No. 05-848

In The Supreme Court of the United States

ENVIRONMENTAL DEFENSE,
NORTH CAROLINA SIERRA CLUB,
NORTH CAROLINA PUBLIC INTEREST RESEARCH
GROUP CITIZEN LOBBY/EDUCATION FUND,

Petitioners,

v.

DUKE ENERGY CORPORATION,

Respondent.

ON PETITION FOR WRIT OF CERTIORARI
TO THE UNITED STATES COURT OF APPEALS
FOR THE FOURTH CIRCUIT

BRIEF OF AMICI CURIAE IN SUPPORT OF PETITIONERS WITH APPENDIX

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INTEREST OF AMICI CURIAE[1]

The Chesapeake Bay Foundation (CBF) is the only independent private nonprofit organization dedicated solely to restoring and protecting the Chesapeake Bay and its tributary rivers. Since 1967, CBF's goal has been to improve water quality by reducing pollution. CBF's motto is *Save the Bay*.

The Chesapeake Bay watershed covers portions of 6 states (Delaware, Maryland, New York, Pennsylvania, West Virginia, and Virginia) and the District of Columbia. The Bay's airshed is much larger. Air pollution, including emissions from power plants, has substantial negative impacts on the health of the Chesapeake Bay. Numerous aging and uncontrolled power plants (i.e., without modern pollution controls) operate in the Bay's airshed. The Fourth Circuit's decision, if upheld, would eviscerate the "Prevention of Significant Deterioration" (PSD) program and its requirement to install the Best Available Control Technology (BACT) for sources that modify their plants. Without a PSD program, such sources in the Bay's airshed would be permitted to continue polluting the Bay. Thus, the control of emissions from power plants at issue in this case is of particular significance to CBF's efforts to save the Bay.

The Bay suffers from nutrient overload, to which nitrogen air pollution from power plants contributes a significant amount. Excess nutrients cause algal blooms that deplete the oxygen in the Bay, damaging critical resources. In

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[1] Pursuant to Supreme Court Rules 37.3(a) and 37.6, the undersigned represents that (1) all parties consented to the filing of this brief; (2) no counsel for any party authored this brief either in whole or in part; and (3) no person or entity other than the above-named amici curiae and their counsel made any monetary contribution to its preparation or submission. The letters of consent are being submitted with this brief.

2005, the amount of water with no oxygen in certain areas of the Chesapeake Bay was among the worst on record. More than three quarters of the Bay failed to meet dissolved oxygen restoration goals in that summer.[2]

Mercury pollution is also a severe problem in the Chesapeake Bay – and power plants are the major contributor to mercury pollution in the Bay. Government advisories prohibit or limit the consumption by pregnant women and women of child-bearing age of numerous species of fish within the Bay watershed (64,000 square miles) based upon mercury contamination.[3] Interpreting the PSD statutory and regulatory provisions as they have been interpreted for almost 30 years would require the installation of BACT on power plants that make physical or operational changes that increase actual emissions. The installation of BACT for sulfur dioxide and nitrogen oxides on power plants within the Bay's airshed will produce a "co-benefit" of reducing mercury emissions and significantly improve the Chesapeake Bay and the environment.

The Adirondack Mountain Club (ADK) is also a membership-supported, non-profit organization. Its central purpose is the preservation of the mountains, forests, lakes and wilderness ecosystems of the Adirondack and Catskill Forest Preserves so that they are "forever wild" as mandated by Article 14, section 1 of the Constitution of the State of New York. ADK's members hike, canoe and camp in mountains,

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[2] Chesapeake Bay Program, Dissolved Oxygen: Annual Assessment, *available at* http://www.chesapeakebay.net/status.cfm?sid=207 (last visited 7/11/2006).

[3] *See e.g.*, Maryland Department of the Environment, *Fish Facts for Pregnant Women, Women Who May Become Pregnant, Nursing Mothers, Children Age 6 and Younger at* http://www.mde.state.md.us/assets/document/Fish%20Facts%20English.pdf#Fish_A (last visited 7/18/2006).

forests and lakes of New York, Vermont, New Hampshire and Maine. All of these wilderness recreation areas have been severely impacted by mercury deposition, acid rain, and acid deposition.

As in the Bay region, mercury emissions from power plants are major contributors to contamination of fish and wildlife in the Adirondacks and Catskills. Moreover, power plants without modern pollution controls also emit high levels of sulfur dioxide and nitrogen oxide that form acid deposition and low-level ozone. These compounds contribute to the acidification of lakes and streams, with severe impacts to flora and fauna in these regions. They also impair visibility and harm respiratory health. Nitrogen oxide also causes low level ozone, another serious health risk. Reducing and eliminating acid deposition, smog, haze and mercury emitted by coal-burning power plants is therefore essential to preserving and restoring the natural ecosystems and human appreciation of the Adirondacks, the Catskills, and the Chesapeake Bay.

Both the enforceability and implementation of the Clean Air Act's PSD program (42 U.S.C. §§ 7470-79) at issue in this case concern direct harms to the Bay, the Adirondacks, and the Catskills, as well as to efforts by the CBF and ADK to reduce air pollution. The efforts of CBF and ADK also promote an express purpose of the PSD Program – to preserve, protect, and enhance air quality in "areas of special national or regional natural, recreational, scenic, or historic value," 42 U.S.C. § 7470, like the Chesapeake Bay and the Adirondacks and Catskills. *See also* 33 U.S.C. § 1267. Congress and EPA designed the PSD program to safeguard air quality in these areas, as well as others, by controlling emissions from new and modified stationary sources, including coal-fired power plants such as those of respondent in this case. How this Court interprets the CAA and EPA's PSD regulations at issue here will have a direct impact upon sources within the Bay's air and

water sheds and those within the Adirondacks' and Catskills' airshed, as well as upon the environment within these regions.

CBF's efforts are supported by its 140,000 members, volunteers, concerned citizens, advocates, and staff. CBF's staff of 170 – including scientists, policy experts, attorneys, educators, and grassroots organizers – pursues its goal through environmental advocacy, litigation, environmental education, strategic communications, and habitat restoration throughout the Chesapeake Bay watershed. CBF informs and engages the public, the private sector, and government officials, in an effort to obtain legislative and regulatory decisions and public and private investments to save the Chesapeake Bay.

The efforts of the ADK, which was founded in 1922, are supported by over 30,000 members with 26 chapters in New York, New Jersey and New England. ADK's mission is the preservation of the natural ecosystems of the Adirondack and Catskill Mountains as "forever wild." N. Y. CONST. art. XIV. ADK pursues the preservation and protection of these wilderness lands, and hence the health and well being of its members, through litigation and public policy advocacy at the state and federal levels.

SUMMARY OF ARGUMENT

The purpose of this brief is to impress upon the Court the importance of implementing the terms of the Clean Air Act (CAA) in a manner that will accomplish what the plain language, structure, and the intent of the CAA demand – reducing air pollution. If the PSD program at issue in this case does not require aging and dirty power plants to control pollutants when they make changes that increase emissions, the Chesapeake Bay, the Adirondacks and Catskills, and this country, will continue to suffer from excess air emissions. In contrast, implementing the PSD Program as the CAA dictates

and as Congress intended will help save the Bay, the Adirondacks and Catskills. The Chesapeake Bay Foundation and Adirondack Mountain Club respectfully request that the Court reverse the Fourth Circuit's decision and apply the PSD program to all sources with actual annual emission increases, to promote clean air and protect the environment.

