.
- Sebago Town Beach, owned and operated by the Town of Sebago, is open at no charge to residents of the Town and includes a boat launch, rest rooms, and parking facilities.
- Standish boat launch site, owned and operated by the Town of Standish, includes a fee-access boat launch, a fishing dock, a walking trail, and a parking lot.
- Stickey River roadside rest area, located in Standish and owned and operated by the Maine Department of Transportation, includes picnic, toilet and parking facilities.
- Harmon Beach site, owned and operated by the Town of Standish, includes a swimming dock and limited parking.

- Panther Run roadside rest area, located in Raymond and owned and operated by the Maine Department of Transportation includes picnic, toilet, and parking facilities.

Private recreational facilities on Sebago Lake include residents' private docks and beaches, private resorts, and commercial and private marinas. Of the eight commercial marinas on the lake, the largest are Richardson's Boat Yard and Marina (300 slips), Kettle Cove Marina (230 slips), Jordan Bay Marina (150 slips), Point Sebago Marina (125 slips), and Sebago Lake Marina (100 slips). Of the six private marinas on the lake, the largest are Panther Run Marina (100 slips), Sebago Cove Estates (90 slips), and Sebago Harbor Shores (70 slips).⁹⁶ There are also several marinas on Brandy Pond/Long Lake, including Long Lake Marina and Naples Marina, from which boats have access to Sebago Lake through the Songo Lock.

The Portland Water District's drinking water intakes are located in Standish near the southern end of the lake (Lower Bay). Bodily contact with the water (including swimming, wading, water skiing, skin diving, or bathing) is prohibited within a two-mile radius of the PWD intakes. Trespassing of any sort (including boating) is prohibited within a 3,000-foot radius of the PWD intakes.

- b. Additional Public Access. DIFW has stated that low cost/no cost public boat access with adequate parking is very limited on Sebago Lake, and that the demand for public access is expected to increase in the future. DIFW has also stated that there is currently no public boat access in the Sebago Basin (located between White's Bridge and the outlet dam). DIFW has recommended that Warren develop plans for a shallow water boat launch and parking facility on Warren-owned land to provide public access to the Sebago Basin for small trailered and hand-carry boats. Warren has responded that such access is not needed and is potentially unsafe, particularly given the proximity to the dam. In response to Warren's concerns, DIFW has stated that it is willing to consider other options for improving public boat access to the lake.⁹⁷
- b. Beach Profiling, 1991-1993—MGS. The Maine Geological Survey (MGS) collected beach profiles for three years between 1991 and 1993 at ten locations within Sebago Lake State Park and at two locations outside of the park in Jordan Bay.

Analysis of the beach profiling data showed that: (1) winter ice pushes sand up the profile and leaves a ridge of sand at most locations in early spring; (2) spring high water levels smooth over the ice-created sand ridge, and during rising lake levels, waves push sand up the beach; and (3) through summer and fall, during a period of falling lake levels, waves cause a temporary adjustment to the beach profile, with accretion just above the water line and erosion below it. Analysis of the 1991-1993 beach profiling data also showed

⁹⁶ See FERC Final Environmental Impact Statement dated January 1997, pages 318-323.

⁹⁷ Other options identified by DIFW include (1) investments by Warren to improve access opportunities at one or more existing public boat access facilities on the lake, and (2) provisions for free public boat access and parking at one or more existing commercial marinas, to be paid for by Warren. See DIFW letter to FERC dated June 17, 2011.

that, while erosion and accretion were noted at all profile stations, no permanent shifts were seen in the position of the beaches.

- c. Beach Profiling, 1993-1996—MGS. The Maine Geological Survey (MGS) collected beach profiles for an additional three years between 1994 and 1996 at the twelve locations studied between 1991 and 1993 and at an additional twelve sites at six beaches around the lake.

Analysis of the beach profiling data showed that most beach changes are transient seasonal changes related to ice processes and water level fluctuations, and that beaches were stable until the fall of 1996, when the south-facing beaches and one east-facing beach experienced long-lasting catastrophic erosion as a result of a combination of weather events that raised the lake levels to their maximum and brought high winds out of the south with associated high waves.

In reporting on the results of the beach profiling effort, MGS stated that a picture of beach dynamics emerges in which long-term stability is punctuated by sudden large, long-lasting changes caused by storms during high water periods.

- d. Beach Erosion and Accretion Study—SD Warren. The applicant conducted a five-year study to monitor beach erosion and accretion around Sebago Lake. This study measured changes in beach profiles at 15 locations between 1997 and 2002.

The results of the study showed that beach profiles were relatively stable, with erosion and accretion trends exhibiting a general annual equilibrium based on the seasonal shifting of beach sand in response to wave action from climatic events of varying intensities and orientations during varying water levels. Seasonal changes involved the erosion and accretion of up to one foot of beach sand. The exception was the profile at Songo Beach Spit, which showed that the upper beach was retreating consistently, up to a maximum of 10 feet horizontally over the study period.⁹⁸

- c. Applicant's Proposals. The applicant proposes to operate the project under a modified flow-based lake level management plan, as described in section 5 above.
- d. Discussion.

High lake levels during the open-water recreation season, especially during the summer months, can adversely affect recreational use of the lake by putting beaches under water. Conversely, low lake levels during the open-water recreation season can adversely affect recreational use of the lake by inhibiting boat access and by increasing navigational hazards around the lake.

⁹⁸ See "Sebago Lake Beach Profile Study 2002 Work Report," prepared by Framatome ANP, Inc. (April 2003).

The evidence in the record indicates that water levels between 266.65 feet msl and 262 feet msl during the open water season do not result in any significant adverse impact on existing recreational uses of the lake.

With respect to public access, the evidence in the record indicates a need for improved public boat access to the lake. However, further study is needed to determine viable options and location(s) for such improved access.

19. HYDROELECTRIC POWER GENERATION

- a. State Energy Plan. The State of Maine has developed a Comprehensive Energy Plan (Governor's Office of Energy Independence and Security, January 15, 2009) with the goal of charting a course to guide the State to a secure energy future with affordable, reliable and clean energy supplies that are environmentally responsible and economically beneficial to Maine energy consumers and utility rate payers. The strategies set forth in the Plan to meet this goal include: (1) strengthening energy efficiency, conservation and weatherization; (2) fostering renewable energy; (3) improving transportation and fuel efficiencies; (4) upgrading electricity and natural gas services, transmission systems and transmission infrastructures; (5) continuing to have the State lead by example on energy policy; and (6) addressing energy emergency preparedness and response.

