UNITED STATES DISTRICT COURT
DISTRICT OF MAINE

FRIENDS OF MERRYMEETING BAY and ENVIRONMENT MAINE,	)	
Plaintiffs,	)	Docket no. 1:11-cv-00035-GZS
v.	)	
HYDRO KENNEBEC, LLC and BROOKFIELD POWER US ASSET MANAGEMENT, LLC, et al.	)	
Defendants.	)	

ORDER ON CROSS MOTIONS FOR SUMMARY JUDGMENT

Before the Court are the cross-motions for summary judgment and the supplemental memoranda filed in support of those motions filed by Plaintiffs Friends of Merrymeeting Bay and Environment Maine (together, the "Plaintiffs") and Defendants Hydro Kennebec, LLC, Brookfield Power US Asset Management, LLC, Merimil Limited Partnership, FPL Energy Maine Hydro, LLC (now Brookfield White Pine Hydro LLC), and Brookfield Renewable Services Maine LLC, (together, the "Defendants[1]"). For the reasons explained herein, the Court GRANTS Defendants' Motion for Summary Judgment as supplemented by their Supplemental Memorandum of Law In Support of Motion for Summary Judgment (ECF No. 164) ("Dfs.' Mot. for Summary J.") and

[1] The Court uses the term "Defendants" to include collectively Hydro Kennebec, LLC, Brookfield Power US Asset Management, LLC, Merimil Limited Partnership, FPL Energy Maine Hydro, LLC (now known as Brookfield White Pine Hydro LLC), Brookfield Renewable Services Maine, LLC and any predecessors in interest, and "Defendants" will be used broadly to refer to the relevant party involved with each specific dam unless otherwise specified. (See Assented to Mot. to Substitute Brookfield Renewable Services Maine, LLC, as a Def. (ECF No. 157 in Friends of Merrymeeting Bay, et al. v. NextEra Energy Resources, LLC, et al., 2:11-cv-00038-GZS) (discussing that on March 1, 2013 Defendants NextEra Energy Resources, LLC and NextEra Energy Maine Operating Services, LLC transferred their interest in FPL Energy Maine Hydro LLC and Merimil Limited Partnership (which continue to own the dams at issue in that case and hold the Federal Energy Regulatory Commission licenses to operate them) to an affiliate of Brookfield Renewable Services Maine, LLC).)

DENIES Plaintiffs' Motion for Summary Judgment as supplemented by their Supplemental Memorandum in Support of Plaintiffs in the Parties' Cross-Motions for Summary Judgment (ECF No. 162) ("Pls.' Mot. for Summary J.").

I. LEGAL STANDARD

Generally, a party is entitled to summary judgment if, on the record before the Court, it appears "that there is no genuine issue as to any material fact and that the moving party is entitled to judgment as a matter of law." Fed. R. Civ. P. 56(c)(2). "[T]he mere existence of *some* alleged factual dispute between the parties will not defeat an otherwise properly supported motion for summary judgment; the requirement is that there be no *genuine* issue of *material* fact." Anderson v. Liberty Lobby, Inc., 477 U.S. 242, 247-48 (1986). An issue is "genuine" if "the evidence is such that a reasonable jury could return a verdict for the nonmoving party." Id. at 248. A "material fact" is one that has "the potential to affect the outcome of the suit under the applicable law." Nereida–Gonzalez v. Tirado–Delgado, 990 F.2d 701, 703 (1st Cir. 1993) (citing Anderson, 477 U.S. at 248) (additional citation omitted).

The party moving for summary judgment must demonstrate an absence of evidence to support the nonmoving party's case. Celotex Corp. v. Catrett, 477 U.S. 317, 325 (1986). In determining whether this burden is met, the Court must view the record in the light most favorable to the nonmoving party and give that party the benefit of all reasonable inferences in its favor. Santoni v. Potter, 369 F.3d 594, 598 (1st Cir. 2004).

Once the moving party has made this preliminary showing, the nonmoving party must "produce specific facts, in suitable evidentiary form, to establish the presence of a trialworthy issue." Triangle Trading Co. v. Robroy Indus., Inc., 200 F.3d 1, 2 (1st Cir. 1999) (citation and internal punctuation omitted); see also Fed. R. Civ. P. 56(e). "Mere allegations, or conjecture

unsupported in the record, are insufficient." Barros-Villahermosa v. United States, 642 F.3d 56, 58 (1st Cir. 2011) (quoting Rivera–Marcano v. Normeat Royal Dane Quality A/S, 998 F.2d 34, 37 (1st Cir. 1993)); see also Wilson v. Moulison N. Corp., 639 F.3d 1, 6 (1st Cir. 2011) ("A properly supported summary judgment motion cannot be defeated by conclusory allegations, improbable inferences, periphrastic circumlocutions, or rank speculation." (citations omitted)). "As to any essential factual element of its claim on which the nonmovant would bear the burden of proof at trial, its failure to come forward with sufficient evidence to generate a trialworthy issue warrants summary judgment to the moving party." In re Spigel, 260 F.3d 27, 31 (1st Cir. 2001) (quoting In re Ralar Distribs., Inc., 4 F.3d 62, 67 (1st Cir. 1993)).

The above-described "standard is not affected by the presence of cross-motions for summary judgment." Alliance of Auto. Mfrs. v. Gwadosky, 430 F.3d 30, 34 (1st Cir. 2005) (citation omitted). "[T]he court must mull each motion separately, drawing inferences against each movant in turn." Cochran v. Quest Software, Inc., 328 F.3d 1, 6 (1st Cir. 2003) (citation omitted); see also Alliance of Auto. Mfrs., 430 F.3d at 34 ("[L]ike the district court, we must scrutinize the record in the light most favorable to the summary judgment loser and draw all reasonable inferences therefrom to that party's behoof.").

II. BACKGROUND

The Court presumes familiarity with the lengthy litigation and background of these consolidated cases. Accordingly, the Court discusses only those facts that are pertinent to the Motions currently before the Court.

A. Water Quality Certifications

The Lockwood, Hydro Kennebec, Shawmut and Weston Projects are four hydroelectric projects, or dams, located on the mainstem Kennebec River. The Lockwood Project is the first

hydroelectric project upstream of Merrymeeting Bay on the Kennebec River. The Hydro Kennebec, Shawmut and Weston Projects are dams located upstream of the Lockwood Project on the Kennebec River. Each of these Projects operates subject to the terms and conditions of a water quality certification issued by the State of Maine pursuant to Section 401 of the CWA, 33 U.S.C. §1341. (Joint Stipulated Facts for Summary Judgment (LSW ECF No. 85) ("LSW JSF") ¶ 193; Stipulations of Fact (HK ECF No. 95) ("HK JSF") ¶ 131.[2]) The water quality certifications for each project are included in the projects' Federal Energy Regulatory Commission ("FERC") licenses. Among the requirements of each Project's water quality certification is the following provision:

> INTERIM DOWNSTREAM FISH PASSAGE: The applicant shall continue and where needed improve existing operational measures to diminish entrainment, allow downstream passage, and eliminate significant injury to out-migrating anadromous fish in accordance with the terms of the KHDG Settlement Agreement.

(LSW JSF ¶ 195; HK JSF ¶ 132 (emphasis added).) The KHDG Settlement Agreement (the "Settlement Agreement") provides:

> To the extent that licensee desires to achieve or continue interim downstream passage of out-migrating alewife, and /or juvenile Atlantic salmon or shad by means of passage through turbine(s), licensee must demonstrate, through site-specific qualitative studies designed and conducted in consultation with the resource agencies, that passage through turbine(s) will not result in significant injury and/or mortality (immediate and delayed). In the event that adult shad and/or adult Atlantic salmon begin to inhabit the impoundment above the … project, and to the extent that licensee desires to achieve interim downstream passage of out-migrating adult Atlantic salmon and/or adult shad by means of passage through turbine(s), licensee must first demonstrate through site-specific quantitative studies designed

[2] On September 10, 2014, Defendants filed their Unopposed Motion to Consolidate. (ECF No. 158) Through the Motion to Consolidate, Defendants moved to consolidate this case, Friends of Merrymeeting Bay, et al. v. Hydro Kennebec, LLC, et al., 1:11-cv-00035-GZS, with Friends of Merrymeeting Bay, et al., v. Merimil Limited Partnership, et al., 2:11-cv-00038-GZS. The actions had been previously consolidated on appeal and were addressed by the First Circuit Court of Appeals in a single Opinion, Friends of Merrymeeting Bay v. Hydro Kennebec, LLC, 759 F.3d 30 (1st Cir. 2014). The Court granted that Motion to Consolidate on September 11, 2014. (ECF No. 159.) Accordingly, throughout this Order, the Court will reference documents from both of the consolidated cases. Documents that are from Friends of Merrymeeting Bay, et al. v. Hydro Kennebec, LLC, et al., 1:11-cv-00035-GZS, will be referenced by "HK ECF No." Documents that are from Friends of Merrymeeting Bay, et al., v. Merimil Limited Partnership, et al., 2:11-cv-00038-GZS, will be referenced by "LSW ECF No."

> and conducted in consultation with the resource agencies [*i.e.*, the Services, MDMR, Maine Department Inland Fisheries and Wildlife, and Maine Atlantic Salmon Authority], that passage through turbine(s) will not result in significant injury and/or mortality (immediate or delayed). In no event shall licensee be required to make this quantitative demonstration for adult shad and adult Atlantic salmon before May 1, 2006.

(HK JSF ¶ 196; see also LSW JSF ¶ 134.) As discussed below, this litigation turns on what Defendants "desire" in regard to downstream fish passage at each project.

B. The Lockwood Project

Downstream migrating salmon and shad can pass the hydro electric projects, including the Lockwood Project, by three basic means: through the turbines, through the fish bypass and via spill. (LSW JSF ¶ 90.) Indeed, Defendants testified at a 2007 hearing that "[t]here are a number of existing downstream passages for eels and anadromous fish at the Kennebec River Projects and these include gates, spillways and turbine passage." (Id. ¶ 198; see also id. ¶ 199 (stating that "[c]urrently fish are passed downstream at Weston, Shawmut and Lockwood projects via existing gates, sluices, spillways and turbines").)

The Lockwood Project has seven turbines, and each of the turbine intakes is screened by a trash rack with vertical bars. (Id. ¶ 92.) The trash racks screening the intakes at Units 1-6 have a space of 2.0 inches between the bars; the trash rack screening the intakes at Unit 7 has a space of 3.5 inches between the bars. (Id. ¶ 95.) In general, downstream migrating kelts in the Kennebec River are too large to fit through a 2-inch trash rack spacing, but most could physically fit through a 3.5-inch spacing. (Id. ¶ 96.)

