

Dismantling a Dirty Dozen:
How Environmental Stakeholders Saved the Bay using the Clean Water Act

Aaron J. Ley, Ph.D.
MPA Director and Assistant Professor
University of Rhode Island
ajley@uri.edu

Bryce B. DuBois, Ph.D.
Lecturer
Rhode Island School of Design
bdubois@risd.edu

I. Introduction

During New England summers it is impossible to ignore the armada of sailboats that quietly glide across the glistening waters and cut through the salty air of Rhode Island's Upper Narragansett Bay. To the immediate east of the bay is the Mount Hope Bay, the industrial viewscape of which stands in stark contrast to the aesthetic that makes the Narragansett Bay a top summer destination for leisure seekers. Along Mount Hope Bay's backdrop are two massive, closed-cycle cooling towers that tell the story of arguably one of the most important environmental conflicts to affect the region. These towers provide cooling water to the 1,500 MW Brayton Point coal-fired power plant in Somerset, MA, at one time the largest coal-fired plant in New England with enough capacity to deliver power to 1.5 million homes. After the plant had installed a fourth generating unit in the 1980s, it had drawn up to a billion gallons of water a day from the Mount Hope Bay to cool it and that water was discharged back into the bay at a higher temperature.

By the late 1990s, Rhode Islanders and residents of Southeastern Massachusetts, along with stakeholders from Save the Bay, Conservation Law Foundation, Riverkeeper, and the Rhode Island Department of Environmental Management, discovered through a scientific study that the heated water the company was discharging into the Mount Hope Bay, two-thirds of which is under Rhode Island's domain, was causing serious harm to marine life. This scientific discovery allowed stakeholders from Save the Bay, an organization with a long history of successful activism in Rhode Island, to ask the EPA write the company a stricter permit under Section 316(b) of the Clean Water Act, which regulates the intake of cooling water. The writing of this permit required that the company install the "best available technology" for minimizing the environmental impact of discharging heated water into the bay. The company, therefore, decided to build the two 400 foot closed-cycle cooling towers at a cost of \$500 million to minimize its impact on the bay.

The construction of these cooling towers has important scholarly implications for researchers interested in questions of public policy and environmental psychology. When Save the Bay, for instance, discovered that the Brayton Point facility was endangering marine life in the Mount Hope Bay it faced important questions about where to pursue its policy goal of protecting the bay, whether through legislative, administrative, collaborative, or legal means. Additionally, the construction of the two cooling towers along the Mount Hope Bay also raises questions about the origins of opposition to large scale energy infrastructure and the disruption of place attachment caused when erecting these structures. In this paper we present a thick description of the policymaking efforts of environmental advocates to demand a stricter Section 316(b) permit that led to the construction of the cooling towers. We conclude our paper by drawing insights about the venue shopping behavior of environmental advocates and additional insights about the construction of the cooling towers on place attachment. We turn now to a description of the literature about venue choice, followed by a discussion of the place attachment literature.

II. Environmental Policymaking, Venue Shopping, and a Theory of Easy Choices

The American political system, being known for its separated nature (Jones 1994), provides a variety of different policymaking venues for groups seeking to pursue policy change. These venues include legislative, administrative, judicial, and collaborative policymaking institutions at all levels of government (Ley 2014; Jourdain, et al. 2016). Scholars have debated as to whether stakeholders choose to pursue their policy goals in venues that give them the best chance for policy success (e.g., Ley and Weber 2014; Ley and Weber 2015; Ley 2016), or whether stakeholders form preferences for venues regardless of their chances of success in them (Pralle 2003). Others have found evidence that activists achieve success when they gravitate toward venues that are receptive to their preferred framing of the issue (Thorn 2018).

According to Ley and Weber's (2015) Adaptive Venue Shopping (AVS) Framework, it helps to think of boundedly rational activists being drawn into policymaking venues on the basis of "easy choices" (see Table 1). These "easy choices" are structured by the institutional context of the ongoing "ecology of policy games" that are being played by political actors (Lubell 2013). The factors constituting the easy choices that are offered to stakeholders include the mix of resources possessed by activists, the mix of resources held by their opponents, and whether or not certain venues are receptive to how groups are framing the issue (Ley and Weber 2015). While not all choices are "easy," the theory of easy choices provides a simplified model of reality that demonstrates how policy actors are guided into certain policymaking venues and it is a heuristic that can guide stakeholders toward the best venue for policy change. Yet, venue selection is not a one-shot game in the context of long-term and ongoing policy processes. Policy actors who are engaged in the long-term game of public policymaking are capable of adaptive learning (Sabatier and Jenkins-Smith 1999). This means that activists are capable of changing strategies on the basis of updating what they have learned or by developing additional resources in the venues where they are pressing for policy change. For instance, policy actors may miscalculate on one of their venue choices, fail, but then rebound and achieve policy success on the basis of learning by their failure.