ARGUMENT

There are two issues in this case: first, did the Fourth Circuit err in interpreting the CAA in a manner that allows power plants to undertake physical changes that increase actual annual emissions without complying with the PSD program, so long as a power plant's hourly emission rate does not increase. Second, did the Fourth Circuit err in reviewing the validity of EPA's national CAA regulations in the context of an enforcement action, when the CAA provides that such regulations may be challenged exclusively in the D.C. Circuit by petition for review, filed within 60 days of the regulations' promulgation. 42 U.S.C. § 7607(b). While Petitioners' brief will address both of these important legal issues, and each provides a compelling basis for reversal by the Supreme Court, the Chesapeake Bay Foundation and the Adirondack Mountain Club focus their amicus brief on the environmental impacts associated with the Fourth Circuit's approach to measuring emission increases under the PSD program.

The CAA's PSD program is part of the Act's larger "New Source Review" (NSR) program. NSR is "a permitting process that imposes specific pollution control requirements depending upon the geographic location of the source." *New York v. EPA*, 443 F.3d 880, 883 (D.C. Cir. 2006). To ensure air quality in attainment areas, or areas that are already "clean," Congress enacted the statutory PSD program in the 1977 Amendments to the CAA so that the air quality in such areas would not degrade. *Alaska Dept. of Env'l Cons. v. EPA*, 540

U.S. 461, 470-71 (2004). Congress was expressly concerned with the quality of air in "areas of special national or regional natural, recreational, scenic, or historic value." 42 U.S.C. § 7470. The PSD legislation requires major modifications to or construction of pollution sources in attainment areas to install BACT. Installation of this technology during modification of existing coal-fired power plants would control the emissions of, *inter alia*, nitrogen oxide and sulfur dioxides, and would also decrease mercury emissions.

In the 1977 amendments to the CAA, Congress provided a qualified exemption to existing sources from PSD requirements, arising out of the recognition that "it is not physically or economically feasible to retrofit . . . control technology" for some of the older or smaller sources. H.R. Rep. No. 94-1175 at 159 (1976). Congress was confident, however, that older plants would over time either shut down, or by modifying, be required to control their pollution.[4] These assumptions proved not to be true, due to extensive "life extension" projects at these old coal-fired plants, and the failure of utilities like Duke Power to comply with the requirements of PSD permitting. *See infra* § III. Although the CAA gave older plants a "pass" on immediately installing pollution control technology, the PSD program was designed to revoke that pass once modifications were made.

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[4] *See* H.R.Rep. No. 95-294, at 211 (1977), reprinted in 1977 U.S.C.C.A.N. 1077, 1290; S. Rep. No. 95-127, at *128 (1977) ("approximately 200 coal-fired plants [are] over 20 years of age" and "[m]ost will be retired in the next 5 to 20 years"); Victor B. Flatt & Kim Diana Connolly, Center for Progressive Regulation, *'Grandfathered' Air Pollution Sources and Pollution Control: New Source Review Under the Clean Air Act* (March 2005), *available at* http://www.progressiveregulation.org/articles/NSR_504.pdf.

No one can seriously challenge that Congress' 1977 Amendments to the CAA created "a law intended to limit increases in air pollution." *New York*, 443 F.3d at 886. As noted above, modifications of stationary sources trigger the PSD requirements. The CAA defines "modification" as "any physical change in, or change in the method of operation of, a stationary source *which increases the amount of any air pollutant emitted by such source* . . . ." 42 U.S.C. § 7411(a)(4) (emphasis added). The Fourth Circuit's decision construes the CAA in a manner which is directly at odds with the mandate to prevent increases in pollution, and will allow excessive and controllable amounts of pollutants to continue to be emitted by old and dirty power plants even where plants are upgraded to extend their years of operation. Application of this decision will result in substantial negative impacts on vital environmental and natural resources, including the regions of the Chesapeake Bay, the Adirondacks, and the Catskills.

I. The Chesapeake Bay is a National Treasure that Merits the Protection Afforded by the PSD Program Limiting Pollutants from Power Plants

The Chesapeake Bay, a national treasure, is the largest and most biologically diverse estuary in North America.[5] The Chesapeake Bay is home to about 3,600 species of unique animals, fish, and plants, including bald eagles, blue crabs, menhaden, striped bass (rockfish), osprey, oysters, and the

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[5] EPA, *Technical Support Document for Identification of Chesapeake Bay Designated Uses and Attainability* 14 (August 2003), *available at* http://www.epa.gov/region3/chesapeake/uaasupport/chapterii8_3.pdf (hereinafter *Technical Support Document*); Chesapeake 2000 Agreement, Preamble, *available at* http://www.epa.gov/region3/chesapeake/uaasupport.htm (hereinafter *Chesapeake 2000 Agreement*) (last visited 7/17/2000).

American lotus.[6] One million waterfowl spend the winter in the Chesapeake Bay basin.[7] As an estuary and coastal zone, it is "among the most productive ecosystems on Earth."[8]

The Chesapeake Bay and its tributaries have supported the region's economy and shaped its traditions and cultures for over 300 years.[9] In 1989, the Bay's value was estimated to be $678 billion.[10] The Chesapeake Bay produces about 500 million pounds of seafood each year.[11] Nearly sixteen million people live in the watershed for the Chesapeake Bay.[12]

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[6] EPA, *Technical Support Document*, *supra* note 5 at 14; Ecological Effects Subcommittee of EPA Advisory Council on Clean Air Compliance Analysis, *Advisory on Plans for Ecological Effects Analysis in the Analytical Plan for EPA's Second Prospective Analysis – Benefits and Costs of the Clean Air Act, 1990-2020*, 12 (June 23, 2005) (hereinafter *Ecological Effects*) *available at* www.epa.gov/sab/pdf/council_ees_advisory_council-adv-05-001.pdf.

[7] EPA, *Technical Support Document*, *supra* note 5 at 14.

[8] Charles T. Driscoll et al., *Nitrogen Pollution in the Northeastern United States: Sources, Effects, and Management Options*, 53 BioScience 357 (2003) (hereinafter *Nitrogen Pollution*), *available at* http://www.eeb.cornell.edu/goodale/2003%20Driscoll%20etal%20Biosci.pdf.

[9] *Chesapeake 2000 Agreement*, *supra* note 5 at Preamble.

[10] Chesapeake Bay Program, *Frequently Asked Questions About Restoring Chesapeake Bay Water Quality* (April 2003), *available at* http://www.chesapeakebay.net/pubs/waterqualitycriteria/water_quality_faq_final.PDF.

[11] *Ecological Effects*, *supra* note 6 at 12.

[12] EPA, *Technical Support Document*, *supra* note 5 at 18.