In 2005, Defendants began working with the signatory agencies to the Settlement Agreement and FERC regarding a draft plan for interim downstream fish passage at the Lockwood

Project.[3] (Defs.' Supplemental Statement of Undisputed Material Fact (HK ECF No. 165) ("BFSF") ¶ 23; Pls.' Opp'n to Defs.' Supplemental Statement of Undisputed Material Facts (HK ECF No. 167) ("Pls.' Opp'n to BFSF") ¶ 23.) On March 3, 2006, MDEP wrote to Defendants and indicated that MDEP, in accordance with the August 26, 2004 water quality certification, had reviewed and approved of an interim downstream fish passage effectiveness study plan.[4] (BFSF ¶¶ 2, 3; Pls.' Opp'n to BFSF ¶¶ 2, 3 (03/03/06 Letter from Dana Paul Murch of MDEP to Chad Clark (LSW ECF No. 83-8).) In addition, the FPL Energy Maine Hydro LLC Fish Passage Report for 2006 reflects that Defendants submitted a downstream fish passage study plan for Lockwood to FERC in September 2005 and that the study plan was approved by FERC in March 2006. (BFSF ¶ 3 (FPL Energy Maine Hydro LLC Fish Passage Report for 2006 (HK ECF No. 81-2) at Page ID # 1292).)

In late fall and early winter of 2007, Defendants conducted a study of adult salmon passage at the Lockwood Project using radio telemetry. (BFSF ¶ 24.) The study revealed that 11 of 15 fish that passed through Units 1 to 6 had immediate survival, while 7 of 10 fish that passed through Unit 7 had immediate survival. (Pls.' Supp. Statement of Undisputed Material Facts (HK ECF No. 163) ¶ 3.) It was difficult to extrapolate from the study, however, because it used smaller hatchery-raised salmon and involved a limited number of fish. (BFSF ¶ 24.) In addition, the study was done before any diversionary facilities were installed at Lockwood. (Id.)

[3] The following government agencies are referred to throughout this case: the Federal Energy Regulatory Commission ("FERC"), U.S. Fish and Wildlife Services ("USFWS" or "FWS"), National Marine Fisheries Service ("NMFS" or "NOAA"), Maine Department of Marine Resources ("MDMR"), Maine Department of Environmental Protection ("MDEP") and Maine Board of Environmental Protection ("MDEP").

[4] The letter further indicated that design and operational plans for permanent downstream fish passage facilities had to be prepared in consultation with state and federal fisheries agencies and had to be filed with MDEP for review and approval prior to construction. (BFSF ¶¶ 2, 3; Pls.' Opp'n to BFSF ¶¶ 2, 3 (03/03/06 Letter from Dana Paul Murch of MDEP to Chad Clark (LSW ECF No. 83-8).)

In late summer of 2009, Defendants installed a downstream fish bypass facility at Lockwood in order to allow fish to bypass the turbines. (BFSF ¶ 25; LSW JSF ¶ 200.) The maximum flow rate to the bypass is approximately 6% of that to the turbines. (LSW JSF ¶¶ 94, 98.) At that time, Defendants also installed a 300-foot long floating guidance boom (called a "Slickbar" boom) in the project's forebay upstream of the turbines.[5] (LSW JSF ¶ 200.) Robert Richter testified that the function of the downstream bypass at Lockwood and the reason that it was installed was to have migrating fish bypass the turbines in a safe manner. (BFSF ¶ 13 (Deposition of Robert Richter (ECF No. 82-4) ("Richter Dep.") 56:6-16).) The installation of the guidance boom was approved by NMFS, USFWS, and MDMR as part of a general practice to collaborate with those agencies on fish passage design. (BFSF ¶ 2; Pls.' Opp'n to BFSF ¶ 2 (Richter Dep. 157:10-19; 158:7-15).)

After installation of the diversion facilities at the Lockwood Project, during the "shakedown" period, Defendants evaluated the operation of the Slickbar boom. (BFSF ¶ 27.) The Slickbar Boom at Lockwood had problems with "overtopping," which occurs when high river flows caused the floats on the top of the boom to be pulled down below the water's surface, providing an opportunity for fish to pass over the boom. (LSW JSF ¶ 202.) The Slickbar boom also had problems with the curtain ripping, which could create holes large enough for the salmon to swim through the curtain. (Id. ¶ 203.) During the shakedown period, Defendants identified the need for and made modifications, including additional flotation and upstream facing tether lines securing the boom and removing some of the unwanted billowing in the curtain. (BFSF ¶¶ 27, 28;

[5] The Slickbar boom at Lockwood included a 10-foot deep curtain: the top four feet were made of impervious rubber and the bottom six feet were made of synthetic fiber netting. (LSW JSF ¶ 200.) The downstream bypass and boom cost approximately $375,000 to install. (BFSF ¶ 25.)

Pls.' Opp'n to BFSF ¶ 28.) On certain occasions, the Slickbar boom and curtain were removed from the Lockwood forebay to allow for repair. (LSW JSF ¶ 204.)

In May 2010, Defendants replaced the Slickbar boom with a Tuffboom to address the issues presented by the prior boom, including overtopping and ripping, and to guide fish towards the bypass and away from the turbines.[6] (BFSF ¶¶ 29, 31; Pls.' Opp'n to BFSF ¶ 31; LSW JSF ¶ 201.) The Tuffboom was more buoyant and rugged and was designed to be deployed year-round. (BFSF ¶¶ 29, 32.) Modifications were made to the Lockwood Tuffboom in June 2010 to increase buoyancy, strength and add new screening.[7] (Id. ¶ 32.) Around the same time, Defendants added a new surface sluice gate.[8] (Id. ¶ 30.)

Problems arose with the Tuffboom. (BFSF ¶ 29; Pls.' Opp'n to BFSF ¶ 29; LSW JSF ¶ 209-12.) Specifically, in March 2011, the attachment point between the Tuffboom and the downstream bypass at Lockwood broke loose, and was not reattached until sometime in April, after the downstream bypass had been opened for the early part of the migration season. (LSW JSF ¶ 208.) In late April 2011, the Tuffboom was found to be tilting in such a way as to potentially impair its proper functioning. (Id. ¶ 209.) In early June 2011, Defendants discovered that a weighting chain on the bottom of the Tuffboom had ripped free of the curtain, which may have diminished the effectiveness of the screening by the boom, and sent divers to repair it. (LSW JSF ¶ 210; BFSF ¶ 33.) In April or June 2011, Defendants noticed that the trash rack bars covering the

[6] The Lockwood Tuffboom cost approximately $150,000. (BFSF ¶ 31; Pls.' Opp'n to BFSF ¶ 31.) The Tuffboom includes a 10-foot deep curtain: the top four feet are made of perforated metal plate and the bottom six feet are made of synthetic fiber netting. (LSW JSF ¶ 206.)

[7] The original floats were replaced with "Tuff Boom" brand flotation with attached four feet deep, 5/16 metal punch plate panels and six foot deep, 5/16 netting attached to the punch plate. (BFSF ¶ 32.)

[8] The new surface sluice gate at Lockwood included three orifices along the spillway to pass an additional 50cfs minimum flow for protection of downstream fisheries and for potentially providing downstream passage even when there is no spill over the spillway at the facility. (BFSF ¶ 30.)

bypass sluice were rattling and vibrating in a way that could deter fish from using the bypass, and Defendants inserted wedges. (LSW JSF ¶ 211; BFSF ¶ 33.)

In May and June of 2011, a radio telemetry study was performed at Lockwood to determine the effectiveness of the Tuffboom at guiding salmon smolts to the bypass. (LSW JSF ¶ 213.) Based on the results of the study, Defendants and their consultants predicted that during median flow conditions in the Kennebec River during kelt migration periods, 38.7% of downstream migrating kelts pass Lockwood via spill, 11.5% pass via bypass and 49.8% pass via the turbine. (Id. ¶ 221.) Also based on the study, Defendants and their consultants predicted that, of those kelts passing Lockwood through the forebay powerhouse, 81.8% attempt to pass via the turbines. (Id. ¶ 222.)

After examining the results of the radio telemetry study, NMFS stated: "Overall, the downstream bypass system was not effective at passing smolts. The majority of smolts entering the power canal passed via turbine entrainment. Atlantic salmon passage via turbine entrainment would have greater impacts to the species than a highly effective, well-designed and functioning downstream fish bypass system." (LSW JSF ¶ 217.) NMFS further stated:

> We understand that the [Defendants] plan[] several modifications to the existing downstream bypass in an attempt to increase its[] effectiveness. We are not confident that the proposed modifications will significantly improve effectiveness of the downstream bypass or reduce turbine entrainment. Based upon the results of studies evaluating the effectiveness of floating booms at the Lockwood and Hydro-Project in the Kennebec River, NMFS questions whether this technology can be an effective behavioral guidance for migratory fish species. Given this, the Licensee may want to consider physical exclusion at the site. Physical exclusion has been proven effective at significantly reducing turbine entrainment of Atlantic salmon and other diadromous fish species.

(Id. ¶ 218.) In addition, after reviewing the results of the radio telemetry study, a MDMR biologist stated in December 2011:

> [M]DMR is disappointed with the poor utilization of downstream bypass facility. . . . Based on juvenile Atlantic salmon assessments undertaken at upriver nursery areas in 2010 and 2011, [M]DMR expects the largest smolt cohort to date to migrate downstream in the spring of 2012. NextEra needs to consider measures to ensure safe, timely and effective downstream passage of smolts in light of poor guidance and bypass utilization observed in 2011.

(Id. ¶ 219.)

In early 2012, Defendants began planning a complete overhaul of the Lockwood Tuffboom to create a stronger attachment appoint, to further improve flotation and to replace the netting with a metal punch plate, at a cost of approximately $125,000. (BFSF ¶ 34.) Finally, Defendants have not shut down the turbines at the Lockwood Project to provide for alternative adult salmon or shad passage. (LSW JSF ¶ 224.)

C. The Shawmut Project

In March 2007, Defendants testified that "[t]here are a number of existing downstream passages for eels and anadromous fish at the Kennebec River Projects and these include gates, spillways and turbine passage." (LSW JSF ¶ 198.) The Shawmut Project has eight generating units. (Id. ¶ 100.) Each of the unit intakes is screened by a trash rack with vertical bars. (Id.¶ 103.) The trash racks screening intakes at Units 1-6 have a space of 1.5 inches between the bars; the trash racks screening the intakes at Units 7-8 have a space of 3.5 inches between the bars. (Id. ¶ 103.) In general, downstream migrating kelts in the Kennebec are too large to fit through a 1.5-inch trash rack spacing, but most could physically fit through a 3.5 inch spacing. (Id. ¶ 104.)

As of May 1, 2012, the downstream fish bypass facility at the Shawmut Project included a four foot wide by 22 inch deep surface sluice in the project's forebay that discharges into a three-foot deep plunge pool. (LSW JSF ¶105; BFSF ¶ 35; Pls.' Opp'n to BFSF ¶ 35.) The bypass at Shawmut was originally designed for debris but now provides a route for downstream migrating fish other than the turbines. (BFSF ¶ 35; Pls.' Opp'n to BFSF ¶ 35; LSW JSF ¶ 234.) The flow

rate through the bypass at the Shawmut Project is less than 1% of that through the turbines. (LSW JSF ¶¶ 102, 106.) There is no boom in place at Shawmut to help guide downstream migrating salmon to the bypass. (Id. ¶ 234.)