With respect to fostering renewable energy, the Plan recommends the following goals:

- Encourage Maine's businesses and residences to invest in distributed renewable generation of energy;
- Continue to advance Maine's position as a leader in responsible wind power development and maximize the tangible benefits Maine people receive;
- Work with State agencies, the Governor's Ocean Energy Task Force, Maine Maritime Academy and private developers to promote tidal power in Maine;
- Seek to develop on-site clean, renewable energy projects at appropriate state facilities;
- Work with public and private schools across the state to facilitate energy alternative demonstration projects;
- Support research at the University of Maine to create cellulosic ethanol from paper making waste;
- Increase the use of bio-fuels and alternative energy in state-occupied buildings;
- Encourage development of ethanol-blend fueling stations;
- Increase the development and use of cogeneration and tri-generation in the State;
- Encourage the strategic location and development of industrial and district heating energy generation clusters;
- Assist the University of Maine and other colleges with the use of biomass/bio-fuel cogeneration and tri-generation energy systems; and
- Increase the generation of renewable power into the State of Maine's electricity portfolio.

- b. Existing Generation. The existing Eel Weir Project has an installed capacity of 1,800 kW and generates an average of 12,300,000 kilowatts-hours (kWhrs) per year. This is equivalent to the electricity that would be produced by burning 20,500 barrels of oil (at 600 kWhrs per barrel) or 5,700 tons of coal (at 2,158 kWhrs per ton). All electricity generated by the project provides base-load power to Warren's Westbrook paper mill. The project also provides cold start capability in the event of a mill shutdown.

The Eel Weir Project also regulates flows used for generation at six downstream hydropower projects, including the North Gorham Project (owned and operated by FPL Energy Maine Hydro LLC), and the Dundee, Gambo, Little Falls, Mallison Falls, and Saccarappa Projects (all owned and operated by Warren). Together, these projects, as currently licensed, have a combined installed capacity of 9,700 kW and generate an average of 45,650,000 kilowatts-hours per year. This is equivalent to the electricity that would be produced by burning 76,083 barrels of oil (at 600 kWhrs per barrel) or 21,154 tons of coal (at 2,158 kWhrs per ton). All electricity generated by Warren's Presumpscot River Hydro Projects provides base-load power to Warren's Westbrook paper mill. The electricity generated by the North Gorham Project is currently sold on the open market and fed into the local utility grid for distribution.⁹⁹

Together, Warren's hydropower projects provide about 26% of the annual electricity demand of the Westbrook paper mill.

- c. Applicant's Proposals. The applicant proposes to continue to operate the Eel Weir Project in a store-and-release mode in accordance with a modified flow-based lake level management plan, as described in section 5 above. The applicant also proposes to continue to release minimum flows to the Eel Weir Bypass as currently approved. Finally, the applicant proposes to consult with resource agencies regarding the need for upstream and downstream eel passage at the project.
- d. Discussion. Any increase in current minimum flow releases into the Eel Weir Bypass will result in a reduction in generation at the Eel Weir Project. The evidence in the record indicates that increasing the minimum bypass flow to 75 cfs year-round, as discussed in section 9 above, will reduce average generation at the project by about 1 million kWhrs per year.¹⁰⁰

Any additional seasonal flow releases needed to provide upstream and downstream passage at Eel Weir dam for migrating American eels, as discussed in section 12 above, will result in a reduction in generation at the Eel Weir Project. The amount of such flows, and the resulting reduction in generation, has not been quantified, but is expected to be negligible.

⁹⁹ Even if flows were not regulated at the outlet of Sebago Lake, there would still be generation at the six downstream hydropower projects, as these projects would utilize the available river flow. However, annual generation at these projects would be greatly reduced from what it is today.

¹⁰⁰ See FERC FEA dated November 29, 2005, pages 206-214.

Any modifications in the current lake level management plan that increase the amount of water released from the Eel Weir Project that is in excess of generation flows, or that reduce the volume of water in Sebago Lake that is available to be released for generation, will result in a reduction in the amount of generation at the Eel Weir Project and at all six downstream generating projects.

Conversely, any modifications in the current lake level management plan that decrease the amount of water released from the Eel Weir Project that is in excess of generation flows, or that increase the volume of water in Sebago Lake that is available to be released for generation, will result in an increase in the amount of generation at the Eel Weir Project and at all six downstream generating projects.

The modified lake level management plan proposed by Warren is expected to increase average annual generation at the Eel Weir Project and at all six downstream generating projects, as compared to average annual generation at these projects under the current lake level management plan. The amount of this increase will vary from year to year and has not been quantified.

Based on the sum of the evidence in the record, the applicant's proposal to operate the project in accordance with a modified lake level management plan, as conditioned by this certification, will be adequate to ensure that the project waters will be suitable for the designated use of hydropower generation.

20. COMMENTS ON DRAFT ORDER

On July 26, 2011, the Department issued a draft Order approving water quality certification for the continued operation of the existing Eel Weir Hydropower Project. Comments on the draft Order were invited from the applicant, state resource agencies, and other interested parties.¹⁰¹ The deadline for comments was 5 P.M. on August 15, 2011.

Comments on the draft Order were received from the Portland Water District (PWD), the Department of Inland Fisheries and Wildlife (DIFW), Sebago Lake Marina, the Town of Frye Island, and Douglas Watts.¹⁰²

Procedural, factual and legal issues raised in the comments received on the draft Order are discussed below.

¹⁰¹ Parties receiving notification of the draft Order included S. D. Warren, the Portland Water District, Friends of Sebago Lake, Sebago Lake Marina, Friends of the Presumpscot River, Casco Bay Estuary Project, the Department of Inland Fisheries and Wildlife, and the Maine Geological Survey. In an email accompanying the draft Order, the Department requested that the recipients pass the draft Order along to anyone else who may have an interest in reviewing the document.

¹⁰² The comments filed by the Town of Frye Island and Douglas Watts were both received after the August 15 comment deadline. However, the Department's Chapter 2 *Rules Concerning the Processing of Applications* provide that public comment on applications is allowed during the course of processing the application. Therefore, these late comments are considered here.