The Chesapeake Bay proper is approximately 200 miles long, stretching from Havre de Grace, Maryland, to Norfolk, Virginia. The Bay watershed encompasses 64,000 square miles and some or all of six states and the District of Columbia.[13] The Chesapeake Bay's airshed is even larger – by 6.5 times – covering roughly 1,081,600 square km (418,000 miles) in size, and touching thirteen states.[14]

Reflecting the significance of the Chesapeake Bay to the region and the country, three states – Maryland, Virginia, and Pennsylvania – as well as the District of Columbia and the federal government entered into agreements in 1983 and 1987 that establish the Chesapeake Bay Program partnership to protect and restore the Bay's ecosystem. In 2000, these same partners reaffirmed their commitments in the Chesapeake 2000 Agreement.[15] This Agreement set forth the parties' goal of "continu[ing] efforts to achieve and maintain the 40 % nutrient

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[13] EPA, *Chesapeake Bay: Introduction to an Ecosystem*, EPA 903-R-04-003 (July 2004) *available at* http://www.chesapeakebay.net/pubs/ecosystem.pdf; *see*, *The Chesapeake Bay Watershed* attached hereto at Appendix 1.

[14] EPA, *Technical Support Document*, *supra* note 5 at 40-44; Chesapeake Bay Program, *Bay Stressors – Air Pollution*, *at* http://www.chesapeakebay.net/air_pollution.htm; *see* Chesapeake Bay Program, *Air Pollution and the Chesapeake Bay*, slide titled *Area of NOx Emissions that Contribute Nitrogen Deposition to the Bay and Its Watershed* (January 6, 2000) (hereinafter *Air Pollution and the Chesapeake Bay*), *available at* http://www.chesapeakebay.net/stressor1.htm, attached hereto as Appendix 2.

[15] New York, Delaware, and West Virginia are state partners in the Chesapeake Bay Watershed. Chesapeake Bay Program, *Bay Program Partners*, *at* http://www.chesapeakebay.net/baypartners.htm (last visited 7/18/2006).

reduction goal agreed to in 1987."[16] The parties also agreed to "assess the effects of airborne nitrogen compounds and chemical contaminants on the Bay ecosystem and help establish reduction goals . . . ."[17] In 2003, the six Bay watershed states and the District of Columbia committed to reduce Bay nitrogen loads by 110 million pounds from year 2000 levels.[18] Installation of control technologies on power plants within the Bay's airshed under the PSD program would result in substantial reduction of nitrogen entering the Bay.

A. Emissions from Coal-Fired Power Plants Contribute Significant Amounts of Nitrogen to the Chesapeake Bay

Approximately one third of the nitrogen that enters the Chesapeake Bay comes from air pollution, and coal-fired power plants are the largest source of this air pollution.[19] Emissions from coal-burning utilities account for approximately 25% of the nitrogen oxide in the northeastern United States.[20] Focusing on the seven states that contribute the most nitrogen deposition to the Chesapeake Bay and its Watershed –

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[16] *Chesapeake 2000 Agreement*, *supra* note 5 at 5.

[17] *Id.* at 6.

[18] Chesapeake Bay Program, *Reducing Nutrient Pollution*, *at* http://www.chesapeakebay.net/nutr2.htm (last updated 10/04/2004).

[19] EPA National Estuary Program, *Air Pollution and Water Quality* (last updated 3/09/2006), *at* http://www.epa.gov/owow/estuaries/airdep.htm; Chesapeake Bay Program, *Air Pollution and the Chesapeake Bay*, slides titled *Sources of Nitrogen Loads to the Bay* and *Types of NOx Emission Sources from States that Contribute the Most Nitrogen Deposition to the Bay and Its Watershed*, *supra* note 14.

[20] Driscoll, *Nitrogen Pollution*, *supra* note 8 at 388.

Maryland, Virginia, Pennsylvania, New York, West Virginia, New Jersey, and Ohio – utilities contribute an even greater portion than the 25%,[21] approximately 38% of the airborne nitrogen from nitrogen oxide emission sources comes from utilities.[22] As described in section III, *infra*, installation of pollution controls as required by PSD would substantially reduce these emissions.

B. Excess Nitrogen in the Chesapeake Bay Creates Overwhelming Stresses on the Bay's Aquatic Life

The Chesapeake Bay and its tributaries suffer from low dissolved oxygen levels, which are a direct result of nitrogen and phosphorus pollution.[23] Nutrient loading is one of the most important causes of coastal eutrophication, which is the process of excess nutrients accelerating algae growth, leading to depletion of oxygen levels in water.[24] Eutrophication is one of

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[21] Nationally, coal-fired power plants contribute 93% of nitrogen oxide emissions attributable to the generation of electricity. Sierra Club, *Clean Air, Dirty Coal Power* (hereinafter *Clean Air, Dirty Coal Power*), *at* http://www.sierraclub.org/cleanair/factsheets/power.asp (last visited 7/17/2006).

[22] Chesapeake Bay Program, *Air Pollution and the Chesapeake Bay, supra* note 14.

[23] Because phosphorus is not emitted from power plants in significant amounts, its role in eutrophication is not discussed here.

[24] EPA, *How Nitrogen Oxides Affect the Way We Live and Breath* (September 1998), *available at* http://www.epa.gov/oar/noxfldr.pdf. *See generally*, Suzanne B. Bricker et al., National Oceanic and Atmospheric Administration, National Ocean Service, *National Estuarine Eutropication Assessment, Effects of Nutrient Enrichment in the Nation's Estuaries,* 1-2, 25 (September 1999) (hereinafter *Estuarine Eutrophication Assessment*), *available at* http://spo.nos.noaa.gov/projects/cads/nees/Eutro_Report.pdf.

the two most significant threats to the restoration of the Chesapeake Bay. In eutrophication, nitrogen from nitrogen oxide emissions and other sources converts into the reactive form of nitrate, and then supports the growth of plants and microbes.[25] Excess nitrates foster excessive growth of microscopic plants called phytoplankton, also known as "algae." Algae sink to the bottom of the Bay when they die, and their decomposition process removes oxygen from the water.[26] The animal life that traditionally filters the algae from the Bay, such as oysters or menhaden, cannot possibly consume all of the algae produced by excessive nitrogen loading, compounding the Bay's dissolved oxygen problem.[27]

"Overwhelmed" is the term now commonly used to describe the condition of the Bay's ecological system arising from nutrient pollution.[28] In 2002, 277 million pounds of nitrogen pollution entered the Chesapeake Bay.[29] Recent studies of the Bay's health starkly establish the overwhelming stresses this creates. In 2001, "half of the Chesapeake Bay's deeper waters had reduced dissolved oxygen concentrations,"

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[25] Driscoll, *Nitrogen Pollution*, *supra* note 8 at 357.

[26] Chesapeake Bay Program, *Air Pollution*, *at* http://www.chesapeakebay.net/air_pollution.htm (last updated 8/08/2005).

[27] Chesapeake Bay Program, *What is Dissolved Oxygen and Why is it Important to the Chesapeake Bay* (hereinafter *Dissolved Oxygen*) 3 (July 2004) *available at* http://www.chesapeakebay.net/pubs/doc-do_101_backgrounder.pdf; *cf.* Bricker, *Estuarine Eutrophical Assessment*, *supra* note 24 at 24.

[28] *See, e.g.*, Chesapeake Bay Program, *Dissolved Oxygen*, *supra* note 27.