In 2009, Defendants' engineers and operations personnel began to study options to address major debris issues as well as downstream fish passage. (BFSF ¶ 36; Pls.' Opp'n to BFSF ¶ 36). A team of consultants was hired to design the new facility. (BFSF ¶ 36.) In 2011, Defendants developed plans to use full-depth one-inch angled trashracks and a new surface sluice and flume, all to be designed in consultation with and approved by the resource agencies. (Id. ¶ 37.) Defendants were scheduled to complete the design consultation and permitting for this installation in the fall of 2011 and to complete installation in 2012, but Defendants, on recommendation from NMFS, decided not to proceed in order to prevent the Shawmut Project from being placed on a different process for an incidental take statement from the other dams owned by Defendants. (BFSF ¶ 37; Pls.' Opp'n to BFSF ¶ 37.)

An analysis by Defendants and their consultants predicted that based on the relative flows of water passing through the bypass and turbines at the Shawmut Project during median flow conditions during kelt migration periods, 29.6% of downstream migrating kelts pass Shawmut via spill, 1% pass via the bypass, and roughly 70% pass via the turbines. (LSW JSF ¶ 235.) The same analysis predicted that, of the kelts entering the forebay and powerhouse, more than 99% may attempt to pass through the turbines. (Id. ¶ 236.) Defendants have not shut down the turbines at the Shawmut Project to provide for alternative salmon passage. (Id. ¶237.)

D. The Weston Project

In March 2007, Defendants testified that fish pass downstream at the Weston Project via existing gates, sluices, spillways and turbines. (LSW JSF ¶¶ 198, 199.) The Weston Project has

four turbines. (Id. ¶ 108.) Each of the turbine intakes is screened by a trash rack with vertical bars with a space of four inches between the bars, and nearly all downstream migrating kelts in the Kennebec could fit through the bars at the Weston Project. (Id. ¶¶ 111, 112.) To date, Defendants have not shut down the turbines at the Weston Project to provide for alternative adult salmon passage. (Id. ¶ 233.)

The downstream fish bypass facility at the Weston Project includes an 18 foot wide by 14 foot deep surface sluice. (Id.¶ 113.) As of March 2012, the bypass flow at the Weston Project was 2% of the flow through the project's turbines during salmon migration season, and since May of 2012, the flow rate at the Weston Project has been 6% of the flow through the project's turbines. (Pls.' Supplemental Statement of Undisputed Material Facts (HK ECF No. 163) ("Pls.' Supp. Facts") ¶ 4; Defs.' Opp'n to Pls.' Supplemental Statement of Undisputed Material Facts & Dfs.' Additional Supplemental Statement of Undisputed Material Facts (HK ECF No. 168) ¶ 4.) In general, the downstream fishway at Weston allows fish to bypass the dam without swimming through the turbines. (BFSF ¶ 42.)

An analysis by Defendants and their consultants concluded that, absent the guidance boom installed in 2011, 32.2% of downstream migrating kelts pass the Weston Project via the spill, 1% pass via the bypass and roughly 66% pass via the turbines. (LSW JSF ¶ 231.) The same analysis concluded that absent the guidance boom installed in 2011, the downstream migrating kelts passing the Weston Project through the powerhouse and bypass, roughly 2% pass via the bypass and roughly 98% pass via the turbines. (Id. ¶ 232.)

In 2009, Defendants began evaluating options for improving downstream fish passage at the Weston Project, while also seeking to resolve ongoing issues with the accumulation of downstream debris. (BFSF ¶ 40; Pls.' Opp'n to BFSF ¶ 40.) In 2010, Defendants made major

structural repairs to the existing sluice gate structure at Weston and resurfaced the sluice to make it safer for fish. (BFSF ¶ 41.) In 2011, Defendants installed a Tuffboom, which is fairly rugged, cost approximately $400,000 to install, is designed to be deployed year-round and is intended to keep fish out of the turbines.[9] (BFSF ¶ 42; Pls.' Opp'n to BFSF ¶ 42.) The installation of the guidance boom at Weston was approved by NMFS, USFWS and MDMR as part of a general practice to collaborate with these agencies on fish passage designed. (BFSF ¶ 2; Pls.' Opp'n to BFSF ¶ 2 (Richter Dep. 157:10-19; 158:7-15).)

In February of 2011, after reviewing the conceptual design plans for the Tuffboom at the Weston Project, a biologist at USFWS wrote to Defendants providing feedback on the conceptual design for downstream fish bypass and providing recommendations regarding effectiveness testing:

> This guidance device, employing a floating curtain, is experimental and is currently being testing at several sites, including the Lockwood (FERC No. 2574), Hydro-Kennebec (FERC No. 2611), and Cataract (FERC No. 2528) Projects. . . . These [testing] methods have not demonstrated that the devices are effective. . . . The devices have also been prone to failure, debris loading and overtopping, which is of concern because fish passage facilities need to be reliable.

(BFSF ¶ 2; Pls.' Opp'n to BFSF ¶ 2; BFSF ¶ 3; LSW JSF ¶ 229 (02/14/2011 Letter from USFWS to Richter (LSW ECF No. 124-7)).). At the same time, after reviewing Defendants' conceptual design plans for the Tuffboom at the Weston Project, MDMR informed Defendants that:

> The proposed guidance device, which employs a floating curtain, is experimental, and has been or is currently being tested at several other sites including the Lockwood (FERC No. 2574), Hydro-Kennebec (FERC No. 2611) and Cataract (FERC No. 2528) projects. Studies completed to date have demonstrated that these devices are prone to failure, debris loading, and overtopping, thus reducing their effectiveness as a guidance boom. . . . [MDMR] support[s] installing and testing the device this year[.]

[9] The Tuffboom at Weston is a roughly 300-foot long floating guidance boom with a 10-foot deep curtain made entirely of perforated metal plate. (LSW JSF ¶ 226.)

(LSW JSF ¶ 230; BFSF ¶ 2; Pls.' Opp'n to BFSF ¶ 2; BFSF ¶ 3 (02/15/2011 Letter from MDMR to Richter (LSW ECF No. 124-8)).)

In August of 2011, one of the attachment points on the Tuffboom was damaged by high river flows, creating a space in the boom large enough for migrating fish to pass through. (LSW JSF ¶ 227.) In October 2011, one of the connection point welds on the Tuffboom failed, causing the entire boom to open and creating a large space for migrating fish to pass through. (Id. ¶ 228.) As soon as the river flows subsided, and it was safe, Defendants inspected the damage and determined the problem had occurred at the factory. (BFSF ¶ 43.) Defendants arranged to have the manufacturer come out to fix the bad weld and replace two panels and planned to test the efficacy of the boom in the spring of 2012. (BFSF ¶ 43; Pls.' Opp'n to BFSF ¶ 43.)

E. Agency Consultation Regarding the Lockwood, Shawmut and Weston Projects

On July 30, 2009, Defendants wrote to NMFS regarding the Lockwood, Weston and Shawmut Projects to indicate their plan to continue to perform ongoing salmon protection efforts, such as passage effectiveness studies, with the Services as contemplated by prior agreement, including the Settlement Agreement. (BFSF ¶ 2; Pls.' Opp'n to BFSF ¶ 2; BFSF ¶ 3 (07/30/2009 Letter from NextEra to NMFS (LSW ECF No. 83-1)).)

The NextEra Fish Passage Report for 2010 reflects that Defendants, in consultation with and as approved by the resource agencies, developed a study plan in the winter of 2011 to evaluate the new downstream bypass facility with Atlantic salmon smolts using radio telemetry techniques at Lockwood. (BFSF ¶ 3 (NextEra Fish Passage Report for 2010 (HK ECF No. 85-2) at Page ID # 2359).) The same Report reflects that NextEra, in consultation with the resource agencies, designed a new downstream bypass facility at Shawmut, which included the use of new full depth one inch trash racks and a new surface sluice and flume leading to the river and a new downstream

bypass facility at Weston. (Id.) The Report also states that effectiveness studies with salmon smolts were scheduled to begin in the spring of 2012 at Weston, after resource agency consultation and approval of the study plan. (Id. at Page ID # 2359-60.)

In July of 2010, FERC wrote to NextEra regarding the Lockwood, Weston and Shawmut Projects and the requirements of the Settlement Agreement. (BFSF ¶ 2; Pls.' Opp'n to BFSF ¶ 2 (07/23/2010 Letter from FERC to Toth (LSW ECF No. 83-3)).) FERC stated, "[a]fter reviewing the May 11, 2010 annual fish passage report, . . . we have determined that NextEra is complying with the salmon protection requirements of the Lockwood, Weston and Shawmut Project licenses" and that "[w]e appreciate your work to comply with the ESA and to protect Atlantic salmon at these projects." (Id.)

Defendants provided annual updates and reports regarding the status of diversion efforts as well as plans for the upcoming year for each of the Projects. (BFSF ¶ 4; Pls.' Opp'n to BFSF ¶ 4.)

F. The Hydro Kennebec Project

Downstream-migrating salmon and shad can pass the Hydro Kennebec Project by three means: through the turbines, through the fish bypass and over the spillway. (HK JSF ¶ 72.) The maximum river flow to the bypass is 4% of the maximum flow to the turbines. (Id. ¶¶ 75, 77.) The Hydro Kennebec Project has trash racks upstream from its turbines, which have spacing of greater than three inches between the bars. (Pls.' Supp. Stmt. Of Undisputed Material Facts (HK ECF No. 163) ¶ 5.) In general, downstream migrating kelts in the Kennebec River are too large to fit through a 2-inch trash rack spacing, but most could physically fit through a 3.5-inch spacing.[10] (LSW JSF ¶ 96.)

[10] Generally, adult shad are larger than Atlantic salmon smolts and smaller than Atlantic salmon kelts. (LSW JSF ¶ 78.)

In 2005 and 2006, Defendants designed and installed a downstream fish bypass at the Hydro Kennebec Project at a cost of approximately $300,000 to $400,000. (BFSF ¶ 14; HK JSF ¶ 24.) On February 2, 2006, Defendants wrote to USFWS and MDMR outlining the plan for providing interim downstream fish passage at the Hydro Kennebec Project, which included a fish boom and a fish bypass to be installed in 2006 in time for the downstream passage migration of any Atlantic salmon. (BFSF ¶ 2; Pls.' Opp'n to BFSF ¶ 2 (02/02/2006 Letter from Bernier to USFWS and MDMR (ECF No. 81-3)).) Prior to installation, Defendants consulted with and obtained the approval of USFWS, FERC, NMFS, DMR, and DEP.[11] (BFSF ¶ 2; Pls.' Opp'n to BFSF ¶ 2 (Bernier Dep. (HK ECF No. 89-8) 91:16-92:5)).) In a September 2006 letter, MDEP stated, "[t]he [M]DEP commends Hydro-Kennebec L.P. for its commitment to providing improved downstream passage that the [Hydro Kennebec] project for post-spawner adult anadromous fish[.]" (BFSF ¶¶ 2, 6 (09/18/2006 Letter from Maine DEP to Stetson (HK ECF No. 82-7)).)