[Table 1 Here]

We add to this theory of easy choices by describing how historical processes and past critical decisions combine with the development of key scientific and technical resources in ways that restructure the resources that are bestowed upon certain groups. We do so by drawing upon the insights of Paul Pierson (1993) who argues that "policies produce politics" and from Mettler and SoRelle (2014) who show that policies produce causal effects, oftentimes unintended, that explain the passage of future public policies. Specifically we demonstrate how state-level actors, in the context of broad federal statutes, collaborated with advocacy organizations to furnish scientific and

legal resources in ways that drew these groups into the most effective policymaking venues for achieving the policy outcomes that were desired. In other words, the “easy choice” was structured by the complex interaction of the federal government, the states, and advocacy groups. It was ultimately a decision that, without public comment, allowed the construction of two massive, 400-foot cooling towers that now dominate the Mount Hope Bay’s viewshed alongside a now-decommissioned power plant that once delivered power to 1.5 million homes.

III. Place Attachment and the Construction of Large-Scale Energy Infrastructure

The construction of large cooling towers, reminiscent of the ones that sit alongside nuclear power plants, also raises interesting scholarly questions about the lack of support or public opposition to these structures. As the production of renewable forms of technology becomes more economically feasible and continues to grow there is a need to understand more about the origins of opposition to these projects. Previous research on social acceptance or opposition to large scale energy infrastructure seeks to improve our understanding of the NIMBY (Not In My Back Yard) concept. It is argued that opposition to infrastructure projects in a given area corresponds to place attachments, or positive emotional feelings about a place (Low & Taplin, 1991). Opposition to large scale energy infrastructure is attributed to place protective actions where individuals attempt to stem the disruption of place attachment (Devine-Wright and Howes 2010; Layzer 2016). Additional work on wind farm construction draws on social representations theory to determine whether the wind farm developer is trusted or perceived as insiders and/or outsider, which matters in the overall calculus of whether these projects are supported (Read, et al. 2013). In other natural resource contexts, place meaning has been found to be more influential than place attachment in community member willingness to engage in environmental actions related to a watershed that they live in (c.f. Brehm, Eisenhower & Stedman, 2011). Our study contributes to this body of

literature by investigating place attachment and meaning related to the support or opposition to the environmental action that led to the construction of these towers, and the potential disruption of place attachment caused by the building of these large cooling towers. We turn now to our case of New England's conflict over Brayton Point Station's practice of discharging cooling water into the Mount Hope Bay.

V. The Case: The Mount Hope Bay and Brayton Point Station's Coal-Fired Conflict

The waters of the 13.6 mile Mount Hope Bay are in the northeastern portion of the Narragansett Bay Watershed that is a draining area for 620 miles of territory (Dixon, Karp, and Penniman 1991). Two-thirds of the bay is within Rhode Island's jurisdiction while the other one-third of the bay falls under the jurisdiction of Massachusetts. This body of water has undergone profound changes throughout the years, at one time being so polluted by combined sewage overflow that it was closed to shellfishing. The rivers feeding into the Mount Hope Bay faced the greatest sewage-related challenges and the rivers were also shown to be contaminated with mercury and other heavy metals due to industrial pollution (Dixon, Karp, and Penniman 1991).

The construction of Brayton Point Station (BPS) began in the city of Somerset, MA along the shores of the Mount Hope Bay in 1957. When it was commissioned in 1963, BPS became one of the largest power plants in the United States, generating up to 1.6 million kilowatts of power that fed into the grid and delivered power throughout New England, as well as New York, Ontario, and New Brunswick (McDowell 1980). In addition to its cheap production of electricity, BPS was also a major contributor to the local economy by hiring approximately 240 employees and generating \$16 million in tax revenue for the City of Somerset (Lindsay 2012). BPS began as an oil-burning energy generation station, but after fuel prices skyrocketed during the 1973 oil embargo, coal grew in popularity and BPS's parent company, New England Power, converted its energy generating units

to burn coal (Friendly, Reese, and Malamud 1980). In the 1980s, three of BPS's four generating units were converted from oil to coal, while its fourth unit operated using oil or natural gas (N.A. 2000a). BPS added its fourth generating unit in 1986 (N.A. 2000b), and by 2000 it was annually burning 3,000,000 tons of low sulfur coal (N.A. 2000a). This meant that BPS was one of the biggest polluters in New England, with one report claiming that the plant emitted 5.7 million metric tons of carbon dioxide in 2004 (Lewis 2005).