[29] Chesapeake Bay Program, *Tributary Strategy Tools, Summary Loads and Land Use Acreage*, at http://www.chesapeakebay.net/tribtools.htm (last visited 7/19/2006).

stressing aquatic life, and sometimes reaching such low concentrations of oxygen that the waters become lethal to aquatic plants and animals.[30] In 2005, "the amount of water with no oxygen in the Bay's main stem was among the worst on record."[31] Moreover, the extent of the Bay's dead zone stretched further south than in most years, nearly reaching the mouth of Virginia's York River, one of the Bay's southern-most tributaries. Hence, controlling nitrogen oxide emissions from coal-fired power plants, as the CAA's PSD program was created to do, is vital to the health of the Bay.

C. Emissions From Coal-Fired Power Plants Contribute Significantly to Mercury Pollution in the Chesapeake Bay

Coal-fired power plants are the largest emitters of mercury in the United States.[32] Nationally, about one third of

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[30] EPA, *Technical Support Document*, *supra* note 5 at 19.

[31] Chesapeake Bay Foundation, *State of the Bay Report 2005*, 1-2, *available at* http://www.cbf.org/site/PageServer?pagename=sotb_2005_index.

[32] EPA, *Mercury Study Report to Congress*, EPA-453/R-98004a (U.S.Govt. Printing Office Wash., DC, Dec. 1997); David C. Evers, *Mercury Connections: The Extent and Effects of Mercury Pollution in Northeastern North America*, BioDiversity Research Institute 5 (2005) (hereinafter *Mercury Connections*), *available at* http://www.nwf.org/wildlife/pdfs/MercuryinWildlifeReport.pdf.; *see also* Dr. Mark Cohen, NOAA Air Resources Laboratory, *Atmospheric Mercury: Emissions, Transport/Fate, Source-Receptor Relationships*, 7, 9 (January 19-20, 2006) *available at* http://www.arl.noaa.gov/data/web/reports/cohen/cohen_niagara_first_talk_version_c.pdf.

mercury in the environment comes from these plants.[33] When coal is burned to produce electricity, trace amounts of mercury are released into the air. The mercury travels to earth through rain, snow, and dry particles.[34] Depending upon other environmental and chemical factors, the mercury is converted into methylmercury and accumulated by biological organisms including fish. Humans consume many of these fish species.

Studies have shown that, in general, mercury contamination is higher in areas closer to mercury sources, like power plants.[35] One study conducted for the Pennsylvania Department of Environmental Protection has shown that mercury levels were 47% higher in areas closer to power plants.[36] An EPA- funded study also found that 70% of the mercury collected at an Ohio River Valley monitoring site

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[33] Environmental Integrity Project, *Dirty Kilowatts: America's Most Polluting Power Plants* 1 (May 2005), *at* http://www.environmentalintegrity.org/pubs/Dirty%20Kilowatts%20FINAL.pdf.

[34] Sierra Club, *Clean Air, Dirty Coal Power*, *supra* note 21.

[35] Pennsylvania Department of Environmental Protection, *Data Collected Over Eight Years Shows Mercury Levels 47% Higher in Areas Near Power Plant* (May 31, 2006) (hereinafter *Mercury Levels Data*) at http://www.depweb.state.pa.us/news/cwp/view.asp?a=3&q=507034. Pennsylvania has an extensive network for analyzing the extent of mercury contamination in rain. *See* Todd Kuiken et al., National Wildlife Federation, *Cycle of Harm: Mercury's Pathway from Rain to Fish in the Environment,* 18 (2nd ed. May 2003) (hereinafter *Cycle of Harm*) *available at* http://www.nwf.org/nwfwebadmin/binaryVault/CycleofHarmFinalJ.pdf.

[36] Pennsylvania Department of Environmental Protection, *Mercury Levels Data*, *supra* note 35.

originated from nearby coal-burning industrial facilities.[37] Moreover, the closer a source of mercury is to a body of water, the more likely it is to contribute to mercury pollution in that body of water.[38] Not surprisingly, the thirteen coal-fired power plants in the proximity of the Chesapeake Bay contribute the most to mercury in the Bay. [39]

In Maryland, in heart of the Chesapeake Bay region, average mercury levels in rain were the highest of twelve states assessed in one recent study.[40] The top source of mercury pollution in that state is power plants, which contribute more than 40% of mercury emissions.[41] In another Chesapeake Bay state – Pennsylvania – the top ten mercury sources are all power plants.[42] The reduction of mercury emissions would be

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[37] *See* EPA, *Monitoring Needed to Assess Impact of EPA's Clean Air Mercury Rule on Potential Hotspots* Report No. 2006-P-00025, 12 (May 15, 2006), *available at* http://www.epa.gov/oig/reports/2006/20060515-2006-P-00025.pdf.

[38] Chesapeake Bay Foundation, *Mercury Deposition in the Chesapeake*, *at* http://www.cbf.org/site/DocServer/facsheet_final3.pdf?docID=3923 (hereinafter *Mercury Deposition*) (last visited 7/15/2006) (referencing Marc Cohen, NOAA Air Resources Lab, *Modeling the Fate and Transport of Mercury in the Chesapeake Bay,* 5/17/2004, *at* http://www.arl.noaa.gov/data/web/reports/cohen/20_Ches_Bay_talk.pdf (hereinafter *Mercury Fate and Transport*) (last visited 7/15/2006)).

[39] Chesapeake Bay Foundation, *Mercury Deposition*; *supra* note 38; *see also* Cohen, *Mercury Fate and Transport*, *supra* note 38.

[40] Kuiken, *Cycle of Harm*, *supra* note 35 at 22.

[41] Kristen Chossek Malecki et al., *The Chesapeake Bay Health Indicators Project: Linking Ecological and Human Health*, 24 *available at* www.cbf.org/site/DocServer/hopkins_0614report.pdf?docID=1923 (last visited 7/15/2006).

[42] Kuiken, *Cycle of Harm*, *supra* note 35 at 88.

an added benefit from installing emission control technology for nitrogen oxides and sulfur dioxide. *See infra* note 92.

D. Mercury Pollution in the Chesapeake Bay Poses a Significant Risk to Health, Economic Interests, and Wildlife

The Chesapeake Bay Region has some of the highest mercury levels in the nation.[43] According to one national study, mercury contamination in states including Maryland and Pennsylvania consistently exceeded EPA's "safe" standards for mercury in surface waters. In both of these states, over 90 % of rain samples revealed mercury levels greater than EPA's human health standard for mercury in lakes. In Maryland, the average rain sample collected was over five times above that standard.[44]

Elevated levels of mercury in the environment create a serious risk to the health of humans and wildlife, as well as to our economy.[45] Methylmercury[46] is "bioaccumaltive," which means that its concentration increases as wildlife, fish and people consume contaminated food. For example, fish tissue concentrations can reach levels that are over a million times higher than in surrounding water.[47] Thus, "a very low level of methylmercury in the environment can produce an extremely

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[43] Kuiken, *Cycle of Harm*, *supra* note 35 at 22, 67.

[44] Kuiken, *Cycle of Harm*, *supra* note 35 at 65, 89.