The downstream fish bypass at the Hydro Kennebec Project consists of a 4 foot by 8 foot rectangular slot cut into the side wall of the forebay.[12] (HKJSF ¶ 76.) Fish that pass through the bypass slot then drop four or five feet into a water-filled concrete chamber known as a plunge pool; from there, fish travel down a concrete flume before dropping into the project downstream tailrace. (Id. ¶ 78.)

[11] In June of 2006, Defendants received approval from USFWS and MDMR for the Hydro Kennebec Downstream Fish Passage Study Plan that encompassed installing bypass measures on an interim basis and a plan to study those interim measures. (BFSF ¶ 2; Pls.' Opp'n to BFSF ¶ 2 (2006 HKP Downstream Fish Bypass Study Plan and email response from USFWS and MDMR (HK ECF Nos. 81-08; 81-09; 81-10).) In September of 2006, MDEP approved the Hydro Kennebec fish bypass design and operation. (BFSF ¶¶ 2, 6 (09/18/2006 Letter from Maine DEP to Stetson (HK ECF No. 82-7).) Defendants also received approval from FERC and MBEP. (BFSF ¶ 2; Pls.' Opp'n to BFSF ¶ 2 (02/28/2006 Brookfield Letter with attached correspondence from agencies (HK ECF No. 81-7)).) In September of 2006, MDEP issued an Order approving interim downstream fish passage design and operational plans for Hydro Kennebec and cited to Section IV of the Settlement Agreement. (BFSF ¶ 10 (09/14/2006 MDEP Order (HK ECF No. 82-7)).)

[12] The downstream fish bypass at Hydro Kennebec was designed to accommodate the flow rate designed by USFWS. (BFSF ¶ 2; Pls.' Opp'n to BFSF ¶ 2 (Stetson Dep. (HK ECF No. 89-12) 201:7-21.)

In August of 2006, Defendants installed a 160-foot long floating guidance boom with a 10-foot deep Kevlar curtain in the Hydro Kennebec Project's forebay upstream of the turbines.[13] (HK JSF ¶ 138.) The purpose of installing the bypass and boom in 2006 was to permit fish to bypass the turbines. (BFSF ¶ 15; Pls.' Opp'n to BFSF ¶ 15.) However, there is a four or five foot gap between the downstream end of the floating guidance boom in the Hydro Kennebec forebay and the entranceway to the downstream fish bypass. (Defs.' Opp'n to Pls.' Stmt of Fact (HK ECF No. 125).)

The boom in place at the Project has experienced problems. First, high river flows or debris can cause overtopping. (Defendants' Opposition to Plaintiffs' Statement of Undisputed Material Facts (HK ECF No. 113-1) ("HK Def. Opp. SMF") ¶ 35; BFSF ¶ 17.) In addition, the Kevlar curtain hanging from the diversion boom floats was billowing out and in some instances tearing under pressure of the water flows. (BFSF ¶ 17.) In 2007, 2010 and 2011, the Kevlar curtain on the boom ripped, causing holes large enough for fish to swim through the curtain. (HK Def. Opp. SMF ¶ 37.) Problems with the boom required the boom to be removed from the water to allow for repair. (Id. ¶ 38.) In addition, from April 1 to May 28, 2007, and from April 1 to May 19, 2008, high water flows in the Kennebec River prevented the safe installation of the boom. (Id. ¶ 39.) In 2008, the boom was iced-in and damaged from mid-December through the end of the year. (Id. ¶ 40.)

In 2007, Defendants made several improvements to the fish passageway at the Hydro Kennebec Project, including installation of a weir in the plunge pool to increase its depth and minimize the potential for fish injury and the completion of the operating mechanism for the gate

[13] In August of 2006, Bernier informed the agencies that the new downstream fishway at Hydro Kennebec was operational as of August 3, 2006. (BFSF ¶ 2; Pls.' Opp'n to BFSF ¶ 2 (08/04/2006 Email from Bernier to agencies (HK ECF No. 82-5)).)

structure. (BFSF ¶ 16.) Those improvements were subject to the approval of the agencies.[14] (BFSF ¶ 2; Pls.' Opp'n to BFSF ¶ 2 (Bernier Dep. (HK ECF No. 89-8) 92:16-21).) Even with these improvements, Defendants acknowledged that "[d]espite the addition of the weir," USFWS had "expressed concern over fish injury in [the] plunge pool area of the fishway." (Pls.' Opp'n to BFSF ¶ 16 (citing HK Page ID # 1860).)

Defendants also raised the fish boom to reduce overtopping and installed a flashboard system to increase water depth at the fishway exit to minimize the potential for descaling or injury. (BFSF ¶ 17; Pls.' Opp'n to BFSF ¶ 17.) Defendants also arranged for the boom manufacturer to install additional reinforcing cables, reshaped the Kevlar fabric and added additional flotation to improve its buoyancy. (BFSF ¶ 17.) The 2007 modifications to the boom did not completely eradicate overtopping. (HK Def. Opp. SMF ¶ 36.)

On March 6, 2008, NOAA stated that "NMFS does not anticipate the bypass to be 100% efficient, however, our goal is to maximize the overall efficiency for the protection of the resource." (BFSF ¶ 10; Pls.' Opp'n to BFSF ¶ 10 (03/06/2008 Email from McDermott to Bernier (HK ECF No. 91-10)).) In March of 2008, USFWS wrote to Defendants regarding an inspection of the interim downstream fish passage facility in June of 2007. (BFSF ¶ 6 (03/10/2008 Letter from USFWS to Bernier (HK ECF No. 84-2)).) The letter stated that during the visit, the guidance device was submerged 12 to 18 inches below the surface of the water. (Id.) The letter further stated: "We are very pleased with your response to the submerged fish guidance device, which was corrected within days of the inspection." (Id.) In 2008, Defendants considered changing the curtain material at the Hydro Kennebec Project based on feedback from the resource agencies, but

[14] On March 5, 2007, Bernier wrote to FERC submitted as-built exhibit drawings of interim downstream fish passage. (BFSF ¶ 2 (03/05/2007 Letter from Bernier to FERC (ECF No. 83-4)).)

based on representations and assurances from the Kevlar curtain manufacturer, decided to build a platform to repair and reinforce the Kevlar curtain.[15] (BFSF ¶ 18.)

A fish passage efficiency study was performed at Hydro Kennebec in May and June of 2009, which was performed during lower flow, "no-spill" conditions (*i.e.*, when downstream migrating fish can pass only through the turbines or the bypass). (HKJSF ¶ 147.) According to the study, at least 39% of downstream migrating smolts released upstream passed the Project using the bypass. (Id.)

In 2010, Defendants reported that a hydraulic line to one of its spill gates had broken, resulting in a hydraulic oil spill and loss of gate control; the gate slowly opened as a result of water pressure, however, and emptied the headpond. (BFSF ¶ 19.) Defendants halted hydropower generation and allowed all flow to pass through the disabled gate and mobilized a contractor to correct the situation. (Id.)

In May and June 2011, a radio telemetry study was performed at the Hydro Kennebec Project to determine the effectiveness of the fish passage system and to determine what routes salmon were using to move downstream.[16] (HKJSF ¶ 143.) During the 2011 radio telemetry study, Atlantic salmon smolts were released upstream of the Hydro Kennebec Project from each bank of the river. (Id. ¶ 145.) Of the 95 smolts released upstream of the Hydro Kennebec Project during the 2011 radio telemetry study that were determined to have passed the project moving downstream, 64 smolts (67.4%) passed via spill, 16 smolts (16.8%) passed via one of the turbines, 14 smolts (14.7%) passed via the bypass, and 1 smolt (1.1%) had an undetermined passage routes.

[15] In May of 2008, Bernier wrote to FERC submitting an Interim Downstream Fish Passage 2007 Report and 2008 Study Plan, which reflected discussions with the agencies regarding plans to improve fish passage. (BFSF ¶ 2; Pls.' Opp'n to BFSF ¶ 2; BFSF ¶ 3; Pls.' Opp'n to BFSF ¶ 3 (05/13/2008 Letter from Bernier to FERC (ECF No. 91-9)).)

[16] The guidance booms at the Hydro Kennebec Project function no differently in guiding shad towards the bypass as the booms do in guiding Atlantic salmon. (HK JSF ¶ 148.)

(HKJSF ¶ 146.) The Kevlar boom was functioning properly during the 2011 radio telemetry study. (Id. ¶ 144.)

In July and September 2011, Defendants wrote to personnel at various state and federal agencies seeking approval to install a Tuffboom at the Hydro Kennebec Project. (Id. ¶ 141.) In response, NMFS stated: "NMFS does not have any objections with experimenting with the fish boom as interim protection at the HK project. Please know that effectiveness studies to date on fish booms in the GOM DPS have not been very encouraging." (Id. ¶ 142.)

After further consultation with the agencies, in December 2011, Defendants replaced the original boom at the Hydro Kennebec Project with a Tuffboom, which was designed to be deployed year-round, and incorporated a perforated metal plate to divert the fish.[17] (BFSF ¶ 20.) The Tuffboom cost approximately $250,000 to install and made improvements over the Kevlar curtain boom; it was made of much stronger materials to prevent ripping and included much better floatation to prevent overtopping. (Id.; see also HKJSF ¶ 139.)

Also in 2012, Defendants further deepened the plunge pool at the Hydro Kennebec Project and planned to install a stoplog structure at the plunge pool downstream of the bypass reach. (BFSF ¶ 21.) Prior to January 31, 2012, Defendants discussed the new fish flume and the design of the upstream fishway with the Services.[18] (BFSF ¶ 2; Pls.' Opp'n to BFSF ¶ 2 (Bernier Dep. (ECF No. 89-8) 141:25-142:8.)

[17] Defendants maintain that the Tuffboom has not malfunctioned. (BFSF ¶ 20.) Plaintiffs argue that the testimony on which this statement is based was taken only one month after the installation of the Tuffboom, and, accordingly, Defendants lack sufficient information to assess the performance of the boom. (Pls.' Opp'n to BFSF ¶ 20.)

[18] On April 30, 2012, FERC wrote to NMFS regarding the initiation of Endangered Species Act formal consultation for the Hydro Kennebec and that the measures presented by Hydro Kennebec would enable it to best enhance protection of Atlantic salmon in the short term. (BFSF ¶ 2; Pls.' Opp'n to BFSF ¶ 2 (04/30/2012 Letter from FERC to NMFS (HK ECF No. 87-8)).)

In addition to the ongoing improvements at the Hydro Kennebec Project, Defendants have worked to keep the fishway cleared of any debris and maintenance activities on the downstream fish bypass facility, including debris removal, are performed as soon as possible to sustain optimal downstream passage conditions.[19] (BFSF ¶ 22.) To date, Brookfield has not shut down the turbines at the Hydro Kennebec Project to allow for alternate adult salmon or shad passage, nor has it considered doing so. (HKJSF ¶ 149.)