The widespread conversion to coal, although supported by the Carter Administration, generated major conflicts among utilities and environmentalists, especially in the northeastern United States which has long been considered the "tailpipe" of America. Coal emissions can produce deadly levels of sulfur dioxide, nitrogen oxide, and particulate matter in airsheds. Additionally, coal burning is water-intensive when once-through cooling is used to reduce the temperature of the generating units. Once-through cooling is when water is taken from nearby water sources to cool the heated water that spins the plant's turbines. At BPS, this heated water is discharged back into the Mount Hope Bay estuary, causing widespread impacts on marine life.

To address the variety of environmental impacts caused by coal-burning plants, environmentalists and regulators turned to the comprehensive federal environmental statutes of the 1970s to regulate them. Arguably the most important of these statutes is the Clean Air Act and its amendments, which regulate emissions from coal-fired point sources. The Clean Water Act, meanwhile, regulates the intake of cooling water used to cool power production facilities and manufacturing plants. The Resource Conservation and Recovery Act regulates the disposal of solid hazardous waste produced by coal-fired factories, like the coal ash that can be recycled and made into concrete. States work closely with the EPA and are also responsible for overseeing and implementing regulations associated with these laws. During the late 1980s, Massachusetts, for example, passed stricter air emissions requirements that ultimately caused Brayton Point to begin

acquiring low-sulfur coal from Venezuela and Colombia (N.A. 1990). During the Bush years, the state's Republican Governor Jane Swift announced the nation's first-ever laws that regulated carbon dioxide and mercury emissions from coal-fired plants in 2001, while also prohibiting emissions "averaging" across plants (McElhenny 2001). Yet, the response by Massachusetts was not enough to keep environmental advocacy organizations from mobilizing to address what they saw as harm to the ecosystem of the Mount Hope Bay, the Narragansett Bay, and their tributaries.

A. The Advocacy of Save the Bay and Conservation Law Foundation

Having formed in 1970 by John Scanlon, Save the Bay is the foremost advocacy organization for the waters of the Narragansett Bay and the Mount Hope Bay. As an organization, Save the Bay's advocacy focused on energy siting issues along the bay, but by the late 1970s it eventually began taking on issues relating to water pollution, especially the dumping of raw sewage by Rhode Island's coastal cities into the bay. Save the Bay was instrumental in leading efforts to secure passage of various plans to build and improve wastewater treatment facilities along the Narragansett Bay. By the late 1980s, the Rhode Island-based organization began targeting the watershed impacts originating from Massachusetts and formed what it called "The Massachusetts Project," an initiative led by Ira Magaziner who became known for his later work as President Clinton's chief advisor on healthcare. At the same time that Save the Bay became focused on pollution originating from Massachusetts, the organization also formed the Narragansett Baykeeper program, a program requiring a full-time watchdog to monitor the waters of the Narragansett Bay and the Mount Hope Bay for evidence of water pollution and other types of environmental threats and emergencies. The Narragansett Baykeeper worked alongside individuals from Conservation Law Foundation, an environmental advocacy organization with expertise in legal issues, through BPS's "Technical Advisory Committee," a body formed by BPS to understand the environmental and economic impacts of its production activities.

For many years environmental advocates criticized BPS for its contribution to poor air quality. The central problem was that the Clean Air Act allowed existing power plants to meet lower emissions standards than newer ones. In 2000 the Conservation Law Foundation (CLF), based on a report issued by the Harvard School of Public Health demonstrating that a variety of health impacts could be traced to BPS, promised to address the air quality concerns through federal court (N.A. 2000). Groups like CLF framed their understanding of the conflict around these public health impacts, which they claimed caused 43,000 asthma attacks and 159 premature deaths (McElhenny 2000). Following the discovery of these environmental impacts, the state of Massachusetts announced that it had reached an agreement with the utilities to reduce emissions by upgrading older plants, including BPS.

The company, meanwhile, argued that BPS posed little danger to area residents and that, more than anything, declining fish populations were attributable to overfishing and not traceable to its plant. The company also framed the conflict around the challenges of producing cheap electricity in highly competitive energy markets, specifically raising the prospect that higher energy production costs are passed on to consumers who risk being priced out of the energy market. One of environmental advocate described the framing of the conflict in the following way:

We never wanted to get into that fray about jobs versus the environment. And they were willing to get into that fray about energy choices, or market demand or what was really needed b...CLF was saying, "ugh, we don't need them, our consultants tell me they can shut off tomorrow and we will get the power from elsewhere on the grid." But they're [the company] telling us people will die. And politicians are listening to both (Personal Interview #1).