- a. Water Quality. PWD comments that the operation of the Eel Weir Project, as conditioned by the draft Order, will not adversely impact PWD's ability to provide drinking water from Sebago Lake or discharge treated wastewater to the Presumpscot River. PWD also comments that, monitoring since the 1997 lake level management plan was implemented "has not provided convincing evidence that the LLMP has had a measurable, detrimental impact on lake water quality, as some have postulated." Finally, PWD comments that it supports the lake levels and minimum flow releases proposed by Warren in its modified flow-based lake level management plan.
- b. Public Boat Access. DIFW comments that the records supports the need for improved public boat access to Sebago Lake and requests that Condition 8 of the draft Order be modified to require that the applicant provide such access.

In response, the Department agrees with DIFW's comments. Conclusion 8 and Condition 8 of the draft Order have been modified accordingly.

- c. Eel Weir Bypass Flows. DIFW comments that, while the minimum bypass flow requirement contained in the draft Order is less than that requested by DIFW, the new year-round 75 cfs minimum bypass flow requirement is an improvement over current bypass flow conditions. DIFW also comments that angler wadeability/fishability are adversely affected by high flows in the bypass and requests that the applicant be required to minimize the occurrence of flows above 300 cfs in the bypass, especially during high use fishing and stocking periods.

In response, it is the Department's position that, based on the evidence in the record, increasing current minimum bypass flows to 75 cfs on a year-round basis is appropriate and that the higher minimum flows recommended by DIFW are not justified. However, the Department agrees with DIFW that the occurrence of high flows in the bypass should be minimized. Conclusion 2 and Condition 2 of the draft Order have been modified accordingly.

- d. Lake Level Management and Flow Releases. Sebago Lake Marina contends that the lake level and flow requirements contained in the draft Order will result in adverse impacts on boating and recreation on Sebago Lake, will not support fishing, recreation and aquatic habitat in and on the lake, will damage wetlands and the ecology of the lake, will contribute to the spread of variable milfoil in the lake, and will violate water quality standards. In particular, Sebago Lake Marina contends that, under the terms of the draft Order, the level of Sebago Lake could drop to elevation 262 feet msl anytime during the open water season and that this would devastate the ecology and economy of the lake. Sebago Lake Marina further contends that the evidence in the record does not support the facts cited and conclusions reached in the draft Order. Sebago Lake Marina also contends that Sebago Lake should not continue to suffer from flow releases that benefit SD Warren and the Presumpscot River. Finally, Sebago Lake Marina contends that Sebago Lake should be operated with a minimum target level of 263.5 feet msl, plus or

minus a foot, and that the lake level should not go below 263 feet msl during ice-in conditions.

In response, it is the Department's position that the findings and conclusions contained in the draft Order are supported by the evidence in the record and that, with the exception discussed below, Sebago Lake Marina has not presented any persuasive arguments or evidence to warrant any changes to these facts or conclusions.

The Department notes that, at the time of its adoption, the current lake level management plan, which includes a November 1 target lake level of 262.5 feet msl, plus or minus 0.5 feet, was supported by Sebago Lake Marina. The Department further notes that a November 1 lake level of 262.0 feet msl is consistent with historic median levels on that date and that existing recreational boating and commercial marina activities have long accommodated these levels. Sebago Lake Marina is now requesting a substantial reduction in the historic drawdown of the lake (in effect, Sebago Lake Marina is asking that the minimum level of the lake be raised substantially above historic median minimum levels). Such a change in minimum lake levels would, by reducing flow releases, adversely affect downstream water quality, fishing, and power generation, all for marginal benefits to the lake. However, the Department agrees that low lake levels in the early summer can adversely affect recreational boating, especially in the view of the fact that, under normal precipitation conditions, lake levels will drop throughout the course of the summer. Accordingly, Conclusion 1 and Condition 1 of the draft Order have been modified to require that lake levels are managed with the goal of achieving a level of 266.0 feet msl (0.65 feet below spillway crest elevation) between May 1 and June 15 annually, as proposed by Warren. Achieving this goal should ensure that lake levels remain suitable for recreational boating during the balance of the boating season.

- e. Access to Frye Island. The Town of Frye Island comments that the Town depends on the Town of Raymond for fire and emergency medical services that access the island via a ferry from the mainland. The Town of Frye Island states that a minimum lake level of 262 feet msl is needed during the months of April through November in order for the standard fire truck currently being used by the Town of Raymond to be safely loaded and transported to the island on the ferry.¹⁰³

In response, it is the Department's position that public safety issues are not part of the State's water quality review, and that access for fire and other emergency service vehicles to Frye Island is an issue for FERC to address in the relicensing of the project.

The Department notes that, at the time of its adoption, the current lake level management plan, which includes a November 1 target lake level of 262.5 feet msl, plus or minus 0.5 feet, was supported by the Frye Island Corporation, which was the administrative authority for the island and its residents prior to its incorporation as a municipality. The

¹⁰³ The Town of Frye Island is occupied seasonally from the last week of April, weather permitting, until the first Monday of November. The Town of Frye Island was incorporated on July 1, 1998, following its secession from the Town of Standish.

Department also notes that there is no evidence in the record that the Town of Frye Island has objected to lake levels lower than elevation 262 msl since the current plan was adopted in 1997 or that emergency vehicles have been unable to reach the island when needed. Finally, the Department notes that the Town of Frye Island always has the option of stationing a fire truck on the island during its seasonal occupancy.

- f. Water Quality Standards. Douglas Watts contends that the draft Order does not ensure that the project be operated to attain water quality standards because it fails to require that safe and effective passage be provided for all indigenous fish at the Eel Weir Dam, fails to require that the Eel Weir Bypass reach attains Class A standards, fails to require that the waters adjacent to Sebago Lake State Park attain their legal standard as pristine waters of the State, and fails to ensure that Sebago Lake attains Class GPA standards. Mr. Watts contends that the draft Order should be amended to require that S.D Warren manage outflows from Sebago Lake to be as naturally occurs, subject to several exceptions; that all outflows from Sebago Lake be released from the Eel Weir Dam into the bypass, with diversions to the power canal prohibited; and that upstream and downstream fish passage facilities suitable for use by all indigenous species be installed at the Eel Weir dam within two years.

In response, and as explained below, it is the Department's position that Mr. Watts has not presented any persuasive legal arguments that the operation of the Eel Weir Hydropower Project, as conditioned by this certification, will result in a violation of water quality standards.

Maine's water quality standards do not require that fish passage be installed at all dams immediately. The Department notes that the water quality certification for Warren's Presumpscot River Hydro Projects establishes a schedule for the phased installation of fish passage facilities, based on trigger numbers of returning fish, at some, but not all, of Warren's dams on the Presumpscot River, and that this certification has been upheld by the Maine Supreme Judicial Court.