G. Defendants' Statements Regarding Their Intent

At all relevant times, Kevin Bernier (Hydro Kennebec Project), Brian Stetson (Hydro Kennebec Project) and Robert Richter (Lockwood, Shawmut and Weston Projects) were primarily responsible for making decisions regarding Defendants' compliance with the Clean Water Act and Water Quality Certifications issued by the State of Maine.[20] (BFSF ¶ 7; Pls.' Opp'n to BFSF ¶ 7.) Bernier testified regarding the Hydro Kennebec Project:

> Q: And what is the function of the downstream fishway? A: To pass migrating fish downstream. Q: And does it allow salmon to bypass the dam without swimming through the turbines? A: It provides them a route other than the turbines. Q: And was that the reason the fishway was installed in 2006? . . . A: That was one of the reasons.

(BFSF ¶ 8 (Dep. of Kevin Bernier (ECF No. 89-7) ("Bernier Dep.") 59:10-21).) He further stated that Defendants had not performed any studies on the effects of the turbines at Hydro Kennebec on smolts "[b]ecause the focus has been on determining fish passage efficiency in [the] discussions with the agencies" and on improving fish passage efficiency. (BFSF ¶ 9 (Bernier Dep. 171:18-172:3).)

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[19] Plaintiffs state that "other sources indicate that there have been maintenance activities on the Hydro Kennebec bypass and boom that have not been done 'as soon as possible.'" (Pls.' Opp'n to BSFS ¶ 21.) Plaintiffs do not provide a citation to support this statement.

[20] There is no indication whether this decision-making responsibility included the final decision making authority regarding budgeting for compliance. (Pls.' Opp'n to BFSF ¶ 7.)

Speaking to the Lockwood, Weston and Shawmut Projects, Richter testified that Defendants' desire was not to pass fish through the turbines:

> We have not done any [of the studies under the Settlement Agreement] because we're using the floating booms to bypass the turbines, so we haven't invoked that part of the KHDG agreement that we would try to pass fish through the turbines. Our desire is not to pass them through the turbines, it's to bypass the turbines. So that's why we haven't done those studies.

(BFSF ¶ 13 (Richter Dep. 260:1-9; see also Richter Dep. (ECF No. 82-5) 378:22-379:3 ("[O]ur desire is not to pass these fish through the turbines. It's to bypass the turbines and get them out through sluices.")).) Richter also testified that the strike probability for adult salmon through the turbines was very high, which was why the bypasses were installed "to keep [adult salmon] out of the turbines." (BFSF ¶ 13 (Richter Dep. (ECF No. 82-5) 380:16-381:7).)

H. Litigation

Plaintiffs filed their initial Complaint (ECF No. 1) on January 31, 2011. On June 2, 2011, Plaintiffs filed their Substituted Complaint (ECF No. 20) against Defendants asserting causes of action under the Endangered Species Act (Count I) and the Clean Water Act (Count II). On January 14, 2013, the Court dismissed Count I as moot and granted summary judgment for Defendants on Count II. (See ECF Nos. 143 & 144.) Plaintiffs appealed the Court's grant of summary judgment as to Count II. On July 14, 2014, the First Circuit vacated and remanded the grant of summary judgment for Defendants on Count II. Friends of Merrymeeting Bay v. Hydro Kennebec, LLC, 759 F.3d 30 (1st Cir. 2014). On September 5, 2014, the Court held a conference of counsel and invited the parties to file supplemental memoranda and statements of material fact addressing the issues raised by the First Circuit.[21]

[21] On remand, the Court limited the record to the documents and evidence submitted on the docket in support of or in opposition to the previous motions for summary judgment. The parties were prohibited from citing to any document or evidence that was not so submitted and filed on the docket by the conclusion of summary judgment briefing on July 20, 2012. (See Order & Report of Conference (HK ECF No. 157) at 1-2.)

III. DISCUSSION

In vacating and remanding the grant of summary judgment, the First Circuit provided a framework for the Court's inquiry into the Clean Water Act claim. The question posed by Count II "is straightforward to pose but not particularly easy to answer: do the Defendants 'desire to achieve' passage of the endangered fish through the turbines." Friends of Merrymeeting Bay, 759 F.3d at 33. This straightforward question turns on the meaning of the word "desire" as used in the Settlement Agreement. The First Circuit concurred with this Court that the language of the Settlement Agreement is not ambiguous and that the word "desire" should be ascribed its common meaning, "corresponding to a party's subjective intent." Id. at 34. Accordingly, "the unambiguous contractual language in this case presents a factual question regarding the subjective intent underlying Defendants' conduct pursuant to the contract." Id.

In determining questions of subjective intent on motions for summary judgment, the First Circuit warned that "courts should 'use special caution in granting summary judgment as to intent. Intent is often proved by inference, after all, and on a motion for summary judgment, all reasonable inferences must be drawn in favor of the nonmoving party.'" Id. (quoting Daniels v. Agin, 736 F.3d 70, 83 (1st Cir. 2013)). Indulging all reasonable inferences in favor of the nonmoving party, to understand what a party desires, the Court should examine "what they know about the situation, what steps they are taking, what results they are actually achieving, and how they respond to those results." Id. In addition, in this case while the lack of enforcement by the Agencies that are signatories to the Settlement Agreement is not dispositive, the Agencies' "conduct should be considered as part of the whole record." Id. at 37.

The inquiry before the Court is not focused on a single point of time – the threshold decision to install or not install diversionary facilities, for example. Instead, the Court must

examine Defendants' desire "in the context of the continuous efforts required by the Settlement Agreement." Id. at 35. Therefore, the installation of diversionary facilities alone, or lack thereof, is not sufficient to establish the Defendants' desire in the broader context. See id. The Court should also consider any "good faith efforts to ameliorate problems with" diversionary facilities. Id. at 36. In discussing the installation of interim diversion facilities, the First Circuit rejected a strict liability standard for the effectiveness of those facilities:

> [T]he Settlement Agreement does not require complete effectiveness. To be clear, the Agreement does not require Defendants to achieve any particular objectively measurable level of effectiveness and neither should the Court. But that does not mean effectiveness is irrelevant. Rather, it is one of the pieces of information forming the background against which the court of the fact finder can determine what Defendants desire.

Id. at 36.

Ultimately, the First Circuit "express[ed] no opinion on the substantive question of Defendants' compliance with the Settlement Agreement, nor [did] [the First Circuit] determine[] whether Plaintiffs [] offered enough evidence to create an issue of material fact." Id. at 37. With the First Circuit's guidance and the parties' submissions, the Court must now make these determinations in the context of the cross-motions for summary judgment on the Clean Water Act claim.

A. The Cross-Motions for Summary Judgment

The parties have cross-moved for summary judgment on the Clean Water Act claim. Defendants argue that the Court should grant their motion for summary judgment because "there can be no genuine issue of material fact that an operator of a facility who chooses to design, construct and continuously endeavor to improve diversionary methods – in consultation with the governmental agencies having oversight and expertise on these issues – does not 'desire[] to achieve interim downstream passage . . . by means of passage through the turbines.'" (Defs.' Mot.

for Summary J. at 5.) Plaintiffs counter that Defendants' true desire is belied by their continual operation of the turbines in spite of their knowledge that fish are indeed passing through those turbines and that the governmental agencies have been critical, not supportive, of Defendants' efforts to improve diversionary facilities. Plaintiffs further argue that they have met their burden and that the Court should grant their motion for summary judgment because

> when [the evidence on summary judgment] is considered in the light most favorable to Defendants, it is undisputed both that Defendants know substantial numbers of migrating fish are accessing the turbines, and that they have continued to operate their turbines at all times, rather than shutting them off during migration seasons or equipping them with impassible screens.

(Pls.' Motion for Summary Judgment at 15.)

Before turning to the individual projects, the Court notes that Defendants do not contest that salmon and shad inhabit the impoundments above the Projects nor that the site-specific quantitative studies have not been performed. (See generally Defendants' Motion for Summary Judgment.) Accordingly, the Court's task is to apply the framework provided by the First Circuit and determine whether there is a genuine issue of material fact as to whether Defendants "desire" to achieve downstream passage of fish by means of the turbines at each of the Projects. The Court considers the evidence in the light most favorable to Plaintiffs because the Court finds that even under this standard, there is no trialworthy issue on Defendants' subjective intent.

B. FERC Approval of the Lockwood, Weston and Shawmut Project Licenses

On July 23, 2010, FERC wrote to Defendants regarding the Lockwood, Weston and Shawmut Projects.[22] (BFSF ¶ 2; Pls.' Opp'n to BFSF ¶ 2 (07/23/2010 Letter from FERC to Toth (LSW ECF No. 83-3)).) The letter stated:

> Licensees who are party to the [Settlement Agreement] who desire to achieve downstream passage of adult salmon using project turbines are required to conduct

[22] The letter was authored by Steve Hocking, Chief of the Biological Resources Branch, Division of Hydropower Administration and Compliance of FERC.

> quantitative studies of turbine passage. An order approving the Settlement, issued September 16, 1998 requires the licenses to provide the Commission with annual reports on fish passage operation and effectiveness studies.

(Id.) Defendants were directed to "clearly address the status of downstream fish passage and effectiveness at the identified projects" in their 2010 annual fish passage report. (Id.) The letter then acknowledged that in their May 11, 2010 annual fish passage report, Defendants notified FERC that "downstream passage using the turbines is not desired." (Id.) FERC then stated:

> After reviewing the May 11, 2010 annual fish passage report, . . . taking into consideration NextEra's consultation under the ESA to protect Atlantic salmon (as reviewed below), we have determined that NextEra is complying with the salmon protection requirements of the Lockwood, Weston and Shawmut Project licenses.

(Id.) The letter concluded: "We appreciate your work to comply with the ESA and to protect Atlantic salmon at these projects." (Id.)

In providing the framework for this Court's inquiry into the Clean Water Act claim, the First Circuit specifically addressed the implications of non-action by a signatory agency to the Settlement Agreement:

> A lack of discretionary enforcement may indicate either a defendant's compliance with the statute or a failure by the agency to rein in a non-compliant defendant. A court must look at the facts of the particular case; it cannot draw a conclusion solely from the fact of a lack of discretionary enforcement. Here, the Agencies' conduct should be considered as part of the whole record, but not dispositive in itself.

Friends of Merrymeeting Bay, 759 F.3d at 37. Accordingly, non-action by a signatory agency is informative but not dispositive on the factual question of Defendants' subjective intent. However, in providing its guidance, the First Circuit did not address the implications of an explicit approval by a governmental agency such as FERC.[23] Further, the non-action discussed by the First Circuit is fundamentally different from an explicit approval by a governmental agency.