It specifically paid for research produced by Peter Valberg of Harvard University showing that non-point sources, such as vehicles and home furnaces, caused more danger than the coal-fired generating units (McElhenny 2000a). When an environmental group called Clear the Air released a study showing that the commonwealth's collection of plants caused 8,800 asthma attacks and 441

deaths, Valberg dismissed the research and claimed that “Linking it [particulate matter] to these deaths is very alarmist” (McElhenny 2000).

B. A Scientific Breakthrough, Permitting through CWA’s Section 316(b), and the Best Professional Judgment Standard.

When Congress passed the Clean Water Act (CWA) in 1972, it became the gold standard for regulating the discharge of pollutants into US waterways. The CWA establishes the National Pollutant Discharge Elimination System (NPDES) permit program, requiring point sources to acquire a permit before discharging pollutants into waterways. Coal-fired and nuclear power plants, along with a variety of other non-energy manufacturers (e.g., paper mills, aluminum manufacturing, etc.), draw water from US waterways for cooling purposes. The permitting of these cooling water intake structures, a total of 891 companies located along US waterways, are regulated under Section 316 of the CWA. Facilities with a design intake flow (DIF) supporting two million gallons per day (mgd) are governed under Section 316(b), while those not meeting that threshold are addressed on a case-by-case basis and on the best professional judgment of the National Pollutant Discharge Elimination System (NPDES) Permit Director (79 FR 48299). Under Section 316(b), existing facilities having an adverse environmental impact (e.g., impingement and entrainment), are required to adopt the “best technology available” for minimizing the impact of cooling water intake and hot water discharges.

For many years, existing facilities, including BPS, continued to draw water from US waterways with expired permits, and when scientific studies demonstrating that winter flounder and other marine populations were dramatically declining, environmental groups advocated for change. Using data on fish populations, Mark Gibson, a marine biologist affiliated with the Rhode Island Department of Environmental Management (DEM), concluded that Mount Hope Bay fish stocks had dramatically declined in comparison to fish stocks in the Narragansett Bay, the

explanation being “that the large change in coolant flow has modified environmental conditions in Mt. Hope Bay to the detriment of the fish population” (EPA 2002, p. 2-3). When these studies demonstrated that winter flounder populations declined significantly, environmentalists knew that they had at least two options for stopping the discharge of hot water into the bay.

Stakeholders did not even consider addressing the issue legislatively because this option was easily the worst choice for achieving their policy goals. Even though one state legislator had taken an interest in the issue, a Rhode Island legislative response would fall short of addressing a problem that was occurring in Massachusetts. On the other hand, approaching the issue through the Massachusetts legislature also raised challenges given the importance of the power plant to the economy of Southeastern Massachusetts. Southeastern Massachusetts legislators supported the utility as a key regional employer and with BPS and its impacts affecting the Mount Hope Bay, a body of water far removed from the fast-paced world of Boston’s urban politics, the issue had little chance of making it onto the Massachusetts legislative agenda. This was a point that was made in one of our interviews when a former employee of Save the Bay remarked,

...the Rhode Island politicians were with us because there was no benefit [of operating the plant] to Rhode Island. It was a Massachusetts plant. Massachusetts politicians were like, “go play Rhode Island.” We have bigger issues to fry than this. And then at the federal level our US Senators were great. Massachusetts were ok (Personal Interview #1).

Through another one of our interviews we learned that the intake and discharge of water into the bay did not generate the type of widespread public involvement in Massachusetts that would cause it to become a full-fledged legislative issue:

I think it took more effort to get people involved and believing that this thermal pollution issue was something that they should be concerned about...It didn’t have the same compelling drama [like] seeing...sewage and seeing tampons in the water has...We didn’t have a lot of people calling and saying I want to be involved in this issue that I remember. And I think I would remember that because that’s where you get your energy and that’s where you get your steam...It was not like other issues we’ve been involved with. I think, I don’t know if I’m right about this but I think Mount Hope Bay is, maybe back then, was just kind of an appendage. It wasn’t central to the bay. You know, there are parts of the bay that were beloved and I’m not really sure I know why but if you look along that coastline on the northwest side that’s all taken by the Brayton Point Power Plant....Then you got [the] east

side of that bay, a lot of the waterfront is Fall River and a lot of it was industrial use (Personal Interview #2).

Without the type of broad political support necessary for bringing this issue into the legislative arena, environmental advocates understood well the futility of taking on one of New England's largest utilities in the halls of the Massachusetts state legislature (Personal Interview #4).