[45] National Wildlife Federation, *Mercury in the Mid-Atlantic: Are States Meeting the Challenge?* 1 (January 2005) (hereinafter *Mercury in the Mid-Atlantic*) *at* http://www.nwf.org/wildlife/pdfs/MercuryMidAtlantic.pdf.

[46] When mercury enters rivers and lakes, it is then converted to methylmercury, its most toxic form. *Id.* at 2.

[47] Kuiken, *Cycle of Harm*, *supra* note 35 at 10.

high body burden in animals at the tops of food chains. In the case of mercury, a little bit goes a long way."[48]

Consuming mercury contaminated fish presents severe danger to humans and wildlife. Mercury is a potent neurotoxin that damages the growth and function of the central nervous, cardiovascular, and reproductive systems.[49] In wildlife, mercury "is a reproductive hazard with harmful effects on species such as rainbow trout, zebra fish, mallard and American black ducks, loons and terns, otters and mink."[50] Adverse effects of exposure to methylmercury on wildlife "can include mortality (death), reduced fertility, slower growth and development and abnormal behavior that affects survival. . . ."[51]

In humans, mercury's capacity to inhibit the growth of the developing brain makes it especially harmful to young children.[52] Ingestion of mercury can damage fetal nervous systems.[53] EPA research estimates that one in six women of

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[48] Evers, *Mercury Connections*, *supra* note 32 at 6.

[49] National Wildlife Federation, *Mercury in the Mid-Atlantic*, *supra* note 45 at 2.

[50] Susan O'Brien, *Study Released Today Reveals Dangerously High Mercury Levels in Maryland Rain* (C.B.F. May 23, 2003) *available at* www.cbf.org/site/News2?page=NewsArticle&id=6793.

[51] EPA, *Fate and Transport and Ecological Effects of Mercury* (last updated July 11, 2006), *at* http://www.epa.gov/mercury/eco.htm.

[52] Kuiken, *Cycle of Harm*, *supra* note 35 at 12.

[53] Department of Health and Human Services and Environmental Protection Agency, *What You Need to Know About Mercury in Fish and Shellfish* (March 2004), *at* http://www.cfsan.fda.gov/~dms/admehg3.html; *see also* EPA, *Mercury Health Effects* (hereinafter *Mercury Health Effects*), *at* http://www.epa.gov/mercury/effects.htm (last visited July 19, 2006).

childbearing age has blood-mercury levels that may put their children at risk of learning or developmental problems.[54]

Each of the States bordering the Chesapeake Bay has issued health advisories for the consumption of mercury contaminated fish.[55] Maryland has issued a statewide fish consumption advisory limiting consumption of rockfish, or striped bass, a major commercial and recreational species.[56] The prevalence of fish consumption advisories arising from mercury in fish is an increasing threat to the country's multi-billion dollar fishing industry[57] including the 500 million pounds of seafood produced by the Chesapeake Bay.

II. The Adirondacks and Catskills Are National Treasures that Merit the Protection Afforded by the PSD Program Limiting Pollutants from Power Plants

The two parks that are central to ADK's mission are the Adirondack Park and the Catskill Park. The six-million acre

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[54] Kathryn R. Mahaffey et al., *Blood Organic Mercury and Dietary Mercury Intake: National Health and Nutrition Examination Survey, 1999 and 2000*, 112 Environmental Health Perspectives, No. 5, 562, 565 (April 2004), *available at* http://www.ehponline.org/members/2003/6587/6587.pdf; *see also* EPA, *Mercury Health Effects*, *supra* note 53.

[55] EPA, *Fish Consumption Advisories for Mercury* (2004) *at* http://epa.gov/waterscience/fish/advisories/slides2004-1_files/slide6.html.

[56] *See* National Wildlife Federation, *Mercury in the Mid-Atlantic*, *supra* note 45 at 8; Maryland Dept. of the Environment, *Recommended Maximum Meals Each Year for Maryland Waters* (April 2006) *at* http://www.mde.state.md.us/assets/document/Fish_Consumption_Advisory_2006.pdf#Recommended_Meals_Per_Year.

[57] National Wildlife Federation, *Mercury in the Mid-Atlantic*, *supra* note 45 at 2.

Adirondack Park, created by the State of New York in 1892, is the largest publicly-protected area in the contiguous United States. It is larger than the Yellowstone, Everglades, Glacier, and Grand Canyon National Parks combined.[58] The Adirondack region has over 3,000 lakes, 30,000 miles of rivers and streams, and a large variety of habitats, including globally unique wetlands and old growth forests.[59] Approximately half of the Adirondack Park belongs to the people of New York State and is constitutionally protected as a "forever wild" forest preserve.[60] The remaining half of the park is private land, with about 130,000 people living in its 105 towns and villages.[61]

The Catskill Mountain region is often referred to as "America's First Wilderness" because scholars have traced the beginnings of the conservation movement to this area.[62] Established in 1904, the Catskill Park also is a combination of private and public land. Over one third of its 700,000 acres is public forest preserve land, protected as "forever wild" under the New York State Constitution. The Catskill region itself encompasses over 6,000 square miles of mountains, forests,

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[58] Adirondack Park Agency, *The Adirondack Park, at* http://www.apa.state.ny.us/About_Park/index.html (last visited 7/15/2006).

[59] *Id. at* http://www.apa.state.ny.us/About_Park/more_park.html (last visited 7/15/2006).

[60] *Id. at* http://www.apa.state.ny.us/About_Park/index.html (last visited 7/15/2006).

[61] *Id. at* http://www.apa.state.ny.us/About_Park/more_park.html (last visited 7/15/2006).

[62] The Catskill Center for Conservation and Development, *The Catskill Mountain Region, at* http://www.catskillcenter.org/region/region1.html (last visited 7/15/2006).

rivers and farmland.[63] This region has played a significant role in shaping the culture of the United States. It is the birthplace of American fly fishing, the backdrop for paintings by the Hudson River School of artists, and the home of the legendary Rip Van Winkle and the renowned naturalist and writer John Burroughs. The Catskill region was one of the first resort destinations in the United States, and serves as the watershed which provides water for millions of New Yorkers.[64] The Adirondack and Catskill Parks' mixtures of private lands, protected open space and recreational lands, wildlife, mountains and meadows, and diverse population is truly exceptional and must be preserved.

A. Emissions from Coal-Fired Power Plants Contribute to Acid Rain, Acid Deposition, and Smog in the Adirondacks and Catskills, and Pose a Significant Risk to Health, Economic Interests, Plants, and Wildlife

The Adirondacks and Catskills are downwind of numerous coal-burning power plants, whose emissions have damaged lakes and forests in these regions.[65] Coal-fired powerplants emit high levels of sulfur dioxides and nitrogen

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[63] *Id.*

[64] March 19, 2004 Proclamation of George E. Pataki, Governor, State of New York, *available at* http://www.catskillpark.org/history/proclamation.htm.