Similarly, Maine's water quality standards do not require that lake levels and stream flows be as naturally occurs in order to attain Class GPA and Class A water quality standards, respectively. Rather, Class GPA and Class A standards are intended to protect and maintain the ecological functions and values of natural conditions for high quality waters. These standards do not require that lake levels and stream flows be unaltered. The Department has issued a number of water quality certifications for hydropower projects in which the Department has approved lake levels for Class GPA waters and flows for Class A rivers that are not as naturally occurs. Examples include the Department's certifications for the continued operation of the Indian Pond Project on the Kennebec River and the Upper and Middle Dams Project on Mooselookmeguntic Lake and Upper and Lower Richardson Lakes.

Mr. Watts' basic argument is that there can be no unnatural fluctuations of the water levels of Class GPA lakes or of the flows of Class A rivers. Taken to its logical

conclusion, this argument would require the remove of all dams at the outlet of Maine lakes, which Mr. Watts admits at one point in his comments, when he states that “[t]he only way in which Sebago [Lake] can be legally ‘managed’ under Class GPA standards is to remove the Eel Weir Dam and allow Sebago Lake to function as it has for the past 10,000 years as a natural glacial lake with a natural, free-flowing outlet.” There is nothing in Maine’s water quality standards that compels such a radical outcome.

- g. Miscellaneous. In response to various comments and additional technical analysis, the Department has made several minor editorial corrections and additions to the draft Order issued on July 26, 2011.

CONCLUSIONS

Based on the above Findings of Fact, and the evidence contained in the application and supporting documents, and subject to the conditions listed below, the Department CONCLUDES that the continued operation of the Eel Weir Hydropower Project, as described above, will result in all waters affected by the project being suitable for all designated uses and meeting all other applicable water quality standards, provided that:

1. Lake levels are managed within a target range between 266.65 feet msl and 262.0 feet msl, with lake levels above or below this range triggering increased or decreased flow releases, respectively, from the project dam, and with the goal of achieving a level of 266.0 feet msl (0.65 feet below spillway crest elevation) between May 1 and June 15 annually, in accordance with the proposed lake level management plan and operating parameters;
2. A total minimum flow of 270 cfs (16,200 cfm) is released from the project at all times, except that a total minimum flow of 408 cfs (24,500 cfm) is released from the project between June 1 and September 30 whenever spillage is required at the downstream Dundee and Gambo Dams, and an instantaneous minimum flow of 75 cfs (4,500 cfm) is released into the bypassed river reach (Eel Weir Bypass) below the project dam at all times, and the occurrence of flow releases greater than 300 cfs (18,000 cfm) into the Eel Weir Bypass is minimized;
3. Flows from the project are capped at 1,000 cfs (60,000 cfm) during the landlocked salmon spawning season from October 16 through November 15 annually;
4. Upstream eel passage facilities are installed and operational at the Eel Weir Project within 2 years following the issuance of a new FERC license for the project;
5. Downstream eel passage facilities are installed and/or operational measures to provide downstream eel passage are implemented at the Eel Weir Project within 2 years following the issuance of a new FERC license for the project;
6. The Department reserves the right to reopen this certification for consideration of requiring the installation of such fish passage facilities as may be deemed necessary to pass

anadromous and/or resident fish species, including but not limited to landlocked Atlantic salmon, upstream and downstream through the project area;

7. The Department reserves the right to reopen this certification for consideration of requiring such modification of the lake level management plan in effect for the project as may be deemed necessary to ensure that the operation of the project does not cause or contribute to any decline in the water quality of Sebago Lake; and
8. A study is conducted to evaluate the options for providing improved public boat access to Sebago Lake, and the Department will reopen this certification to require such improved public boat access as is deemed necessary and appropriate to meet public recreational demand.

DECISION AND ORDER

THEREFORE, the Department APPROVES the application of S.D. WARREN COMPANY and GRANTS certification pursuant to Section 401(a) of the Clean Water Act that there is a reasonable assurance that the continued operation of the EEL WEIR HYDROPOWER PROJECT, as described above, will not violate applicable water quality standards, SUBJECT TO THE FOLLOWING CONDITIONS:

1. WATER LEVELS

- A. Except as temporarily modified by (1) approved maintenance activities or fishway construction, (2) extreme hydrologic conditions, as defined below, (3) emergency electrical system conditions, as defined below, or (4) agreement between the applicant, the Department, and appropriate state and/or federal agencies, lake levels shall be managed within a target range between 266.65 feet msl and 262.0 feet msl, with lake levels above or below this range triggering increased or decreased flow releases, respectively, from the project dam, and with the goal of achieving a level of 266.0 feet msl (0.65 feet below spillway crest elevation) between May 1 and June 15 annually, in accordance with the applicant's lake level management plan and operating parameters for Sebago Lake dated May 26, 2011, as revised June 6, 2011.
- B. "Extreme Hydrologic Conditions" means the occurrence of events beyond the applicant's control such as, but not limited to, abnormal precipitation, extreme runoff, flood conditions, ice conditions or other hydrologic conditions such that the operational restrictions and requirements contained herein are impossible to achieve or are inconsistent with the safe operation of the Project.
- C. "Emergency Electrical System Conditions" means operating emergencies beyond the applicant's control which require changes in flow regimes to eliminate such emergencies which may in some circumstances include, but are not limited to, equipment failure or other temporary abnormal operating conditions, generating unit operation or third-party

mandated interruptions under power supply emergencies, and orders from local, state, or federal law enforcement or public safety authorities.

- D. The applicant shall, within 6 months of issuance of a New License for the project by FERC or upon such other schedule as established by FERC, submit plans for providing and monitoring the impoundment water levels required by Part A of this condition. These plans shall be reviewed by and must receive approval of the Department.