Knowing that their chances of success in the legislature were slimmest, environmental advocates could turn to the judiciary in pursuit of their policy goals. After all, part of their coalition included Conservation Law Foundation (CLF), the most feared environmental litigator in New England. In addition to CLF, the coalition of environmentalists could also draw upon the legal resources of the Rhode Island Attorney General's office led by Democrat Sheldon Whitehouse, an erstwhile defender of the environment. Relative to BPS, it could be argued that the environmental community's legal resources gave them the best chances of success in changing policy, but a litigation strategy would be risky. That is because a legal strategy against the company required a novel application of the common law's "Public Trust Doctrine," a doctrine holding that,

certain natural resources are held by the government in a special status...for current and future generations. Government officials may neither alienate those resources into private ownership nor permit their injury or destruction (Frank 2012, p. 667).

We learned through our interviews, however, that key decision-makers were wary of invoking this doctrine because it would set off a legal battle that would "bring all the national utility people down on us like a ton of bricks" (Personal Interview #4). Rather than invoking a legal strategy where legally framing the conflict on the basis of the tenuous Public Trust Doctrine risked inviting a protracted legal battle, the coalition of environmental advocates chose instead to address the issue administratively while also signalling to their opponents that legal action at any time was possible.

The administrative arena, relative to the legislative and judicial venues, was the best and easiest choice for supporters of the bay. Given the scientific discovery by Mark Gibson, these stakeholders possessed unequivocal evidence that water intake and hot water discharges into the

bay were having a negative impact on fish populations. The production of this research caused one of the key stakeholders to remark, “Mark’s the hero in all this. Mark’s the prime mover. Mark’s the guy who took the data that EPA required” (Personal Interview #4). Another activist from Save the Bay put it this way,

We believed Gibson and we looked at the terms of the permit...That set off a huge dispute between the company owners of the plant and the regulatory agencies in Rhode Island and Massachusetts and the environmental groups and the fishermen....I was on the technical advisory committee hearing this with the other agency scientists and stuff and Conservation Law Foundation was the other environmental organization on the technical advisory committee with me. We believed Gibson and we looked at the terms of the permit (Personal Interview #1).

Furthermore, the coalition of environmental advocates saw a clear path to policy success given that Section 316(b) of the CWA allowed them to bring those resources to the federal agency and demand that a stricter NPDES permit be written for BPS. For environmentalists, the administrative agency was also the most accessible venue to mobilize these technical resources because its decision to write a permit minimizing water intake and hot water discharges could be formed on the basis of the “best professional judgment” standard. Familiarity was also a key factor at play because top leadership at organizations like Save the Bay had prior career experience at EPA and understood how best to pursue the writing of a strict 316(b) permit on the basis of this standard. One stakeholder put it this way:

I like the preponderance of the evidence standard. In this case it’s not even that! It’s not even that legal standard, it’s the best professional judgment standard. For us it was to raise all that evidence and to help frame it in a way that those permit writers and regulators and the attorneys and the administrators of the EPA saw the merit of our case and we did it in a scientific and legally framed as possible. Like I say, we’re all advocating for the values that we want everyone to see at the end of the process (Personal Interview #1).

Throughout the years the scientific and technical resources that were bestowed upon supporters of the bay continued to grow. In 2001 another study was produced by Brown University (see Mustard, et al. 1999), this time using satellite imagery to visually show the plume of elevated water temperatures in the Mount Hope Bay and, according to the Narragansett Baykeeper John Torgan,

the study showed “that the plumes’ extent is greater than anyone recognized it would be and that the potential environmental damage is real...The impact of hot water discharge does not end at its source. It extends throughout the bay” (Lewis 2001a).

The scientific discovery demonstrating declining fish populations drew environmental stakeholders into the EPA’s permitting pathway, but selection of the administrative agency as a policymaking venue did not stop Rhode Island stakeholders from continuing to exert legal pressure through CLF and the Rhode Island Attorney General’s office. One stakeholder described the important role played by CLF in this way:

Whenever CLF gets involved you have to sit up and start listening because they’re just tiresome. I think that the corporate community and the governmental community go [exasperated voice] “Oh my God. Ugh God. Ok, now CLF is involved.”... And CLF looks at itself as that. That’s where CLF I think prides itself in being that, I don’t want to say last stop. They like to throw their weight, or the threat of legal action around in the hopes that it will make people jump and it does oftentimes and if you’ve had experience against CLF and I’m sure that anybody in New England knows that CLF is a lot of really smart attorneys and scientists. So if you’re smart, if you’re running a business you’re gonna say to yourself, “Oh geez, they’re involved so now we have to begin to look at this a little differently because when they come after us it’s not gonna be good.” I think that’s how CLF sees itself as – they’re the big guys. When they step in you better be standing tall (Personal Interview #3).

