

January 27, 2016

Michael Cobb  
Office of Ecosystem Protection  
U.S. Environmental Protection Agency  
5 Post Office Square, Suite 100 (OEP06-1)  
Boston, MA 02109-3912

**Re: Comment on Draft National Pollutant Discharge Elimination System (NPDES)  
Permit No. NH0001743 for Public Service Company of New Hampshire's (PSNH)  
Schiller Station**

Dear Mr. Cobb:

Conservation Law Foundation (CLF) appreciates the opportunity to comment on the above-referenced Draft National Pollutant Discharge Elimination System (NPDES) Permit (Draft Permit) for Public Service Company of New Hampshire's (PSNH) Schiller Station (Schiller), located at 400 Gosling Road in Portsmouth, New Hampshire.

CLF is a non-profit, member-supported organization that works to protect New England's environment for the benefit of all people. CLF operates advocacy centers in Maine, Massachusetts, New Hampshire, Rhode Island, and Vermont and, among other issues, works to protect the health and sustainability of our region's water resources as well as to reduce the environmental and public health impacts of the energy sector. In New Hampshire, this work has included substantial, ongoing efforts to restore and protect the health of the Great Bay estuary, including but not limited to the Piscataqua River, and to ensure compliance with the Clean Water Act and other regulations relative to PSNH fossil-fuel generating units.

CLF is aware of comments to be submitted by Sierra Club relative to the Draft Permit and we hereby support and adopt the requests made by Sierra Club with respect to needed amendments to the Draft Permit, including but not limited to the need to require closed cycle cooling or its equivalent at Schiller to reduce adverse environmental impacts. It is clear that closed cycle cooling is both economically and technically achievable at Schiller and is the best treatment available (BTA). CLF also provides the following comments based on our unique experience with the Great Bay estuary and its environmental condition and needs.<sup>1</sup>

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<sup>1</sup> For more than a decade, CLF has been actively engaged in Clean Water Act Section 303(d) listing and NPDES permitting processes to address problems, discussed *infra*, in the Great Bay estuary. Four years ago, CLF established the Great Bay-Piscataqua Waterkeeper program, which is devoted solely to restoring and protecting the health of the Great Bay estuary.

### ***The Great Bay Estuary – A National Treasure***

The Great Bay estuary is a large, tidally-dominated estuarine system comprised of two large, inland embayments – Great Bay and Little Bay – connected to the Gulf of Maine by the powerful tides of the Piscataqua River, which forms the border between New Hampshire and Maine. With a total drainage area of 930 square miles spanning 39 communities in New Hampshire and another ten in Maine, the Great Bay estuary receives fresh water flows from seven major rivers (the Oyster, Bellamy, Lamprey, Squamscott, Winnicutt, Cocheco and Salmon Falls Rivers), and several small creeks. The mixing of these fresh waters with the influx of tidal flows provides for a unique, sensitive, and highly productive natural resource that stands at the center of New Hampshire’s coastal heritage.

The estuary contains a broad diversity of habitat types, including eelgrass (the cornerstone of the estuary’s ecosystem), salt marshes, mudflats, channel bottom, and rocky intertidal areas. This diversity makes the estuary a critical breeding and nursery ground for finfish, shellfish and other invertebrates, as well as an important food source for many fish, mammals, birds and invertebrates. Fish species depending on the estuary are numerous. In fact, as further discussed *infra*, the Great Bay estuary is designated Essential Fish Habitat (EFH) by the National Marine Fisheries Service for numerous fish species.

The value of the Great Bay estuary is well recognized. As EPA stated in September 2015, in a technical memorandum addressing the State of New Hampshire’s draft 2012 Section 303(d) list of impaired waters:

The Great Bay Estuary is a unique resource in the State of New Hampshire and has been designated by EPA, pursuant to §320 of the Clean Water Act, as one of twenty-eight estuaries of national significance. The Great Bay Estuary is a national treasure and a valuable resource to New Hampshire.<sup>2</sup>

In addition to its designation as an estuary of national significance, Great Bay has been designated part of the National Estuarine Research Reserve, and is the subject of study by the Piscataqua Region Estuaries Partnership (formerly the N.H. Estuaries Program) and researchers at the University of New Hampshire’s Jackson Estuarine Research Reserve. In recent years, EPA has expended considerable effort through the Clean Water Act’s NPDES permitting program to control major sources of pollution in the estuary, with a focus on wastewater

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<sup>2</sup> See EPA Technical Support Document (Attachment A to EPA Review of New Hampshire’s 2012 Section 303(d) List), at 2, *available at* <http://des.nh.gov/organization/divisions/water/wmb/swqa/2012/documents/2012-303d-approval.pdf>.

treatment facilities<sup>3</sup> and stormwater.<sup>4</sup> It also took recent enforcement action against the operator of a scrap metal facility located on the shores of the Piscataqua River in Portsmouth for its illegal discharges of stormwater pollution associated with industrial activities.<sup>5</sup>

In light of the significant value of the Great Bay estuary, including the Piscataqua River, which is a critical component of the estuary, and in light of ongoing efforts to restore and protect its health, it is essential that EPA strengthen the Draft Permit to incorporate greater protections.