2. MINIMUM FLOWS

- A. Except as temporarily modified by (1) approved maintenance activities or fishway construction, (2) extreme hydrologic conditions, as defined below, (3) emergency electrical system conditions, as defined below, or (4) agreement between the applicant, the Department, and appropriate state and/or federal agencies, a total minimum flow of 270 cfs (16,200 cfm) shall be released from the project at all times, except that a total minimum flow of 408 cfs (24,500 cfm) shall be released from the project between June 1 and September 30 annually whenever spillage is required at the downstream Dundee and Gambo Dams to maintain dissolved oxygen levels in the Presumpscot River.
- B. Except as temporarily modified by (1) approved maintenance activities, (2) extreme hydrologic conditions, as defined below, (3) emergency electrical system conditions, as defined below, or (4) agreement between the applicant, the Department, and appropriate state and/or federal agencies, an instantaneous minimum flow of 75 cfs (4,500 cfm) shall be released into the bypassed river reach (Eel Weir Bypass) below the project dam at all times, and the occurrence of flow releases greater than 300 cfs (18,000 cfm) into the Eel Weir Bypass shall be minimized. The flow released into the Eel Weir Bypass shall be counted as part of the total minimum flow release specified in Part A of this condition.
- C. "Extreme Hydrologic Conditions" means the occurrence of events beyond the applicant's control such as, but not limited to, abnormal precipitation, extreme runoff, flood conditions, ice conditions or other hydrologic conditions such that the operational restrictions and requirements contained herein are impossible to achieve or are inconsistent with the safe operation of the Project.
- D. "Emergency Electrical System Conditions" means operating emergencies beyond the applicant's control which require changes in flow regimes to eliminate such emergencies which may in some circumstances include, but are not limited to, equipment failure or other temporary abnormal operating conditions, generating unit operation or third-party mandated interruptions under power supply emergencies, and orders from local, state, or federal law enforcement or public safety authorities.
- E. The applicant shall, within 6 months of issuance of a New License for the project by FERC or upon such other schedule as may be established by FERC, submit plans for providing and monitoring the minimum flow releases required by Parts A and B of this

condition. These plans shall be reviewed by and must receive approval of the Department.

- F. The applicant shall, in compliance with Condition 6 of the April 30, 2003 water quality certification for the Presumpscot River Hydro Projects, and in accordance with an approved plan, continue to monitor dissolved oxygen levels in the Presumpscot River to determine the effectiveness of the required spillage at the Dundee and Gambo Projects, in combination with the new minimum flow requirement from the Eel Weir Project, as set forth in Part A of this condition, in meeting Class B dissolved oxygen standards in the Presumpscot River above Westbrook. After reviewing the study results, and after notice to the applicant and opportunity for hearing, the Department reserves the right to require such changes in the minimum flow required by this order and/or such other measures as may be deemed necessary to meet Class B dissolved oxygen standards in the Presumpscot River from Dundee Dam to Saccarappa Dam under dry weather conditions.

3. LANDLOCKED SALMON SPAWNING SEASON FLOW CAP

- A. Except as temporarily modified by (1) approved maintenance activities, (2) extreme hydrologic conditions, as defined below, (3) emergency electrical system conditions, as defined below, or (4) agreement between the applicant, the Department, and the Department of Inland Fisheries and Wildlife, flows from the project shall be capped at 1,000 cfs (60,000 cfm) during the landlocked salmon spawning season from October 16 through November 15 annually.
- B. "Extreme Hydrologic Conditions" means the occurrence of events beyond the applicant's control such as, but not limited to, abnormal precipitation, extreme runoff, flood conditions, ice conditions or other hydrologic conditions such that the operational restrictions and requirements contained herein are impossible to achieve or are inconsistent with the safe operation of the Project.
- C. "Emergency Electrical System Conditions" means operating emergencies beyond the applicant's control which require changes in flow regimes to eliminate such emergencies which may in some circumstances include, but are not limited to, equipment failure or other temporary abnormal operating conditions, generating unit operation or third-party mandated interruptions under power supply emergencies, and orders from local, state, or federal law enforcement or public safety authorities.
- D. Upon notification from the Department of Inland Fisheries and Wildlife that there is evidence that project flows are attracting landlocked salmon to the outlet dam during the spawning season, the Department reserves the right, after notice to the applicant and opportunity for hearing, to reopen this certification for consideration of making such changes in the flow cap required by Part A of this condition as may be deemed necessary to protect landlocked salmon during their annual spawning runs.

4. UPSTREAM EEL PASSAGE

- A. Upstream eel passage facilities shall be installed and operational at the Eel Weir Project within 2 years following the issuance of a new FERC license for the project.
- B. The applicant shall, at least 60 days prior to construction or upon such other schedule as established by FERC, submit final design, location, and operational plans for the upstream eel passage facilities required by Part A of this condition, prepared in consultation with the Department of Marine Resources. These plans shall be reviewed by and must receive approval of DEP prior to construction. In reviewing the plans, the DEP will consider the recommendations of DMR.
- C. The applicant shall, in consultation with the Department of Marine Resources, conduct a study or studies to determine the effectiveness of the upstream eel passage facilities required by this condition.
- D. The applicant shall, concurrent with the commencement of facilities operation or upon such other schedule as established by FERC, submit plans for a study or studies to determine the effectiveness of the upstream eel passage facilities required by Part A of this condition, prepared in consultation with the Department of Marine Resources. These plans shall be reviewed by and must receive the approval of DEP prior to implementation. In reviewing the plans, the DEP will consider the recommendations of DMR.
- E. The applicant shall, in accordance with a schedule set forth in the study plan or upon such other schedule as established by FERC, submit the results of the upstream eel passage effectiveness study or studies, along with any recommendations for changes in the design and/or operation of any eel passage facilities installed pursuant to this condition.
- F. The applicant shall be responsible for taking such actions as are needed to effectively pass eels upstream through the project. After reviewing the results of the effectiveness study or studies, and after notice to the applicant and opportunity for hearing, the Department reserves the right to require reasonable changes in the design and/or operation of the upstream eel passage facilities installed pursuant to this condition as may be deemed necessary to effectively pass eels upstream through the project.