While stakeholders continued pressing EPA to address the water intake issue, the Rhode Island Attorney General’s office, under the leadership of Sheldon Whitehouse, pressured the EPA to expedite the speed of writing a permit while state legislators voiced support for the Attorney General’s office (Lewis 2001). Representative Patrick Kennedy (D-RI), meanwhile, announced that he would ask the White House to move faster on the EPA water permit (Lewis 2001). After months had gone by without an EPA-issued permit, Whitehouse issued a notice of intent in March 2002 promising to sue if a permit was not written within thirty days (N.A. 2002). Rhode Island’s Department of Environmental Management (DEM), Save the Bay, and Conservation Law Foundation signed on to the suit (Lewis 2002), but later when it became evident that EPA was close to a decision, Whitehouse’s office withdrew his plans to sue (N.A. 2002a).

By July 2002 the EPA Region 1 had made significant progress toward the completion of a permit that reduced BPS's water intake by 96 percent (Pope 2002). Referring to Gibson's research, New England EPA's Regional Administrator Bob Varney concluded "that Brayton Point has compromised the Mount Hope Bay ecosystem and that stronger controls are needed to reduce those impacts" (Pope 2002). Still, even though it admitted that a permit was long overdue, another year went by without a permit being issued while EPA studied public responses to the permit (Lewis 2003). When a draft of the permit was finally made available, the company opposed it, claiming that the justification for the permit understated the costs of compliance (Lewis 2003). That year, EPA approved a permit that required building a cooling system to comply with it, but the company appealed the decision before EPA's Environmental Appeals Board (EAB), promising to "spend our scant resources on more effective and less costly measures that would directly and immediately improve the health of the Mount Hope Bay" (Lewis 2003a). While the permit was under appeal before the EAB, the Rhode Island State Attorney General's Office, now under the leadership of Democrat Patrick Lynch, filed a petition along with the Rhode Island DEM asking that the permit be upheld (N.A. 2003a).

Three years later in 2006, and with the permit only two years away from expiring, the EAB finally issued a 295 page decision upholding the strict EPA permit, where it remanded to EPA with instructions to address two minor elements of the permit before issuing the final one. One of those elements involved EPA's water temperature standards and the other related to the noise reduction standards of the permit. With eight months passing after the EAB ruling, environmental stakeholders grew impatient with the slow pace of executing the permit, causing the Rhode Island Attorney General's office to deliver yet another stern warning to EPA (Rhode Island Office of the Attorney General 2006a). The company appealed the EPA's temperature and noise reduction standards, which were upheld by the EAB, and Dominion challenged the administrative law

decision by filing its appeal in the Fourth Circuit where the company considered its prospects of success better than in Boston's First Circuit (Barbarisi 2007).

While the BPS conflict was underway another conflict over water intake structures was being addressed nationally by several Atlantic Northeast Attorneys General who were engaged in open warfare against the Bush Administration on matters of energy and environmental policy. When Bush's EPA published new rules weakening the requirements for installing water intake structures on the basis of the "best technology available," the Attorneys General of Rhode Island, Connecticut, Delaware, Massachusetts, New Jersey, and New York immediately appealed (Lewis 2004). This new interpretation of the 316(b) rule, later appealed to the Supreme Court, took into consideration the costs of constructing large cooling structures, allowing companies to instead replenish natural resources by developing habitat or stocking affected waterways with fish, an interpretation that was criticized by RI Attorney General Patrick Lynch as one that "would not compensate for millions of dead fish or devastated natural resources" (Margetti 2004). Two years later, Rhode Island's Attorney General filed suit in New York City's Second Circuit Court of Appeals where Lynch argued that the new Bush rule,

amounts to a giveaway to industry and actually rewards polluters for having caused harm. It allows polluters who degrade a bay to then argue that the bay is no longer worth cleaning up. It's contrary to the goals and purposes of the Clean Water Act, contrary to the plain meaning of the Clean Water Act, and contrary to common sense (Rhode Island Office of the Attorney General 2006).

In January 2007, the Atlantic Northeast states in *Riverkeeper v. EPA* (2007)¹ won and declared victory, causing the President of Riverkeeper to predict that, "This is going to force the old dinosaur plants across the country to use this technology...No question - its going to impose a cost on the companies" (Peoples 2007). Years later, however, the decision was overturned by the US Supreme Court in *Entergy Corp v. Riverkeeper* (2009),² where it nevertheless may have forced Dominion's

¹ 475 F.3d 83 (2007).

² 556 U.S. 208 (2009).

decision to construct cooling water intake structures at its BPS facility, along with its many other facilities. According to Dominion's spokesman, "We're already spending \$3.1 billion across our fleet of plants...to make environmental changes. This is just another step we're taking" (N.A. 2007).