### ***The Great Bay Estuary – A Resource in Decline, Cumulative Impacts***

As recently stated by EPA, “[T]here is substantial evidence that the Great Bay Estuary waters in question are impaired for the State’s aquatic life designated use as evidenced by eelgrass loss, poor water clarity, and /or low levels of dissolved oxygen.”<sup>6</sup> The N.H. Department of Environmental Services has similarly acknowledged that “[a]t this time the Great Bay Estuary exhibits many of the classic symptoms of too much nitrogen: low dissolved oxygen in tidal rivers, increased macroalgae growth, and declining eelgrass.”<sup>7</sup>

Eelgrass serves as the cornerstone habitat for the Great Bay estuary, providing critical habitat for a wide variety of aquatic species. Regrettably, as stated above, eelgrass habitat in the estuary is in decline. More specifically, eelgrass habitat in water bodies throughout the estuary, including but not limited to the Piscataqua River, Little Bay and Great Bay, has decline significantly.<sup>8</sup> In fact, eelgrass habitat in the Piscataqua River has nearly disappeared, creating a habitat disconnect for migratory fish species between the mouth of the estuary and Great Bay. Eelgrass in Little

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<sup>3</sup> EPA has been actively engaged in NPDES permitting matters addressing wastewater treatment facilities, including their contributions of nitrogen pollution, in Portsmouth, Exeter, Newmarket, Dover and Rochester, to name a few.

<sup>4</sup> EPA is in the process of finalizing a new general permit for New Hampshire Small Municipal Separate Storm Sewer Systems (MS4s). See Draft New Hampshire Small MS4 General Permit, *available at* [http://www3.epa.gov/region1/npdes/stormwater/MS4\\_2013\\_NH.html](http://www3.epa.gov/region1/npdes/stormwater/MS4_2013_NH.html). The most recent iteration of the draft general permit contains special provisions addressing water quality issues in the Great Bay estuary.

<sup>5</sup> In part as a result of pollution problems at this site (the Market Street Terminal in Portsmouth), the site’s owner, the Pease Development Authority, declined renewal of a lease for the operator, Grimm Industries, causing it to vacate the property.

<sup>6</sup> See EPA Technical Support Document, at 1, *available at* <http://des.nh.gov/organization/divisions/water/wmb/swqa/2012/documents/2012-303d-approval.pdf>.

<sup>7</sup> See N.H. Dept. of Env’tl Serv., Response to Public Comments on CALM, at 22, *available at* <http://des.nh.gov/organization/divisions/water/wmb/swqa/2014/documents/2014-rsp-cmts-drft-calm.pdf> (quoting Piscataqua Region Estuaries Partnership’s 2013 State of the Estuaries report, *available at* [http://prep.unh.edu/resources/pdf/2013%20SOOE/SOOE\\_2013\\_FA2.pdf](http://prep.unh.edu/resources/pdf/2013%20SOOE/SOOE_2013_FA2.pdf)).

<sup>8</sup> See Seth Barker, Eelgrass Distribution in the Great Bay Estuary for 2013, (2013) *available at* <http://scholars.unh.edu/prep/239/>; Frederick T. Short, Eelgrass Distribution in the Great Bay Estuary for 2013, (2013), <http://scholars.unh.edu/prep/348/>; Frederick T. Short, Eelgrass Distribution in the Great Bay Estuary for 2012, (2012), *available at* <http://scholars.unh.edu/prep/2/>; Frederick T. Short, Eelgrass Distribution in the Great Bay Estuary for 2011, (2011), *available at* <http://scholars.unh.edu/prep/3/>; Frederick T. Short, Eelgrass Distribution in the Great Bay Estuary for 2010, (2010) <http://scholars.unh.edu/prep/4/>.

Bay also has essentially disappeared. Whereas eelgrass continues to survive in Great Bay, it is nonetheless declining significantly in terms of both areal extent and biomass.

The loss of eelgrass in the estuary means there is less habitat for aquatic species. Indeed, as a result of significant eelgrass declines, including in the Piscataqua River, water bodies throughout the estuary – again, including the Piscataqua River – are failing to meet designated aquatic life uses and are violating state water quality standards, including the critically important narrative water quality standard codified as Env-Wq 1703.19, which states:

- (a) The surface waters shall support and maintain a balanced, integrated, and adaptive community of organisms having a species composition, diversity, and functional organization comparable to that of similar natural habitats of a region.
- (b) Differences from naturally occurring conditions shall be limited to non-detrimental differences in community structure and function.