[23] While FERC is not a signatory to the Settlement Agreement, the Settlement Agreement is enforceable through the Clean Water Act because it is explicitly incorporated into the water quality certifications that are included in each of the Project's FERC licenses. (LSW JSF ¶¶ 195, 196; HK JSF ¶¶ 132, 134.) See 33 U.S.C. § 1341(a)(5).

In this case, the July 23, 2010 letter from FERC to Defendants discussed the requirements of the Settlement Agreement regarding Defendants' desires for downstream fish passage and found Defendants to be in compliance with the Settlement Agreement. (See BFSF ¶ 2; Pls.' Opp'n to BFSF ¶ 2 (07/23/2010 Letter from FERC to Toth (LSW ECF No. 83-3)).) The letter restated the requirement that if Defendants desired to achieve downstream fish passage via the turbines, quantitative studies of turbine passage had to be completed. (Id.) Next, the letter reflected Defendants' statement that they did not desire downstream passage via the turbines. (Id.) Finally, FERC found that Defendants were "complying with the salmon protection requirements of the Lockwood, Weston, and Shawmut Project licenses." (Id.) The letter does not reflect a failure to enforce the FERC licenses but is instead an explicit statement that FERC found Defendants to be in compliance with the Settlement Agreement where Defendants had not conducted the studies because they did not desire downstream fish passage via the turbines. The Court believes that this finding is entitled to more weight than mere non-enforcement. See 33 U.S.C. § 1341(a)(5) (providing FERC with authority enforce the terms of the license); Am. Rivers, Inc. v. F.E.R.C., 129 F.3d 99, 108 (2d Cir. 1997) (stating that "33 U.S.C. § 1341(a)(5), which provides the licensing agency (in this case FERC) with authority to enforce the terms of a license – which pursuant to § 401(d) include a state's § 401 certification conditions – once such a federal license has issued"); see also Associated Fisheries of Maine, Inc. v. Daley, 127 F.3d 104, 110 (1st Cir. 1997) (providing that in the context of a review of an agency action under the Administrative Procedures Act that "a reviewing court must afford special deference to an agency's scientific expertise where, as here, that expertise is applied in areas within the agency's specialized field of competence"). Nonetheless, in this case the Court is presented with a factual question on Defendants' subjective intent and accordingly, "the focus of [the] inquiry must be on the Defendants themselves. The

conduct of the Agencies does not conclusively settle a factual question regarding Defendants' subjective intentions." Friends of Merrymeeting Bay, 759 F.3d at 36. Therefore, the Court will consider this evidence along with the evidence particular to each individual Project.

C. The Lockwood Project

In evaluating whether a genuine issue of material fact exists as to Defendants' desire at the Lockwood Project, the Court examines what Defendants knew, what steps they took, the results achieved and how Defendants responded to those results at the Lockwood Project. As the Court must examine Defendants' continuous efforts, it is instructive to consider the timeline of Defendants' actions. In 2007, a consultant for Defendants stated that fish pass downstream at the Lockwood Project via the turbines, in addition to the existing gates, sluices and spillways at the Lockwood Project. (LSW JSF ¶ 198.) Thereafter, in 2009, Defendants took the steps of installing a fish bypass facility and a floating guidance boom, the Slickbar boom, in consultation with and as approved by NMFS, USFWS and MDMR. (Id. ¶ 200.) After the fish bypass and the Slickbar boom were installed, Defendants encountered problems with the boom, including overtopping and the curtain ripping. (Id. ¶¶ 202, 203.) Defendants responded to the problems by identifying the need for additional flotation and upstream tether lines and making modifications to the boom, which did necessitate the boom being removed for repairs on occasion. (BFSF ¶¶ 27, 28; Pls.' Opp'n to BFSF ¶ 28; LSW JSF ¶ 204.)

Even with the low flow rate to the bypass, 6% of that to the turbines, this initial course of conduct, which included installation of diversionary facilities, a period of observation and problems and then repair, shows that Defendants made good faith efforts to divert fish from the turbines. This intent is further evidenced by Defendants' explicit statement that the purpose of

these diversionary facilities was to have the fish bypass the turbines in a safe manner.[24] (See BFSF ¶ 13 (Richter Dep. 260:1-9; see also Richter Dep. (ECF No. 82-5) 378:22-379:3 ("[O]ur desire is not to pass these fish through the turbines. It's to bypass the turbines and get them out through sluices.")).)

In 2010, Defendants added a new surface sluice gate and continued to improve downstream passage by replacing the Slickbar boom with the Tuffboom. (See BFSF ¶¶ 29-31; Pls.' Opp'n to BFSF ¶ 31; LSW JSF ¶ 201.) The Tuffboom was more buoyant and rugged than the prior boom (BFSF ¶¶ 29, 32), and represents a good faith effort on the part of Defendants to ameliorate the problems of the prior diversionary facility. Modifications were made to the Tuffboom shortly after it was installed in order increase buoyancy, strength and add new screening. (BFSF ¶32.) As with the Slickbar boom, when problems arose with the Tuffboom or it malfunctioned, Defendants acted promptly to repair the facility.[25] Similarly, when Defendants noticed in April or June of 2011 that the trash rack bars were rattling and vibrating in a way that could deter fish from using the bypass, the Defendant inserted wedges to repair the trash racks. (LSW JSF ¶ 211; BFSF ¶ 33.) The quick improvements and repairs to diversionary devices show that Defendants made continuous efforts

[24] In Plaintiffs' Supplemental Opposition to Defendants' Motion for Summary Judgment (HK ECF No. 166) ("Pls.' Supp. Opp'n"), Plaintiffs cite to "Pl. Supp. Opp. SUMF" as support for statements such as "Defendants' decision to rely on ineffective bypass systems, rather than on effective but more expensive measure to keep salmon and shad out of the turbines, is a business decision that unambiguously expresses a clear desire to allow turbines to serve as a primary route of downstream passage. See e.g. Pl. Supp. Opp. SUMF ¶ 13[.]" There is no independent document or separate statement of material fact that corresponds to "Pl. Supp. Opp. SUMF." Instead, Plaintiffs rely on their response to Defendants' Supplemental Statement of Undisputed Material Fact for additional facts. (See, e.g., Pls.' Opp'n to BFSF ¶ 13.) This practice does not follow District of Maine Local Rule 56(c), and the Court has disregarded statements of fact that are not supported by a citation to properly considered record material. See D. Me. Local Rule 56(f).

[25] In March 2011, the attachment point between the boom and the bypass broke loose. (LSW JSF ¶ 208.) It was reattached the next month. (Id.) In April 2011, the Tuffboom was found to be tilting, and in June a weighting chain was found to have broken free. (LSW JSF ¶ 209, 210; BFSF ¶ 33.) Defendants sent divers to repair the chain. (Id.)

to improve downstream fish passage and address problems or malfunctions as they arose. See Friends of Merrymeeting Bay, 759 F.3d at 35.

In consultation with the resource agencies, Defendants planned and executed a study to evaluate the new downstream bypass facility using radio telemetry in 2011.[26] The plan was approved by the resource agencies. (BFSF ¶ 3.) After examining the results of the study, NMFS stated that the downstream bypass was not effective at passing smolts and that it was not confident that the planned modifications would significantly improve effectiveness. (LSW JSF ¶¶ 217, 218.) A MDMR biologist expressed disappointment with the poor utilization of the downstream bypass. (Id. ¶ 219.) Notably, in 2012, Defendants began planning a complete overhaul of the Tuffboom. (BFSF ¶ 34.)

By undertaking the study, Defendants gained information and feedback from the agencies. See Friends of Merrymeeting Bay, 759 F.3d at 35 (stating that the Settlement Agreement "imposes obligations to study the effectiveness over time of whatever interim downstream passage facilities it may choose to implement and to make good faith efforts to reach certain efficiency goals"). The planning, implementation and the review of the results of the study demonstrate that the resource agencies were actively involved in Defendants' evaluation of the effectiveness of the diversionary facilities. Plaintiffs point to the study as specific evidence of Defendants' knowledge and desire that fish pass via the turbines. Undoubtedly, the study predicted that fish pass via the turbines. However, this evidence cannot be viewed in isolation but must be considered as a piece of the overall background.

[26] Conducted in May and June of 2011, the study predicted that during median flow conditions, 38.7% of downstream migrating kelts pass via spill, 11.5% pass via bypass, and 49.8% pass via the turbine. The same study predicted that of those kelts passing through the forebay powerhouse, 81.8% attempt to pass via the turbines. (LSW JSF ¶¶ 213; 221-22.)

Looking at the entire course of conduct of Defendants and their continuous efforts to improve downstream fish passage at Lockwood, Defendants have demonstrated that there is no genuine issue of material fact that Defendants did not desire to pass salmon and shad via the turbines. See Friends of Merrymeeting Bay, 759 F.3d at 35 (stating that "it makes more sense to assess Defendants' desire in the context of the continuous efforts required by the Settlement Agreement"). Defendants' actions reflect that they knew fish were present and took active steps to attempt to divert those fish from the turbines. In the beginning there were no diversionary measures; Defendants installed diversionary facilities and repaired them when necessary and improved upon them over time. It is true that Defendants did not achieve perfect success in the time period under the Court's evaluation, but perfection is not required. Id. at 36. The results of the study show that about half of the fish pass via turbine during median spill. That result is not so unfavorable as to undercut Defendant's stated desire: "Our desire is not to pass [the fish] through the turbines, it's to bypass the turbines." (BFSF ¶ 13.) Finally, the Court also considers the lack of enforcement action and intervention by the resource agencies and FERC as relevant to Defendants' desire; the lack of action by the resource agencies and FERC indicates that those agencies do not believe Defendants are breaching the Settlement Agreement. See Friends of Merrymeeting Bay, 759 F.3d at 37. Finally, in July of 2010, FERC explicitly stated that Defendants were in compliance with the Settlement Agreement: "[a]fter reviewing the May 11, 2010 annual fish passage report, . . . we have determined that NextEra is complying with the salmon protection requirements of the Lockwood . . . Project license[]." (07/23/2010 Letter from FERC to Toth (LSW ECF No. 83-3)).) Examining the entire course of conduct in the light most favorable to Plaintiffs, there is no trialworthy issue as to Defendants' desire at the Lockwood

Project. Quite simply, the undisputed facts show that Defendants' intent is to install and maintain methods of fish passage that keep fish out of the turbines.

D. The Shawmut Project

On Defendants' Motion for Summary Judgment, the evidence and testimony regarding the Shawmut Project are not as plentiful as the three other Projects. Nonetheless, viewing the evidence in the light most favorable to Plaintiffs, the Court finds that Defendants have demonstrated that there is no genuine issue of material fact with regard to Defendants' intent for downstream fish passage at the Shawmut Project: Defendants do not desire fish to pass via the turbines at the Shawmut Project.