Meanwhile, the five year permit, drafted in 2003 and ending in 2008, risked expiring if forced to undergo another lengthy legal process. In December of that year, however, environmental stakeholders in Rhode Island and Massachusetts experienced a breakthrough when the company reached a settlement with EPA to construct two large cooling towers to reduce the amount of water taken from, and discharged back into, the Mount Hope Bay. This caused Rhode Island Attorney General Patrick Lynch to announce,

As is the case with all settlements, this settlement comes with a cost. There is no question that the height of the towers will be aesthetically unpleasant for the people who live in communities on Mount Hope Bay. In our analysis, however, the benefit of literally 'saving the bay' outweighs this cost. And until our country has fully overcome our dependence on fossil fuels and transitioned to clean and renewable sources of energy, even substantial progress...will have a downside (Office of the Rhode Island Attorney General 2007).

That following year, with the landslide election of Barack Obama as president, environmental advocates could be confident that their victory was solidified when the Obama Administration appointed the former Executive Director of Save the Bay, Curt Spalding, to become EPA Regional Administrator for Region 1. Yet, it was market forces and not the construction of large cooling towers that forced the company to lessen its environmental impact to the air and to the bay. In 2012, and as hydraulic fracturing technology inspired a natural gas boom, BPS was sold by Dominion Energy along with two other plants to Energy Capital Partners in 2013 after it had undergone \$1 billion in improvements. Not long after the \$650 million sale was completed, the company announced plans to retire the station in 2017 due to low electricity prices and the costs of environmental regulations (LeBlanc 2013). BPS, which had at one time been valued at \$500 million, was now estimated to be worth \$50 million (Kuffner 2013), and left standing were two massive

cooling towers that tell the story of one of the most hard-fought political battles to occur over environmental protection of the Mount Hope Bay.

VI. The Mount Hope Bay's Altered Viewshed and Place Attachment and Meaning

At their completion the cooling towers rose to 500 feet, making them prominent objects in the area's viewshed. We expected that this prominence would be implicated in a contentious debate about the effects of the tower on local sense of place. Surely, many residents disliked the scale of the towers such as this neighbor quoted in a local newspaper during the construction, "For the landscape, it's so out-of-scale. It's so huge" (Emery, 2010). However, this aesthetic disapproval of the towers did not emerge as a driver for opposition to the towers. Instead, we found a patterning of affective relationships to the bay and area, formed through activities with the bay and social and economic relationships to the BPS, led to divergent responses to the towers.

This analysis tracks two moments related to the towers, in the period before the towers were built and after the towers were built. Prior to the towers the lack of a visual or physical experience of a degraded Mount Hope Bay seems to have led few residents to engage in activism around the construction of the towers. As described above, Save the Bay and other environmental activists in Narragansett Bay successfully lobbied for policy changes regarding waste-water treatment facilities, but whereas the effluent released from these facilities led to closures in the bay and corresponded with visual evidence, the superheated water at Brayton Point degraded the fishery habitat in a way that occurred over a long period of time and was out of sight. As such, residents that aligned with an environmentalist orientation, or who used the bay for fishing, appeared to be the primary groups for whom the meaning of the bay influenced their support for the construction of the towers.

Following the construction of the towers, place attachment and place meaning still shaped discourses about the towers through socio-cultural dynamics that led to subaltern forms of support or resistance to the cooling towers. Bristol and Touisset residents, the wealthiest communities along Mount Hope Bay, took issue with the tower as a matter of aesthetics. The towers created a significant visual impedance to their views and were disliked, as the resident quoted above demonstrates. Moving to the northern and eastern working class communities of Somerset, Swansea, and Fall River, the area was framed as an urban environment (and one that made up a significant source of tax revenue and jobs for Somerset residents), and so the cooling towers fit within that model of place meaning. Nevertheless, some neighbors of the tower voiced displeasure with the aesthetics of the large towers. For example, a Somerset resident interviewed prior to the building of the towers was quoted in the *Providence Journal*, saying that if "If it affects my view, I will be pretty upset" (Emery, 2008). However, the more pressing issue for those in the airshed of the power plant was the soot from the burning of the coal. The same neighbor went on to say that the soot was a greater concern and that "I'm really contemplating selling the property" (Emery, 2008). Despite support for the power plant as a major employer, the plant came under scrutiny from clean air proponents and neighbors because of the aforementioned Harvard University study linking emissions from the plant to health issues in the area (Faulkner, 2017). While several residents supported the towers for stemming the release of soot, the towers were not in fact designed to have any influence on the power plant air emissions. A similar misnomer about the towers emerged of the plant as a nuclear power station, because of the familiar shape of the closed cycle towers as symbolic of nuclear stations. A Bristolian resident born on the shores of the Bay said, "I don't think anyone likes the way they look and it terrifies a lot of visitors thinking its some type of nuclear plant because you see those towers and you automatically think that's what's going on" (Personal Interview #2).