[65] Testimony of New York Attorney General Eliot Spitzer before the U.S. Environmental Protection Agency, March 31, 2003, (hereinafter *Spitzer Testimony*) *at* http://www.oag.state.ny.us/press/statements/usepa_cleanair_testimony.pdf.

oxides,[66] which are significant contributors to the formation of ozone, acid rain and acid deposition in the Adirondacks and Catskills. Emissions of sulfur dioxides and nitrogen oxides react with other compounds in the air to form acids which reach earth through rain, snow, fog, or as dry particles.[67] In the Northeastern United States, numerous acid sensitive forest and freshwater aquatic regions suffer from the ecological damage and health problems associated with acid rain and acid deposition.[68]

Forty-one percent of lakes in the Adirondacks and fifteen percent of lakes in New England suffer from chronic or episodic acidification. Elevated levels of nitric and sulfuric acid significantly reduce the water's acid-neutralizing capacity. This acidic condition reduces species diversity and the abundance of aquatic life.[69] As one example, acid deposition

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[66] Energy Information Administration, Office of Integrated Analysis and Forecasting, U.S. Department of Energy *Analysis of Strategies for Reducing Multiple Emissions from Power Plants: Sulfur Dioxide, Nitrogen Oxides, and Carbon Dioxide*, ix, xx (December 2000) (hereinafter *Strategies for Reducing Emissions*), *available at* http://tonto.eia.doe.gov/FTPROOT/service/oiaf0005.pdf.; *see also supra* § I(A) (discussing nitrogen oxide emissions).

[67] *Strategies for Reducing Multiple Emissions*, *supra* note 66 at ix; EPA, *Health and Environmental Impacts of NOx* (hereinafter *Health and Environmental Impacts of NOx*), *at* http://www.epa.gov/air/urbanair/nox/hlth.html.

[68] Charles T. Driscoll et al., *Acid Rain Revisited: Advances in Scientific Understanding Since the Passage of the 1970 and 1990 Clean Air Act Amendments*, 4-5, Hubbard Brook Research Foundation (2001) (hereinafter *Acid Rain Revisited*) *available at* http://www.hubbardbrook.org/hbrf/publications/Acid_Rain_Revisited.pdf.

[69] *Id.* at 4, 11, 17.

sets off a deadly chain of events for fish. High levels of acidic deposition and high soil acidity, to which power plant emissions contribute, occur in the forests of the Adirondacks and Catskills. The combination of high soil acidity and high levels of acid deposition, which in turn contributes to low soil calcium levels, often fosters the release of aluminum from the soil into lakes and streams. Aluminum, in combination with high acidity levels in waters, is highly toxic. It disrupts the salt and water balance in fish, which can rupture blood cells and thicken fish blood, placing an enormous strain on fish hearts, and leading to deadly heart attacks.[70]

Acid deposition also has a deadly impact on other plant and animal life in the Northeast. Acid deposition accelerates leaching of calcium from soil,[71] which can adversely impact plant life by depleting soils of this nutrient, which is essential for plant growth. Elevated levels of acid in soil also cause nutrients to leach out of trees, which can cause a nutrient imbalance, reducing the ability to respond to environmental stresses such as cold weather, drought or insect infestation.[72] In turn, animals that depend on plant life for food suffer as poor soil conditions adversely impact plant growth. For example, red spruce trees at high elevations have suffered a serious decline as a result of acid deposition. Acidified soil causes

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[70] *Id.* at 11-12, 17.

[71] Charles T. Driscoll et al., *Acidic Deposition in the Northeastern United States: Sources and Inputs, Ecosystem Effects, and Management Strategies*, BioScience, 180, 185 (March 2001) (hereinafter *Acidic Deposition*), available *at* http://www.ingentaconnect.com/content/aibs/bio/2001/00000051/00000003/art00004;jsessionid=w8yzjh191elf.alice.

[72] *Id.* at 180, 187-188.

unusually high mortality rates for red spruce forests.[73] Since the 1960's, more than half of the large canopy red spruce trees in the Adirondacks and Vermont's Green Mountains, and one-quarter of these trees in New Hampshire's White Mountains have died. Acid deposition decreases red spruces' tolerance of cold temperatures, leading to tree damage or death.[74] This decline of red spruce trees is, in turn, detrimental to the unique and endangered species who rely on the tree for their habitat.[75]

Smog and decreased visibility are other problems exacerbated by emissions from coal-fired power plants. Ground level ozone, or smog, is formed when nitrogen oxides and volatile organic compounds react in the presence of sunlight.[76] This smog decreases visibility for hikers and others recreating in the region. In the Northeast mountains, on the haziest days, atmospheric sulfates contribute an estimated 70 % of the particulate matter that impairs visibility.[77] In addition, ozone exposure is detrimental to the health of some of the hikers. In one study with prolonged outdoor exercise, adult hikers in New Hampshire who were exposed to low-levels of particulate matter and ozone were likely to experience

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[73] Driscoll, *Acid Rain Revisited*, *supra* note 68 at 13.

[74] *Id.*

[75] Driscoll, *Acidic Deposition*, *supra* note 71 at 180, 187.

[76] EPA, *Health and Environmental Impacts of NOx*, *supra* note 67; *see also* EPA, *Ground-level Ozone: What is it? Where does it come from?* (last updated March 2, 2006) *at* http://www.epa.gov/air/urbanair/ozone/what.html.

[77] William C. Malm, National Park Service, *Introduction to Visibility*, 33 (May 1999) *available at* http://vista.cira.colostate.edu/improve/Education/intro_to_visibility.pdf.

significant effects on pulmonary function.[78] Detrimental human health effects resulting from ozone exposure include coughing, shortness of breath, and pain with inhalation.[79]

B. Mercury Pollution Poses a Significant Risk to Health, Economic Interests, and Wildlife in the Adirondacks and Catskills

The Adirondacks and Catskills are also downwind of many coal-fired power plants,[80] whose emissions of mercury contribute significantly to mercury pollution in those regions. Like the Chesapeake Bay, mercury pollution poses serious health and environmental problems for the lakes, rivers, and wildlife of this region. Ninety-six percent of the lakes in the Adirondack region and forty percent of the lakes in New Hampshire and Vermont exceed the recommended EPA action level for methylmercury in fish.[81] High mercury levels in fish from six reservoirs in the Catskills have prompted advisories

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[78] Susan A. Korrick et al., *Effects of Ozone and Other Pollutants on the Pulmonary Function of Adult Hikers*, 106 Environmental Health Perspectives No. 2, at 1-2 (February 1998) *available at* http://www.ehponline.org/docs/1998/106p93-99korrick/korrick-full.html.

[79] EPA, *Health and Environmental Impacts of Ground-level Ozone, at* http://www.epa.gov/air/urbanair/ozone/hlth.html (last visited 7/12/2006).

[80] *Spitzer Testimony*, *supra* note 65.