5. DOWNSTREAM EEL PASSAGE

- A. Downstream eel passage facilities shall be installed and/or operational measures to provide downstream eel passage shall be implemented at the Eel Weir Project within 2 years following the issuance of a new FERC license for the project.
- B. The applicant shall, at least 60 days prior to construction/implementation or upon such other schedule as established by FERC, submit final design, location, and operational plans for the downstream eel passage facilities and/or operational measures required by

- Part A of this condition, prepared in consultation with the Department of Marine Resources. These plans shall be reviewed by and must receive approval of DEP prior to construction. In reviewing the plans, the DEP will consider the recommendations of DMR.
- C. The applicant shall, in consultation with the Department of Marine Resources, conduct a study or studies to determine the effectiveness of the downstream eel passage facilities and/or operational measures required by this condition.
- D. The applicant shall, concurrent with the installation and/or implementation of downstream eel passage facilities/operational measures or upon such other schedule as established by FERC, submit plans for a study or studies to determine the effectiveness of the downstream eel passage facilities and/or operational measures required by Part A of this condition, prepared in consultation with the Department of Marine Resources. These plans shall be reviewed by and must receive the approval of DEP prior to implementation. In reviewing the plans, the DEP will consider the recommendations of DMR.
- E. The applicant shall, in accordance with a schedule set forth in the study plan or upon such other schedule as established by FERC, submit the results of any downstream eel passage effectiveness study or studies, along with any recommendations for changes in the design and/or operation of any passage facilities installed and/or the operational measures implemented pursuant to this condition.
- F. The applicant shall be responsible for taking such actions as are needed to effectively pass eels downstream through the projects. After reviewing the results of the effectiveness study or studies, and after notice to the applicant and opportunity for hearing, the Department reserves the right to require changes in the design and/or operation of the downstream eel passage facilities installed and/or the operational measures implemented pursuant to this condition as may be deemed necessary to effectively pass eels downstream through the project.
6. ANADROMOUS/RESIDENT SPECIES FISH PASSAGE

Upon notification from the Department of Inland Fisheries and Wildlife and/or the Department of Marine Resources that circumstances or conditions warrant the installation of fish passage facilities at the Eel Weir Dam, the Department reserves the right, after notice to the applicant and opportunity for hearing, to reopen this certification for consideration of requiring the installation of such fish passage facilities as may be deemed necessary to pass anadromous and/or resident fish species, including but not limited to landlocked Atlantic salmon, upstream and downstream through the project area.

7. LAKE WATER QUALITY

Upon any future determination by the Department that the water quality of Sebago Lake is declining and that the operation of the Eel Weir Project, as approved by this certification and as conditioned by the new FERC license for the project, may be causing or contributing to this decline in water quality, the Department reserves the right, after notice to the applicant and opportunity for hearing, to reopen this certification for consideration of requiring such modification of the lake level management plan in effect for the project as may be deemed necessary to ensure that the operation of the project does not cause or contribute to any decline in the water quality of Sebago Lake.

8. PUBLIC BOAT ACCESS

- A. The applicant shall provide improved public boat access to Sebago Lake.
- B. The applicant shall, in consultation with the Department of Inland Fisheries and Wildlife, conduct a study to evaluate the options for providing improved public boat access to Sebago Lake.
- C. The applicant shall, within 1 year following the issuance of a new FERC license for the project, or upon such other schedule as established by FERC, submit a study report evaluating the options for providing improved public boat access to Sebago Lake, including any necessary parking facilities, along with any proposal(s) for providing such access. This report shall include comments and recommendations from the Department of Inland Fisheries and Wildlife for improving public boat access to the lake.
- D. After reviewing the report on public boat access, and after notice to the applicant and the Department of Inland Fisheries and Wildlife, and after opportunity for hearing, the Department will reopen this certification to require such improved public boat access to Sebago Lake as is deemed necessary and appropriate to meet public recreational demand.

9. LIMITS OF APPROVAL

This approval is limited to and includes the proposals and plans contained in the application and supporting documents submitted and affirmed to by the applicant. Any variations from the plans and proposals contained in said documents are subject to the review and approval of the Department prior to implementation.

10. COMPLIANCE WITH ALL APPLICABLE LAWS

The applicant shall secure and appropriately comply with all applicable federal, state and local licenses, permits, authorizations, conditions, agreements and orders required for the operation of the project, in accordance with the terms of this certification.

S.D. WARREN COMPANY
EEL WEIR HYDROPOWER PROJECT
#L-19937-33-J-N (Approval)

FINAL

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11. EFFECTIVE DATE

This water quality certification shall be effective concurrent with the effective date of the new license issued for the project by the Federal Energy Regulatory Commission.

12. SEVERABILITY

In the event that any provision, or part thereof, of this certification is declared to be unlawful by a reviewing court, the remainder of the certification shall remain in full force and effect, and shall be construed and enforced in all respects as if such unlawful provision, or part thereof, had been omitted, unless otherwise ordered by the court.

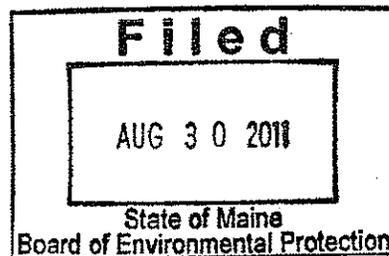
DONE AND DATED AT AUGUSTA, MAINE, THIS 30th DAY OF August, 2011.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: 
Patricia W. Aho, Acting Commissioner

PLEASE SEE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Initial application for water quality certification filed March 19, 2002. Application subsequently withdrawn and refiled February 21, 2003; February 18, 2004; February 16, 2005; February 14, 2006; February 8, 2007; February 4, 2008; January 30, 2009; January 25, 2010; and January 25, 2011.



Date Filed with Board of Environmental Protection: _____

This Order Prepared by Dana Murch, Bureau of Land and Water Quality.