The significant loss of cornerstone habitat throughout the estuary means species that rely on such habitat are under greater stress, requiring greater protection. It is critical that EPA consider the cumulative impacts of Schiller and the ongoing loss of eelgrass habitat, as well as other signs of ecosystem degradation (e.g., poor water clarity, low dissolved oxygen, increasing presence of macroalgae), on the aquatic organisms that rely on the Great Bay estuary, and that it take necessary action, including the requirement of closed cycle cooling or an approach that will achieve equivalent protections, to protect aquatic organisms and ensure compliance with water quality standards, including but not limited to Env-Wq 1703.19.<sup>9</sup>

### ***The Great Bay Estuary – Essential Fish Habitat***

Essential Fish Habitats (EFHs) were created to protect and manage the Nation’s fishery resources to “prevent overfishing, to rebuild overfished stocks, to insure conservation, to facilitate long-term protection of essential fish habitats, and to realize the full potential of the Nation’s fishery resources.”<sup>10</sup> Fisheries are important both commercially and recreationally as a source of employment and contributor to the nation’s economy generally.<sup>11 12</sup>

Schiller is located in the EFH for eleven species at various life stages: Atlantic cod, Atlantic herring, Atlantic sea scallop, haddock, pollock, red hake, white hake, windowpane flounder,

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<sup>9</sup> Sierra Club’s comments address other important standards and requirements applicable to Schiller’s Draft Permit, including other water quality standards, technology requirements, cooling water systems, thermal discharges, and Endangered Species Act requirements), which CLF incorporates by reference.

<sup>10</sup> 16 U.S.C.A. § 1801(a)(6).

<sup>11</sup> *Id.* at § 1801(a)(1) and (3).

<sup>12</sup> It should be noted that because of this, only commercially fished species are managed through EFHs.

yellowtail flounder, Atlantic mackerel, and bluefish.<sup>13</sup> These species, as they are commercially fished, are important not only ecologically but economically to both New Hampshire and Maine as a source of employment and livelihood. Of these species, Atlantic cod, Atlantic herring, pollock, red hake, white hake and windowpane flounder, are estimated to be impinged at Schiller annually.<sup>14</sup> Atlantic cod, Atlantic herring, haddock, Atlantic mackerel, pollock, hake, and windowpane flounder are estimated annually to be entrained.<sup>15</sup> Further, a Piscataqua River tributary, the Cocheco River, is EFH for Atlantic salmon.<sup>16</sup>

In light of these estimates and the importance of these species to the economy and ecosystem, and in light of the added stress on fish species resulting from habitat loss in the estuary (*see discussion supra*), EPA should have recommended closed cycle cooling – the most effective option for reducing impingement and entrainment – as the BTA for Schiller’s CWIS, as the technology would provide for the long term protection of these species.<sup>17</sup> The final permit must be amended accordingly.

### ***The Exacerbating Problem of Climate Change***

On top of all the stresses discussed above, the ongoing problem of climate change introduces yet a further – and exacerbating – stress that will adversely affect the health and habitat value of the Great Bay estuary. Climate change threatens Great Bay with sea level rise, tidal changes, pH changes, UV radiation damage, sediment hypoxia and anoxia, increases in water temperature, and increased precipitation.

As New Hampshire’s surface waters are required to sustain biological integrity by maintaining a “balanced, integrated, and adaptive community,” climate change must be considered a potential threat to the biological integrity of the Piscataqua River and the estuary as a whole.<sup>18</sup> Climate change has the potential to significantly alter the Great Bay estuary’s and Piscataqua River’s biological integrity through changes in the ecosystem and aquatic environment. EPA should require the most effective technology, closed-cycle cooling, as the BTA for thermal discharge and impingement and entrainment mortality reduction in order to protect the estuary from the exacerbating impacts of climate change, and to protect biological integrity consistent with New Hampshire water quality standards.<sup>19</sup>

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<sup>13</sup> NOAA, Summary of Essential Fish Habitat (EFH) and General Habitat Parameters for Federally Managed Species, *available at* <http://www.greateratlantic.fisheries.noaa.gov/hcd/efhtables.pdf>.

<sup>14</sup> Draft NPDES Fact Sheet (Fact Sheet), Attachment D, EFH Assessment, 193.

<sup>15</sup> *Id.* at 190-91.

<sup>16</sup> *See supra* note 15.

<sup>17</sup> Draft Permit Fact Sheet at 71, 152, 155.

<sup>18</sup> Env. Wq. 1703.01(b); *Id.* at 1702.07.

<sup>19</sup> Draft Permit Fact Sheet at 71, 152, 155.



For the foregoing reasons, CLF urges EPA to amend and finalize its Draft Permit to incorporate much needed protections – including closed cycle cooling – to ensure the biological integrity of the Piscataqua River and Great Bay estuary, and to ensure compliance with the requirements of the Clean Water Act. CLF appreciates the opportunity to provide these comments.

Respectfully submitted,

A handwritten signature in black ink that reads "Tom Irwin".

Tom Irwin  
Vice President & CLF New Hampshire Director  
Conservation Law Foundation

A handwritten signature in blue ink that reads "Caitlin Peale Sloan".

Caitlin Peale Sloan  
Staff Attorney  
Conservation Law Foundation