[81] Hubbard Brook Research Foundation, Testimony to the United States Environmental Protection Agency in Response to the EPA's 2004 Mercury Regulatory Package, 2, *available at* http://www.hubbardbrook.org/hbrf/HBRF_mercury_comments.pdf (last visited 7/14/2006).

that infants, children under the age of fifteen, and women of childbearing age not eat any fish from these reservoirs.[82]

The Northeast region also includes several mercury biological "hot spots," where high mercury levels have been recorded in fish, loons, eagles, and other animals.[83] Bioaccumulation of mercury in wildlife has reached alarming levels. According to one report, mercury is now present in about two-thirds of Adirondack loons at levels that negatively impact their reproductive capacity, posing a significant risk to their survival.[84] Likewise, approximately one third of otters and mink sampled in the northeastern United States had levels of mercury in their systems which challenge their reproductive success.[85] Problems associated with mercury accumulation appear not to be limited to surface waters and wildlife that use them: mercury is also accumulating in songbirds in nearby mountain forests, like the Bicknell's thrush– a terrestrial, insect eating songbird.[86] Based upon this data, as well as other information, scientists have concluded that wildlife in the

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[82] Alan White, *Mercury Advisories an Early Warning of Atmospheric Pollution in the Catskills*, 20 Kaatskill Life No 1, at 12 (Spring 2005).

[83] Evers, *Mercury Connections*, *supra* note 32 at 18.

[84] Jerry Jenkins et al., Adirondack Lakes Survey Corp., *Acid Rain in the Adirondacks: A Research Summary*, 173-74 (October 2005), *available at* http://www.adirondacklakessurvey.org/sosindex.htm.

[85] *Id.* at 174.

[86] Evers, *Mercury Connections*, *supra* note 32 at 16 (pertaining to birds in the western Maine mountains).

Catskill Mountains "are potentially at greater ecological risk for mercury accumulation" than other regions in the Northeast.[87]

III. Applying the CAA's PSD Permitting Program to Coal-Fired Power Plants that Undergo Physical Changes and Increase Emissions Will Help Save the Chesapeake Bay, Adirondacks, and Catskills

The approach adopted by the Fourth Circuit will allow dirty and aging power plants to make major renovations that prolong and increase their operations, including increasing the emission of harmful pollutants, without installing modern pollution control devices. This directly contravenes the text, structure, and purpose of the CAA's PSD program. The net result of the approach adopted by the Fourth Circuit would, rather than *limit* pollution increases, permit significant increases, which cannot be what Congress intended for the CAA, given its overarching goals and purposes. Aging, largely uncontrolled power plants already emit far more air pollution than those currently required to have pollution control equipment.[88] By requiring aging power plants to retrofit only when they undertake a physical or operational change that increases their hourly emissions rate, the Fourth Circuit's test

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[87] *Id.*

[88] A vast majority of the NOx and mercury emissions in the Chesapeake Bay Airshed comes from coal- fired power plants that do not have BACT. According to EPA data, in 2005, 155 out of 161 sources did not have BACT, and accounted for approximately 1.17 out of 1.20 million tons of NOx emitted. *See* EPA *Acid Rain Program, Preliminary Summary Data Reports*, *at* http://www.epa.gov/airmarkets/emissions/prelimarp/index.html (last visited 7/19/2006). Based upon EPA's 1999 data for mercury emissions, these same sources accounted for approximately 38 out of 39 thousand pounds of mercury emitted in that year. EPA, *Air Data, Generating Reports and Maps*, *at* http://www.epa.gov/air/data/reports.html (last visited 7/19/2006).

will allow these plants to emit excessive amounts of pollutants for greater periods of time, yielding an uncontrovertable net increase in pollutants. By contrast, Congress' statutory design anticipated that these dirty plants would either close, or when modified to extend their operating lives, be required to control and reduce their emissions. Allowing such plants to escape the statutory PSD obligations will not facilitate protection of the air in "areas of special national or regional natural, recreational, scenic, or historic value," 42 U.S.C. § 7470, but rather will impede such protection. *See also* Brief of the State of New York *et al* as *amici curiae* in Support of Petitioners.

The environmental implications of this issue are considerable. The number of operating power plants in this country between 30 and 50 years old is as high as 600. These plants "are up to ten times dirtier than new power plants built today."[89] According to one scientist who has studied the impacts of excessive nutrients in the Northeastern United States, combining aggressive controls of nitrogen from utilities with an aggressive mobile source reduction plan "would produce important reductions in estuarine loading."[90] One government study analyzing the emission reductions and price implications of NSR enforcement actions by the Justice Department and the states demonstrated that broadening these actions to address all non-NSR compliant electrical generating plants would potentially decrease nitrogen oxide emissions by 65% by 2020 and sulfur dioxide by 84% by 2020, as compared

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[89] Yekaterina Korastash, *EPA's New Regulatory Policy: Two Steps Back*, 5 N.C.J.L. & Tech. 295, 295 (Spring 2004); *see also* Sierra Club, *Clean Air, Dirty Coal Power*, *supra* note 21.

[90] Driscoll, *Nitrogen Pollution*, supra note 8 at 370.

to 2000 emission levels.[91] Moreover, the installation of modern pollution controls at coal-fired power plants under the PSD program would substantially reduce their mercury emissions.[92] Importantly, reducing mercury emissions may lead to a decrease in levels of contamination in downwind waters in only a matter of years,[93] which would significantly improve the health of the Chesapeake Bay and rivers and lakes in the Adirondacks and Catskills.

In contrast, affirming the approach adopted by the Fourth Circuit would frustrate commitments made by states surrounding the Chesapeake Bay, the District of Columbia, and the Federal government to reduce nitrogen loadings to the Bay through the Chesapeake Bay 2000 Agreement. If older plants can make changes that increase their emissions without going through the PSD permit process, these governments will not be able to live up to their commitments in this agreement. In 2003, the six Bay watershed states and the District of Columbia committed to reduce nitrogen from its 2000 level of 285 million pounds entering the Bay to no more than 175 million pounds per year – a reduction intended to foster conditions in the Bay that are healthier for the thousands of plants and

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[91] *Strategies for Reducing Emissions*, *supra* note 66 at 59-63.

[92] *See* EPA, *Controlling Power Plant Emissions: Controlling Mercury with Existing Controls*, *at* http://www.epa.gov/mercury/control_emissions/tech_exist.htm (last updated July 5, 2006); *cf.* National Wildlife Federation, *Controlling Mercury from Power Plants: Current State of Technology* (April 2006) *available at* www.nwf.org/wildlife/pdfs/MercuryPollutionControls.pdf (terms of the CAA's PSD program themselves do not specifically require controls of mercury, however, the technology that they do require produces the "co benefit" of significant mercury reductions).

[93] Kuiken, *Cycle of Harm*, *supra* note 35 at 11.

animals living in its ecosystem.[94] But as of 2004, annual nitrogen inputs to the Bay were 2.5 times *greater* than the 80 million kilogram level needed to meet the terms of the Chesapeake 2000 Agreement.[95] Air emissions from power plants make up a large part of that number. *See supra* § I(A).

Likewise, controlling pollution from power plants will reap important environmental benefits in the Adirondacks and Catskills. Added to the benefits of decreasing mercury emissions, reducing power plant pollutant emissions will also help reduce the acidification of lakes and rivers that is so harmful to plant and animal life in the Adirondacks and Catskills. Reducing emissions of pollutants will also improve visibility and human health by decreasing ozone.

Aside from these important direct environmental benefits to the Chesapeake Bay, Adirondacks, and Catskills from reducing power plant emissions, other benefits should also be considered. Studies have shown that the economic benefits of reducing pollutants like mercury and nitrogen oxide far outweigh their costs.[96]

CONCLUSION

Congress, in enacting the PSD program as part of the

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[94] Chesapeake Bay Program, *Simulated Nutrient and Sediment Load Reductions (1985-2004), at* http://www.chesapeakebay.net/status.cfm?SID=186 (last visited 7/17/2006).