The users of the bay appear to have slightly augmented discursive relationships to the towers. Several times we heard that recreational sailors use the towers for navigation and thereby are not nearly as antagonistic to the towers after they were built, as we had imagined. A Bristolian and avid sailor described that, "it's very useful to have something that you can see from a distance that's a landmark...any kind of tower, is a good way to orient yourself and as towers go, I mean, they were new and they looked ok" (Personal Interview, #2). Finally, fishermen appear to be the primary user of Mount Hope Bay for whom the increasingly degraded fishing habitat was impacting their relationship to the bay. Their meaning of Mount Hope Bay as a fishery appears to have functioned to support the infrastructure, and similarly resonated with environmental groups and scientists who were concerned with the health of the demersal and pelagic habitats throughout the bay. A neighbor of the towers described the changes in fishing to a journalist just prior to the construction of the towers saying, "I know people who fish here who used to get wonderful shrimp. But that's been gone for a long time," and added that, "I'm sure if they put those towers up they will be visible. But what's the alternative?" (Emery, 2008).

Taken together a muted disapproval of the towers as affecting the viewshed was noted amongst residents, but did not emerge as a driver in large scale opposition to the towers. Rather the towers were viewed as a necessary evil, either as infrastructure designed to resolve the air pollution from smokestacks or to resolve the impact of superheated water entering the bay. These findings then suggest that intimate place relationships and environmental concerns about local and personal issues contribute to a lack of opposition to large scale energy infrastructure that responds to concerns, be them concerns identified by scientists, personal experience, or folk models.

VII. Discussion and Conclusion

Our analysis of the conflict over the cooling towers installed at BPS have significant theoretical and practical implications for scholars of venue choice, place attachment, and for developers of large-scale energy infrastructure projects.

Our manuscript advances the venue shopping theory of easy choices by finding support that supporters of the Mount Hope Bay chose venues on the basis of the easiest and best choice available to them. Through our interviews we discovered that stakeholders were guided into the administrative venue largely due to the production of Mark Gibson's and Rhode Island DEM's overwhelming scientific research demonstrating the decline of winter flounder populations. Stakeholders from Save the Bay seized on this evidence to convince the EPA, on the basis of its "best professional judgment," that a strict ND PES permit was needed to control water intake and discharges into the Mount Hope Bay. All the while, supporters of the bay signaled to the EPA and to the company that legal action, whether through the continued activism of CLF or the pressure from the Rhode Island Attorney General's office, was nevertheless a viable alternative strategy. While supporters of the bay effectively withstood threats by the Bush Administration to weaken the "best available technology" standard for installing closed cycle cooling towers and declared victory in 2007, the election of the Obama Administration solidified the victory for supporters of the bay and sent key actors from Save the Bay on to the highest levels of leadership in EPA's Region 1 to oversee the eventual completion of the permit and the eventual construction of the cooling towers.

This case also contributes to literature on place protective action by showing that place meaning contributes to support or disapproval of large scale energy infrastructure. This case is an example when the construction of large scale energy infrastructure did not lead to public activism that was antagonistic to their construction. These findings resonate with work on place protective action in that residents made decisions about support or disapproval of the towers based on their attachments and meanings that they associated with the bay. While Devine-Wright & Howes

(2010), and others, emphasize that place protective action is an alternative to NIMBYism, this case presents the alternative example when large infrastructure is accepted as a response to environmental degradation despite an effect on the viewshed. This acceptance appears to be similarly shaped through social discourse whereby folk models are developed and lead to the construction of narratives of acceptance or disapproval. In this case, the idea of the towers as potentially stemming the release of soot and minimizing the impact of the hot water discharges into the bay, even while imposing on residents the image of a nuclear energy facility, led them to accept the towers as a necessary evil.

While we have generated insights about theories of venue shopping and place attachment, our research here is preliminary. Moving forward, we aim to conduct additional interviews with residents living by the towers to learn more about their relationship to them, as well as the various user communities of the bay to develop more understanding of their experience with the bay before and after the towers were built. Furthermore, we acknowledge the need to conduct interviews with individuals employed by BPS, Massachusetts policymakers from Southeastern Massachusetts, and attorneys from the Rhode Island Attorney General's office and Conservation Law Foundation.

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Table 1: Easy Venue Choices

Decision Venue	Strength of Group Resources	Opponents' Resources	<u>Degree of Venue Accessibility</u>	
			Opponents' Degree of Dominance	Venue Image Receptivity
Easy "best" Choice	High	Low	Weak	High
Easy "worst" Choice	Low	High	Strong	Low

Adapted from Ley and Weber (2015).