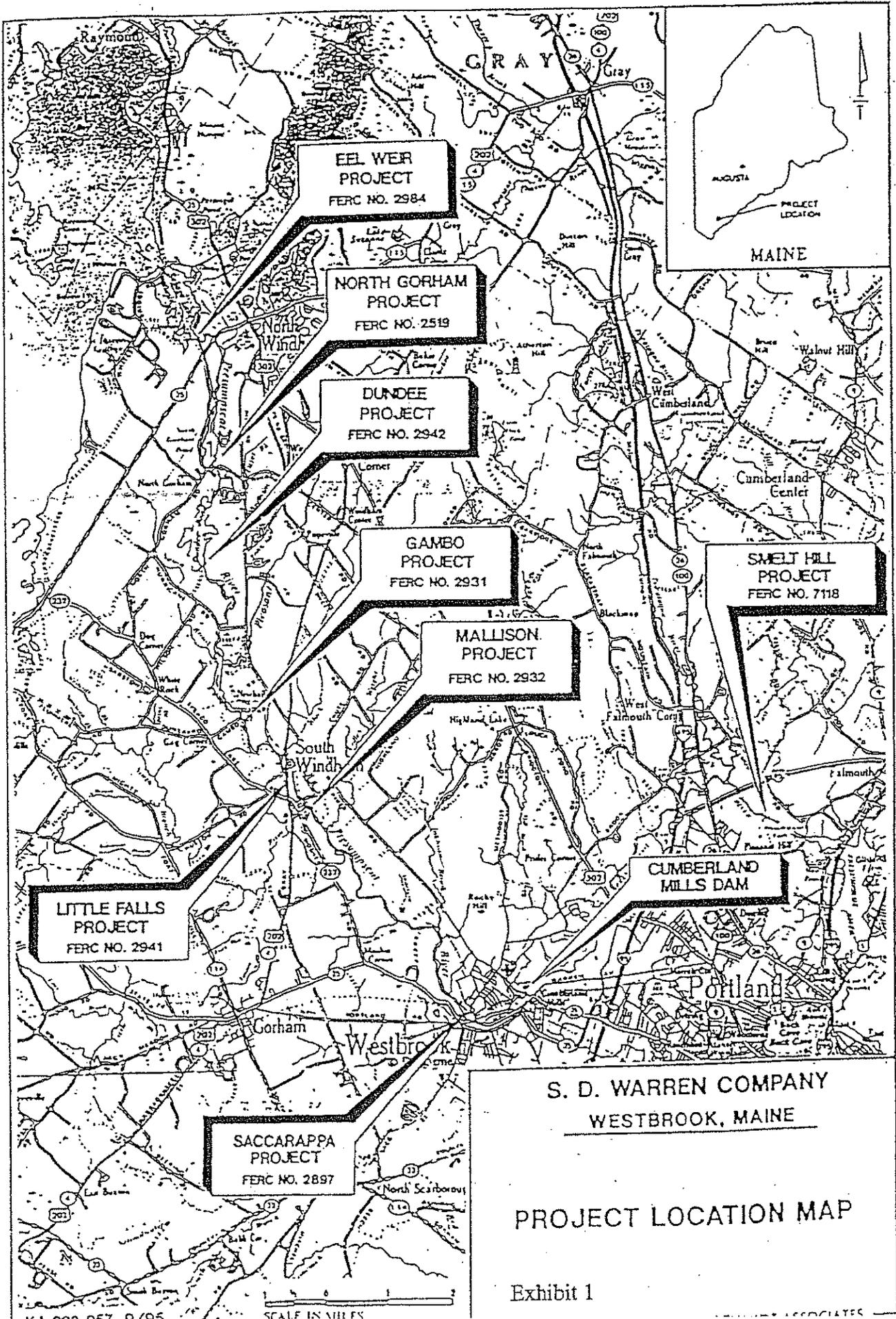
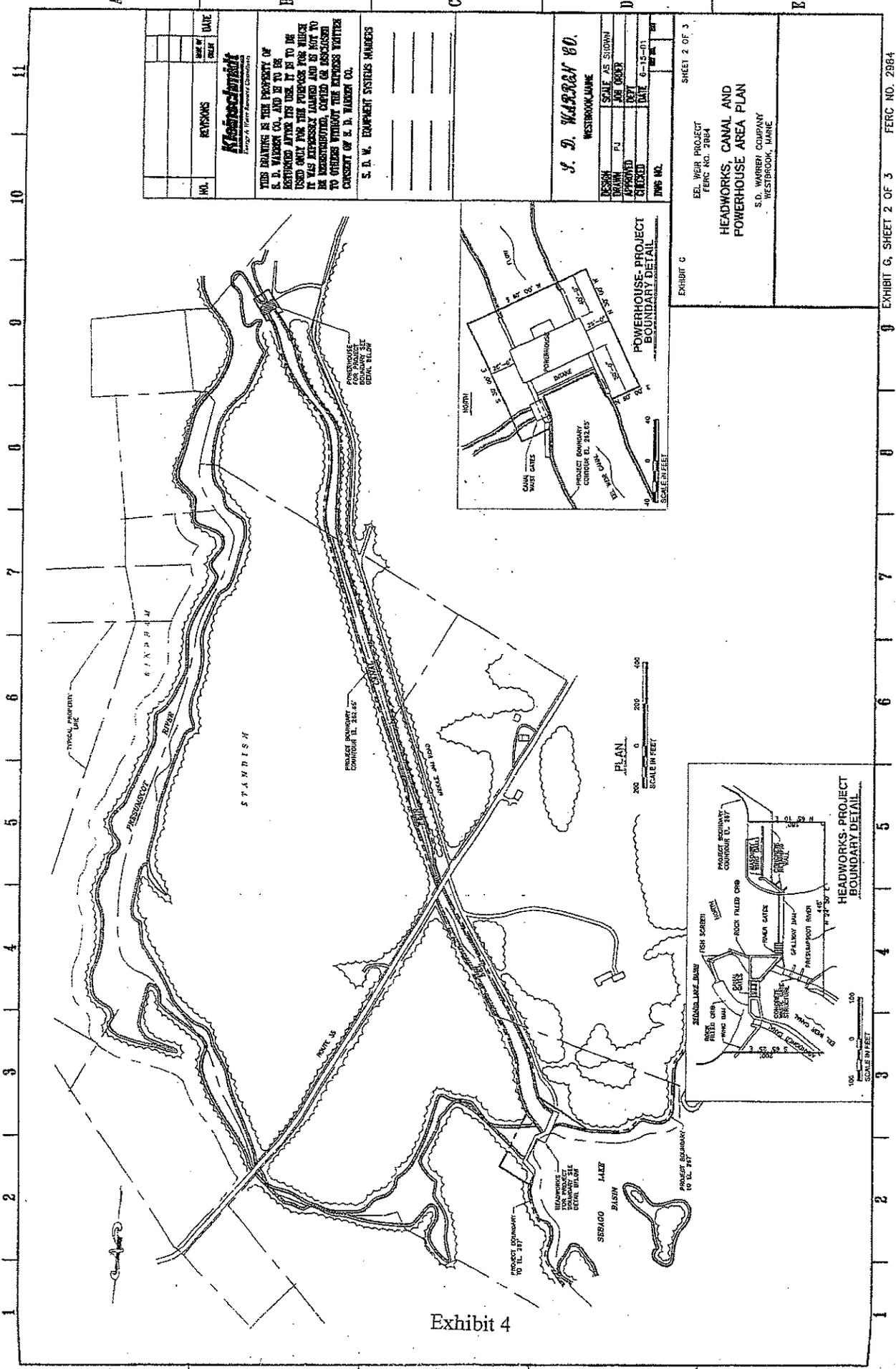


Exhibit 1



NO.	REVISIONS	DATE

Kleinschmidt
 Engineers & Surveyors
 1000 W. Main Street
 Westborough, Massachusetts

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S. D. W. EQUIPMENT SYSTEMS DIVISION

J. D. WARREN '80.
 WESTBOROUGH, MASS.

DESIGN SCALE AS SHOWN
 DRAWN BY OOKER
 APPROVED BY [Signature]
 CHECKED BY [Signature]
 DATE 6-15-81

EXHIBIT C
 EEL WEIR PROJECT
 FERC NO. 2984
HEADWORKS, CANAL AND POWERHOUSE AREA PLAN
 S. D. WARREN COMPANY
 WESTBOROUGH, MASS.