[95] *Ecological Effects*, *supra* note 6 at 20.

[96] National Wildlife Federation, *Study Finds Maryland Health Air Act Will Save Lives, Benefit Economy* (March 6, 2006), *available at* http://www.nwf.org/news/story.cfm?pageId=CFD3DC21-C42A-E6C7-D22B4652CBA6DC3C.

CAA, declared that one of its purposes is to "preserve, protect, and enhance the air quality in . . . areas of special national or regional natural, recreational, scenic, or historic value." 42 U.S.C. § 7470(2). The Chesapeake Bay, the Adirondacks, and the Catskills are undoubtedly such special areas. For years, they have suffered multiple harmful environmental effects of excessive emissions of mercury, nitrogen oxides, and sulfur dioxides from coal-burning power plants. Implementing the PSD program to require these plants to control their harmful emissions when they make changes that increase actual annual emissions is necessary to assure that these special areas are not further damaged, but rather are preserved, protected, and enhanced, as Congress intended.

The Chesapeake Bay Foundation and the Adirondack Mountain Club respectfully request that the Court reverse the decision of the Fourth Circuit and apply the PSD program to projected annual emission increases, to promote clean air and protect the environment.

Respectfully submitted,

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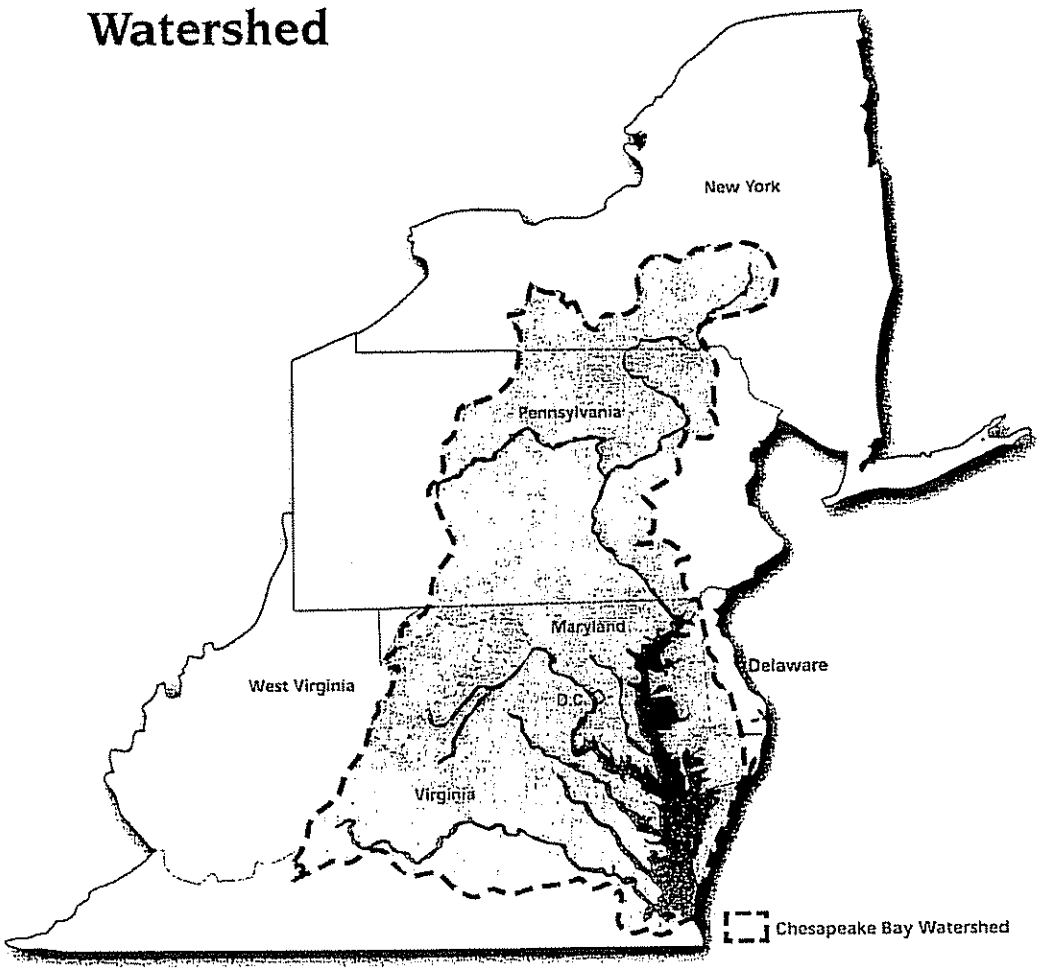
APPENDIX 1

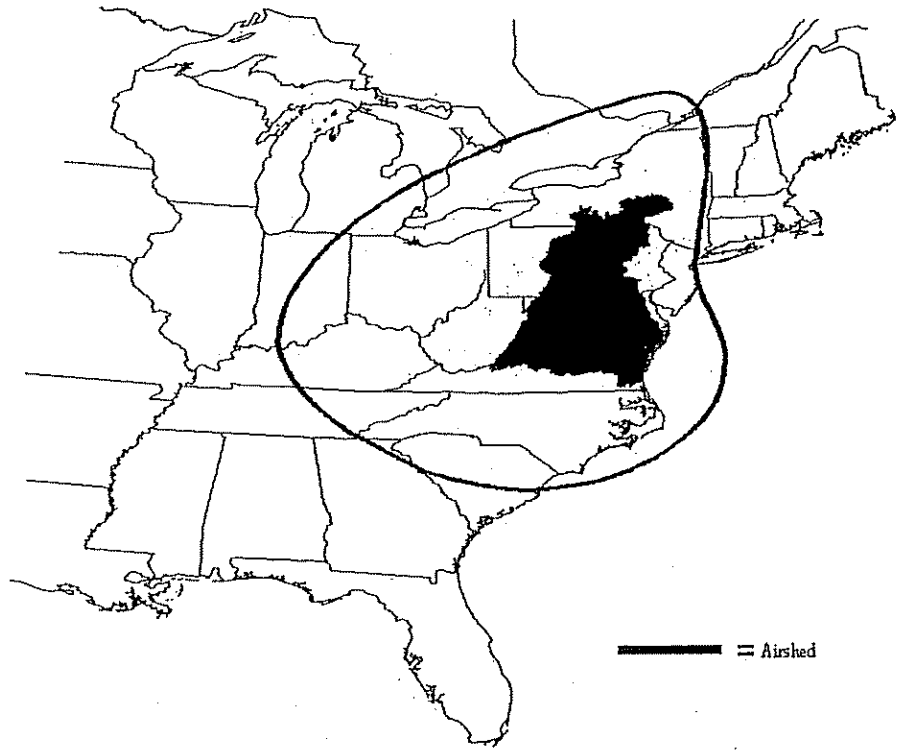
The Chesapeake Bay Watershed



APPENDIX 2

CHESAPEAKE BAY PROGRAM

Area of NOx Emissions that contribute Nitrogen Deposition to the Bay and its Watershed



Chesapeake Bay Program