In 2007, Defendants stated that there were several ways that fish could pass downstream at the Kennebec River Projects, including the Shawmut Project: gates, spillways and the turbines. (LSW JSF ¶ 198.) The Shawmut Project does not have a boom in place to guide fish to its bypass. (Id. ¶ 234.) As of May 2012, the bypass at Shawmut is a four foot wide by 22 inch deep surface sluice in the project's forebay that discharges into a three-foot plunge pool. (LSW JSF¶ 105; BFSF ¶ 35; Pls.' Opp'n to BFSF ¶ 35.) The bypass was initially installed for debris but it now provides an alternate downstream to the turbines. (BFSF ¶ 35; Pls.' Opp'n to BFSF ¶ 35; LSW JSF ¶ 234.) Shawmut has eight turbines, or generating units, and each unit is screened by a trashrack with vertical bars. (LSW JSF ¶ 100.) The trash racks over Units 1-6 have small enough spacing that downstream migrating kelts would be too large to access the turbines. (Id. ¶¶ 103, 104.) The trash racks covering Units 7-8 are large enough that downstream migrating kelts could access the turbines. (Id.) While Defendants' diversionary facilities at Shawmut are not as developed or extensive as of those of the other Projects, the diversionary facilities nonetheless show that the Shawmut Project has alternative routes for downstream fish bypass than the turbines.

An analysis by Defendants and their consultants predicted that based on the relative flows of water passing through the bypass and turbines during median flow conditions, approximately 29.6% of downstream migrating kelts pass Shawmut via spill, 1% pass via the bypass and roughly 70% pass via the turbines.[27] (LSW JSF ¶ 235.) These estimates show that the bypass was not effective at routing fish away from the turbines. See Friends of Merrymeeting Bay, 759 F.3d at 36 ("We do not expect the district court to look at evidence of effectiveness in isolation and draw conclusions therefrom. Its significance lies in relation to all of the other relevant background information.")

In 2009, Defendants' engineers and operations personnel began studying options to address downstream fish passage and a debris problem at the Shawmut Project. (BFSF ¶ 36; Pls.' Opp'n to BFSF ¶ 36). In 2011, Defendants developed plans to address downstream fish passage that included trashracks, a new surface sluice and flume that would be designed and implemented in consultation with the resource agencies. (BFSF ¶ 36.) Defendants were scheduled to complete the consultation, permitting and installation in 2011 and 2012. (BFSF ¶ 37; Pls.' Opp'n to BFSF ¶ 37.) The NextEra Fish Passage Report for 2010 reflected that Defendants, in consultation with the agencies, had designed the new downstream fish passage system. (Id.) On recommendation from NMFS, Defendants decided not to proceed in order to prevent the Shawmut Project from being placed on a different consultation process for an incidental take statement from the other Projects owned by Defendants. (Id.) This study and consultation process, even though it was abandoned, indicates that Defendants were attempting to take steps to prevent downstream

[27] Defendants contest the validity and applicability of the predictions and argue that the predictions are only estimates, not empirical data, the estimates fail to recognize the diversionary effects of the trash racks and that water flows and bypass effectiveness do not correlate. (Defs.' Opp'n to Pls.' Supp. Mem. of Law in Support of Pls.' Mot. for Summary J. (ECF No. 169) at 3-6.) The Court has previously examined the predictions in the context of Plaintiffs' takings claim under the Endangered Species Act. (See Order on Cross Motions for Summary Judgment (LSW ECF No. 132) at 17-21.) Taking the evidence in the light most favorable to Plaintiffs, the Court considers this evidence over Defendants' objections.

migrating fish from passing through the turbines at Shawmut. Defendants were not sitting idle while fish migrated downstream via the turbines, instead they were working with the resource agencies to develop a plan to address the known deficiencies at Shawmut. That the plan was halted is not evidence that Defendants desire fish to pass via the turbines.

Finally, in July of 2010, FERC wrote to Defendants and stated: "[a]fter reviewing the May 11, 2010 annual fish passage report, . . . we have determined that NextEra is complying with the salmon protection requirements of the . . . Shawmut Project license[]" and that "[w]e appreciate your work to comply with the ESA and to protect Atlantic salmon at th[is] project[]." (BFSF ¶ 2; Pls.' Opp'n to BFSF ¶ 2 (07/23/2010 Letter from FERC to Toth (LSW ECF No. 83-3)).) Notably, this explicit statement that Defendants were in compliance with the Settlement Agreement at the Shawmut Project came from FERC in 2010 in the absence of the extensive diversionary features present at the other Projects and in light of Defendants' indication that they did not desire to achieve downstream fish passage via the turbines and when no studies had been completed.

Although this Project presents the closest case of all the dams at issue, the Court finds that Defendants have demonstrated that they knew salmon were passing through the Shawmut Project, they took active steps to route the fish away from the turbines over a prolonged course of conduct and that Defendants responded to information about downstream passage by altering their conduct to attempt to make fish passage more effective. See Friends of Merrymeeting Bay, 759 F.3d at 36 ("[A]ssuming the record showed that the diversionary facilities were less than fully effective, the district court could still grant summary judgment in concluding that the dam owner did not desire passage through the turbines based on other information, such as good faith efforts to ameliorate problems with the bypass method."). Plaintiffs have not presented specific facts to create a trialworthy issue at the Shawmut Project. Further, FERC stated that Defendants were in

compliance with the Settlement Agreement at Shawmut in 2010, which is not determinative but is instructive. Friends of Merrymeeting Bay, 759 F.3d at 37. The Court finds that Defendants did not desire fish to pass downstream via the turbines at the Shawmut Project.

E. The Weston Project

In 2007, Defendants stated that there were several ways that fish could pass downstream at the Kennebec River Projects, including the Weston Project: gates, sluices, spillways and the turbines. (LSW JSF ¶¶ 198, 199.) An analysis by Defendants and their consultants concluded that in the absence of the boom installed in 2011, 32.2% of downstream migrating kelts pass the Project via spill, 1% pass via the bypass and roughly 66% pass via the turbines. (Id. ¶ 231.)

In 2009, Defendants began evaluating options for improving downstream fish passage, and in 2010, Defendants completed major structural repairs to the existing sluice gate structure and resurfaced the sluice to make it safer for fish. (BFSF ¶¶ 40, 41; Pls.' Opp'n to BFSF ¶ 40.) In 2011, Defendants installed a Tuffboom at the Weston Project, which is designed to be deployed year-round and is intended to keep fish away from the turbines. (BFSF ¶ 42; Pls.' Opp'n to BFSF ¶ 42.) When USFWS and MDMR reviewed plans for the installation of the boom at Weston, those agencies stated that the guidance boom was experimental and similar devices at other dams had been prone to failure, debris loading and overtopping and had not proven effective. (BFSF ¶ 2, 3; Pls.' Opp'n to BFSF ¶ 2; LSW JSF ¶ 229, 230.). MDMR also stated that it "support[ed] installing and testing the device [in 2011]." (BFSF ¶ 2; Pls.' Opp'n to BFSF ¶ 2 (02/15/2011 Letter from MDMR to Richter (LSW ECF No. 124-8)).) While MDMR expressed hesitation at the effectiveness of the boom, the installation of that boom was approved by NMFS, USFWS and MDMR as part of a general practice to collaborate with these agencies on fish passage design. BFSF ¶ 2; Pls.' Opp'n to BFSF ¶ 2.)

In 2011, there were problems with the Tuffboom. In August, the Tuffboom was damaged by high river flows, and in October, one of the welds failed, causing the entire boom to open. (LSW JSF ¶¶ 227, 228.) As soon as the river flows subsided and it was safe, Defendants inspected the problem and arranged to have the manufacturer repair the problems. (BFSF ¶ 43.) Defendants planned to test the efficacy of the boom in 2012. (BFSF ¶ 43; Pls.' Opp'n to BFSF ¶ 43.) Accordingly, this conduct shows continuous good faith efforts by Defendants to keep fish from the turbines.

The course of conduct of Defendants at the Weston Project shows that Defendants do not intend to pass fish via the turbines. Instead, Defendants knew that fish were present and took steps to route the fish away from the turbines via the bypass and boom. See Friends of Merrymeeting Bay, 759 F.3d at 35 (stating that Defendants "may choose to implement and to make good faith efforts to reach certain efficiency goals"). While it is true that the boom experienced problems, Defendants' reaction to those problems were timely efforts to ameliorate the negative consequences to the fish. Further, Defendants planned to undertake a study to determine the effectiveness of their diversionary features in the near future. Defendants' actions support the explicit statement that: "Our desire is not to pass them [the fish] through the turbines, it's to bypass the turbines." (BFSF ¶ 13 (Richter Dep. 260:1-9; see also Richter Dep. (ECF No. 82-5) 378:22-379:3).) Finally, the Court notes that in July of 2010 – prior to the installation of the boom – FERC wrote to Defendants and stated: "[a]fter reviewing the May 11, 2010 annual fish passage report, . . . we have determined that NextEra is complying with the salmon protection requirements of the . . . Weston . . . Project license[]" and that "[w]e appreciate your work to comply with the ESA and to protect Atlantic salmon at th[is] project[]." (BFSF ¶ 2; Pls.' Opp'n to BFSF ¶ 2 (07/23/2010 Letter from FERC to Toth (LSW ECF No. 83-3))); see also Friends of Merrymeeting Bay, 759

F.3d at 37. Defendants have demonstrated that they are entitled to summary judgment in that they do not desire to pass fish via the turbines at the Weston Project.

F. The Hydro Kennebec Project

Defendants' actions and stated intent likewise show that Defendants do not desire to pass salmon and shad via the turbines at the Hydro Kennebec Project. With the knowledge that Atlantic salmon and shad inhabit the impoundment above the Hydro Kennebec Project, in 2005 and 2006, Defendants designed and installed a downstream fish bypass system in consultation with FERC and the resource agencies. (BFSF ¶¶ 2, 14; Pls.' Opp'n to BFSF ¶ 2; HKJSF ¶ 24.) In 2006, Defendants received approval from USFWS, MDMR and MDEP for the installation of the bypass measures. (BFSF ¶ 2; Pls.' Opp'n to BFSF ¶ 2.) In September of 2006, MDEP stated, "[t]he [M]DEP commends Hydro-Kennebec L.P. for its commitment to providing improved downstream passage that the [Hydro Kennebec] project for post-spawner adult anadromous fish[.]" (BFSF ¶¶ 2, 6 (09/18/2006 Letter from Maine DEP to Stetson (HK ECF No. 82-7).) Also in 2006, Defendants installed a floating guidance boom to permit fish to bypass the turbines. (HKJSF ¶ 138.) However, the maximum flow to the bypass is 4% of the maximum flow to the turbines. (Id. ¶¶ 75, 77.) Defendants explicitly stated that the function of the downstream fishway is "to pass migrating fish downstream" and that it "provides a route other than the turbines." (BFSF ¶ 8.)