SHEET 2 OF 3

Exhibit 4

EXHIBIT G, SHEET 2 OF 3 FERC NO. 2984



DEP INFORMATION SHEET

Appealing a Commissioner's Licensing Decision

Dated: May 2004

Contact: (207) 287-2811

SUMMARY

There are two methods available to an aggrieved person seeking to appeal a licensing decision made by the Department of Environmental Protection's (DEP) Commissioner: (1) in an administrative process before the Board of Environmental Protection (Board); or (2) in a judicial process before Maine's Superior Court. This INFORMATION SHEET, in conjunction with consulting statutory and regulatory provisions referred to herein, can help aggrieved persons with understanding their rights and obligations in filing an administrative or judicial appeal.

I. ADMINISTRATIVE APPEALS TO THE BOARD

LEGAL REFERENCES

DEP's *General Laws*, 38 M.R.S.A. § 341-D(4), and its *Rules Concerning the Processing of Applications and Other Administrative Matters* (Chapter 2), 06-096 CMR 2.24 (April 1, 2003).

HOW LONG YOU HAVE TO SUBMIT AN APPEAL TO THE BOARD

The Board must receive a written notice of appeal within 30 calendar days of the date on which the Commissioner's decision was filed with the Board. Appeals filed after 30 calendar days will be rejected.

HOW TO SUBMIT AN APPEAL TO THE BOARD

Signed original appeal documents must be sent to: Chair, Board of Environmental Protection, c/o Department of Environmental Protection, 17 State House Station, Augusta, ME 04333-0017; faxes are acceptable for purposes of meeting the deadline when followed by receipt of mailed original documents within five (5) working days. Receipt on a particular day must be by 5:00 PM at DEP's offices in Augusta; materials received after 5:00 PM are not considered received until the following day. The person appealing a licensing decision must also send the DEP's Commissioner and the applicant a copy of the documents. All the information listed in the next section must be submitted at the time the appeal is filed. Only the extraordinary circumstances described at the end of that section will justify evidence not in the DEP's record at the time of decision being added to the record for consideration by the Board as part of an appeal.

WHAT YOUR APPEAL PAPERWORK MUST CONTAIN

The materials constituting an appeal must contain the following information at the time submitted:

1. *Aggrieved Status.* Standing to maintain an appeal requires the appellant to show they are particularly injured by the Commissioner's decision.
2. *The findings, conclusions or conditions objected to or believed to be in error.* Specific references and facts regarding the appellant's issues with the decision must be provided in the notice of appeal.
3. *The basis of the objections or challenge.* If possible, specific regulations, statutes or other facts should be referenced. This may include citing omissions of relevant requirements, and errors believed to have been made in interpretations, conclusions, and relevant requirements.
4. *The remedy sought.* This can range from reversal of the Commissioner's decision on the license or permit to changes in specific permit conditions.

5. *All the matters to be contested.* The Board will limit its consideration to those arguments specifically raised in the written notice of appeal.
6. *Request for hearing.* The Board will hear presentations on appeals at its regularly scheduled meetings, unless a public hearing is requested and granted. A request for public hearing on an appeal must be filed as part of the notice of appeal.
7. *New or additional evidence to be offered.* The Board may allow new or additional evidence as part of an appeal only when the person seeking to add information to the record can show due diligence in bringing the evidence to the DEP's attention at the earliest possible time in the licensing process or show that the evidence itself is newly discovered and could not have been presented earlier in the process. Specific requirements for additional evidence are found in Chapter 2, Section 24(B)(5).

OTHER CONSIDERATIONS IN APPEALING A DECISION TO THE BOARD

1. *Be familiar with all relevant material in the DEP record.* A license file is public information made easily accessible by DEP. Upon request, the DEP will make the material available during normal working hours, provide space to review the file, and provide opportunity for photocopying materials. There is a charge for copies or copying services.
2. *Be familiar with the regulations and laws under which the application was processed, and the procedural rules governing your appeal.* DEP staff will provide this information on request and answer questions regarding applicable requirements.
3. *The filing of an appeal does not operate as a stay to any decision.* An applicant proceeding with a project pending the outcome of an appeal runs the risk of the decision being reversed or modified as a result of the appeal.

WHAT TO EXPECT ONCE YOU FILE A TIMELY APPEAL WITH THE BOARD

The Board will formally acknowledge initiation of the appeals procedure, including the name of the DEP project manager assigned to the specific appeal, within 15 days of receiving a timely filing. The notice of appeal, all materials accepted by the Board Chair as additional evidence, and any materials submitted in response to the appeal will be sent to Board members along with a briefing and recommendation from DEP staff. Parties filing appeals and interested persons are notified in advance of the final date set for Board consideration of an appeal or request for public hearing. With or without holding a public hearing, the Board may affirm, amend, or reverse a Commissioner decision. The Board will notify parties to an appeal and interested persons of its decision.

II. APPEALS TO MAINE SUPERIOR COURT

Maine law allows aggrieved persons to appeal final Commissioner licensing decisions to Maine's Superior Court, see 38 M.R.S.A. § 346(1); 06-096 CMR 2.26; 5 M.R.S.A. § 11001; & MRCivP 80C. Parties to the licensing decision must file a petition for review within 30 days after receipt of notice of the Commissioner's written decision. A petition for review by any other person aggrieved must be filed within 40-days from the date the written decision is rendered. The laws cited in this paragraph and other legal procedures govern the contents and processing of a Superior Court appeal.

ADDITIONAL INFORMATION

If you have questions or need additional information on the appeal process, contact the DEP's Director of Procedures and Enforcement at (207) 287-2811.

Note: The DEP provides this INFORMATION SHEET for general guidance only; it is not intended for use as a legal reference. Maine law governs an appellant's rights.