The boom at the Hydro Kennebec experienced problems and malfunctions, including a gap between the boom and the entranceway to the downstream bypass, overtopping, and billowing and tearing of the Kevlar curtain. (HK Def. Opp. SMF ¶¶ 35, 37; BFSF ¶ 17.) In addition, high water flows delayed the installation of the boom in 2007 and 2008. (HK Def. Opp. SMF ¶ 39.) In June of 2007, USFWS inspected the downstream fish passage facility. (BFSF ¶ 6.) During the visit, the guidance device was submerged 12 to 18 inches below the water. (Id.) In a March 2008 letter,

USFWS wrote regarding the inspection: "We are very pleased with your response to the submerged fish guidance device, which was corrected within days of the inspection." (Id.) Also, in 2007, Defendants made improvements to the fish passageway, including installation of a weir in the plunge pool to increase its depth and minimize the potential for fish injury and the completion of the operating mechanism for the gate structure. (BFSF ¶ 16.) Other improvements included raising the fishboom to prevent overtopping, installing a flashboard system to increase water depth to minimize the potential for descaling or injury, arranging for the manufacturer to install additional reinforcing cables, reshaping the Kevlar fabric and adding additional floatation. (BFSF ¶ 17; Pls.' Opp'n to BFSF ¶ 17.)

The initial installation of the bypass and boom show that Defendants attempted to divert fish away from the turbines at the Hydro Kennebec Project. When problems arose with the boom, Defendants addressed the problems promptly, as indicated by the letter from USFWS. (BFSF ¶ 6.) Further, Defendants made good faith efforts to improve the boom to address specific problems that arose and made other improvements to the downstream fishway to minimize injury to any fish. The actions of Defendants are furthered by the statement that "the focus [at the Hydro Kennebec Project] has been on determining fish passage efficiency" and improving that efficiency. (BFSF ¶ 9.)

In 2008, Defendants considered changing the curtain material based on feedback from the agencies, but decided against that course of action based on representations from the curtain manufacturer and undertook a different course of action. (BFSF ¶ 18.) This shows that Defendants considered the advice of the agencies involved and explored multiple options to remedy problems with the fish passageway at Hydro Kennebec.

Next in 2011, a radio telemetry study was performed at the Hydro Kennebec Project to determine the effectiveness of the fish passage system. (HKJSF ¶ 143.) By undertaking this study, Defendants gained information regarding the results of their efforts to divert fish from the turbines.[28] See Friends of Merrymeeting Bay, 759 F.3d at 35 (stating that the Settlement Agreement "imposes obligations to study the effectiveness over time of whatever interim downstream passage facilities it may choose to implement and to make good faith efforts to reach certain efficiency goals"). Later in 2011, Defendants wrote to various state and federal agencies seeking approval to install a Tuffboom at Hydro Kennebec. (Id. ¶ 141.) NMFS responded by stating that it did not have any objection but that effectiveness studies in the area had not been very encouraging. (Id. ¶ 142.) In December of 2011, after further consultation with the agencies, Defendants replaced the original boom with a Tuffboom. (BFSF ¶ 20.) In 2012, Defendants made further improvements to the fish passageway, including deepening the plunge pool, and planned to install an additional feature to the passageway. (Id. ¶ 21.)

Looking at the entire course of conduct for the Hydro Kennebec Project and their continuous efforts to improve downstream fish passage, Defendants have demonstrated that they did not desire to pass fish via the turbines. See Friends of Merrymeeting Bay, 759 F.3d at 35. Defendants have shown that there are no genuine issues of material fact regarding their intent and desire. Instead, examining the record on summary judgment in the light most favorable to Plaintiffs, the record reveals that Defendants knew fish were passing the project and they took active measures to divert those fish away from the turbines. The results of those efforts required defendants to make modifications and improvements to the boom, as Defendants did in 2007, 2008, 2011 and 2012. Further, Defendants performed maintenance activities as soon as possible.

[28] The study showed that 67.4% of smolts passed via spill, 16.8% passed via one of the turbines and 14.7% passed via the bypass. (HK JSF ¶146.)

In undertaking the modifications and improvements, Defendants consulted with the resource agencies and FERC to obtain their approval and guidance. While the feedback from those agencies was not always positive, such as when NMFS indicated that the results from studies of the Tuffboom was not encouraging, at other times the agencies praised Hydro Kennebec for their efforts, such as when USFWS observed the speed with which Hydro Kennebec corrected a problem in 2007. (See HKJSF ¶ 142; BFSF ¶6.) Tellingly, there is no evidence before the Court from either party that any of the agencies have alleged that the Hydro Kennebec is in violation of the Settlement Agreement. See Friends of Merrymeeting Bay, 759 F.3d at 37.

The study performed in 2011 showed that the fish passageway at Hydro Kennebec is not achieving perfect, or 100% efficiency, results. (See HKJSF ¶ 146.) Over fifteen percent of the fish in the study passed via the turbines. (See id.) However, perfection is not required by the Settlement Agreement. Friends of Merrymeeting Bay, 759 F.3d at 36. As aptly stated by NMFS in a 2008 email to Hydro Kennebec: "NMFS does not anticipate the bypass to be 100% efficient, however[.] [O]ur goal is to maximize the overall efficiency for the protection of the resource." (BFSF ¶ 10; Pls.' Opp'n to BFSF ¶ 10.) While 16.8% of fish passed via the turbines, 83.2% of those fish in the study avoided the turbines. In short, the continuous efforts of Defendants demonstrate that Defendants' desire is not to pass fish via the turbines at the Hydro Kennebec Project and the Court does not find any trialworthy issue on this point.

G. Conclusion to the Motions for Summary Judgment

Having considered the entire record on summary judgment in the light most favorable to Plaintiffs, the Court finds that there is no genuine issue of material fact on the question of whether Defendants desire to pass Atlantic salmon and/or shad through the turbines at the Lockwood,

Hydro Kennebec, Shawmut and Weston Projects. Instead, the Defendants' desire at each of these projects is that the fish bypass the turbines.

The record shows that Defendants knew fish were present, and, at each project, Defendants took steps to route the fish away from the turbines. See Friends of Merrymeeting Bay, 759 F.3d at 35. Defendants do not contest that salmon and shad inhabit the impoundments above the Projects and the evidence of downstream fish passage demonstrates that some fish are accessing the turbines at each of the Projects.[29] Accordingly, Plaintiffs argue that Defendants knew that substantial numbers of migrating fish were accessing the turbines from fish passage studies, and yet Defendants continued to operate the turbines thus showing their true intent. However, Defendants' knowledge that some fish are accessing the turbines does not equate to Defendants' desire that those fish access the turbines. In countering Plaintiffs' argument, Defendants present evidence that they installed diversionary devices at each of the Projects and used the knowledge gained through the studies to make continuous efforts to route fish away from the turbines. Over time, as problems developed, Defendants' reactions show that their intent was to keep fish from the turbines when possible.

Next, the statements and actions of FERC and the resource agencies support that Defendants' subjective intent was that fish bypass the turbines. FERC nor the resource agencies have alleged that the Defendants were in violation of the Settlement Agreement at any of the Projects. Rather, the resource agencies and FERC have been in frequent contact with Defendants

[29] The radio telemetry study performed at the Lockwood Project showed that during median flow conditions, approximately 50% of fish pass via the turbines. (LSW JSF ¶¶ 213, 220-21.) The radio telemetry study performed at the Hydro Kennebec showed that during spill conditions, approximately 17% of fish pass via the turbines. (HK JSF ¶ 146.) The estimates for downstream passage at the Shawmut Project predicted that approximately 70% of kelts pass via the turbines. (LSW JSF ¶ 235.) The estimates for downstream passage at the Weston Project predict that during spill conditions, approximately 66% of kelts pass via the turbines. (LSW JSF ¶ 231.) The estimates for the Weston Project reflects conditions before the guidance boom was installed in 2011, rendering the results of the estimates questionable.

and provided feedback on the plans for the Projects, and in 2010, FERC stated that Defendants were in compliance with the Settlement Agreement at the Lockwood, Weston and Shawmut Projects. However, Plaintiffs argue that the criticism leveled by the resource agencies is evidence that Defendants know that the diversionary devices are ineffective. Plaintiffs assert that when the knowledge of ineffectiveness is juxtaposed with Defendants continued operation of the turbines, the evidence shows that Defendants' subjective intent is that fish pass downstream via the turbines. Plaintiffs point to the criticism leveled at guidance booms, and the Tuffboom in particular used at the Weston, Hydro Kennebec and Lockwood Projects, as evidence of the diversionary devices' ineffectiveness. For example, after reviewing the conceptual design plans for the Tuffboom at the Weston Project prior to its installation, USFWS and MDMR stated that the Tuffboom was experimental, prone to failure, debris loading and overtopping. (LSW JSF ¶¶ 229, 230.) However, it is also true that Defendants consulted with and received agency approval prior to installing the Tuffbooms at the Weston and Lockwood Projects and consulted with the agencies prior to installing the Tuffboom at the Hydro Kennebec Project. (BFSF ¶¶ 2, 20.) Further, Defendants received commendations for their efforts to improve downstream fish bypass. For example, in March of 2008, USFWS wrote to Defendants to commend them on their response to a submerged fish guidance device, which was corrected within days of the agency's inspection in 2007. (BFSF ¶ 6.) In light of the entire record on summary judgment, the statements and actions by FERC and the resource agencies support that Defendants' subjective intent was to bypass the turbines.

Finally, a lack of perfect efficiency does not establish a trialworthy issue in this case. Complete effectiveness of the diversionary facilities is not required, nor does the passage of fish

through the turbines necessarily mean that Defendants "desire" that fish pass via the turbines under the terms of the Settlement Agreement. "[T]he Agreement does not require Defendants to achieve any particular objectively measurable level of effectiveness, and neither should the court." Friends of Merrymeeting Bay, 759 F.3d at 36. Instead, the effectiveness of the diversionary facilities is evidence that the Court should consider as part of the overall relevant information in the case. See id. Although Plaintiffs do not state that they are attempting to hold Defendants to a strict liability standard, in their motion papers, Plaintiffs make little room for any level of inefficiency for any of the diversionary features at any of the Projects. In short, Plaintiffs assert that fish are passing via the turbines, Defendants decline to shutter the turbines, and therefore it is Defendants' intent that fish pass through the turbines. That is not the standard elucidated by the First Circuit.

Viewing the record in the light most favorable to Plaintiffs and drawing all reasonable inferences in Plaintiffs' favor, there is no genuine issue of material fact with regard to Defendants' subjective intent under the Settlement Agreement. Defendants do not desire to pass fish downstream via the turbines and have engaged in continuous efforts to route fish away from the turbines. Therefore, the Court finds that Defendants have demonstrated an absence of evidence to support Plaintiffs' case and Plaintiffs have failed to establish the presence of a trialworthy issue. Defendants' Motion for Summary Judgment is GRANTED and Plaintiffs' Motion for Summary Judgment is DENIED.

III. CONCLUSION

For the reasons stated, Plaintiffs' Motion for Summary Judgment (ECF No. 162) is DENIED and Defendants' Motion for Summary Judgment (ECF No. 164) is GRANTED.

SO ORDERED.

/s/ George Z. Singal

United States District Judge

Dated this 2nd day of April, 2015.