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Cover Page Footnote

The author, a Fordham University School of Law graduate (1925), is Attorney General of the State of New York. In 1970 he established an Environmental Protection Bureau which has been in the forefront of the legal battle to preserve Jamaica Bay in its natural state. The author would like to thank Philip Weinberg, Esq., Assistant Attorney General of the State of New York, and Douglas A. Cooper and Robert J. Aurigema, students at Fordham University School of Law, for assistance in preparation and research.

JAMAICA BAY: AN URBAN MARSHLAND IN TRANSITION

Louis J. Lefkowitz*

WHEN Verrazzano first glimpsed what is now New York City, he viewed a totally unspoiled expanse of forested islands, marshes and bays. It is difficult, when we consider New York as a densely populated city, its borders ringed with docks, roads and bridges, to realize that several square miles within its confines have remained virtually unchanged through these centuries. Yet Jamaica Bay, surrounded by the runways of Kennedy Airport and the apartment house complexes of Rockaway, somehow remains. Its waters are polluted, its future clouded. Yet it stands as a breeding ground for waterfowl, fish and shellfish, a way-station for migratory birds, a microcosm of urban environmental problems and a laboratory for imaginative solutions.

Portrait of a Tarnished Jewel

Jamaica Bay, surviving as a unique vestige of unspoiled coastal wetland in the midst of urban sprawl, brings into sharp focus a wide range of urban problems and a wide variety of proposed solutions. It has been aptly called a "tarnished jewel." This article will briefly examine these environmental problems as they affect the lives of the hundreds of thousands of people who live adjacent to the Bay, and the extraordinary opportunities for recreation and enjoyment for which the Bay, freed of sewage, air pollution and aircraft noise, could be employed.

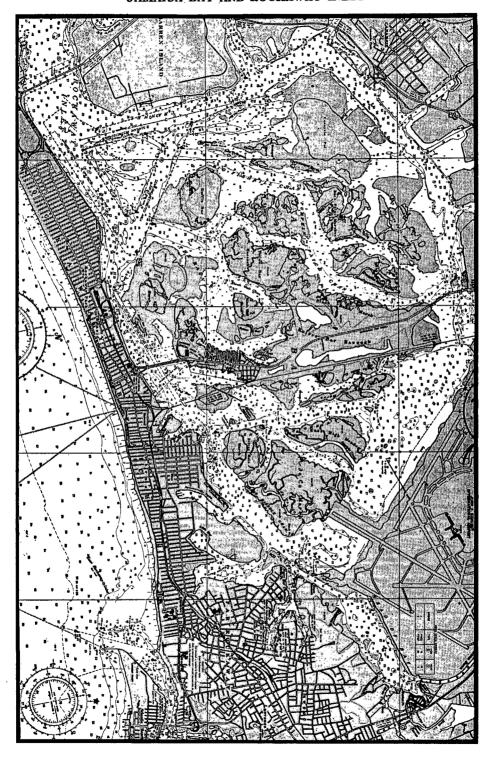
Although Jamaica Bay's waters absorb sewage from city treatment plants and jet fuel from spills at Kennedy Airport, and its air is suffused with smoke from jets entering and taking off from the airport, it none-theless sustains and nourishes an amazing variety of wildlife. Not only the native ducks and gulls, but heron, owls, ibis and egret frequent the

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^{1.} Taormina, Environment: Journal on Jamaica Bay, The Conservationist 16 (Apr.-May 1970) [hereinafter cited as Taormina].

JAMAICA BAY AND ROCKAWAY INLET



Bay, as well as rabbits, turtles, and a wide assortment of fish and shell-fish.² The Bay, eight miles long and four miles wide, forms a feeding station on the Atlantic Flyway, the main north-south route of migratory birds in this hemisphere.

At one time, fresh water creeks fed Jamaica Bay. The urbanization of the land surrounding the Bay has closed off and filled in these creeks. Now fresh water enters the Bay from the north through storm sewers funneling from much of Brooklyn and Queens. This "fresh" water is further exposed to sewage from the city's plants, four of which discharge into the Bay. Since 1931 the city has pursued a program of secondary treatment of sewage, yet, largely as a result of the rapid population growth of Queens County (from 1,079,000 in 1930 to 1,964,000 in 1970), the need has far outstripped the pace of construction.³

Throughout much of Brooklyn and Queens the storm sewers and sanitary sewers are the same. As a result, a heavy rain adds millions of gallons to normal sanitary discharges, thereby exceeding the capacity of the existing sewage treatment plants and causing the overflow to bypass them, pouring huge amounts of raw, untreated sewage into the Bay. The construction of auxiliary sewage treatment plants to absorb and treat this overflow is an absolute necessity before we can again speak of the Bay as a site for recreation.

The northern shore of the Bay once contained several sandy beaches suitable for swimming if water quality were high enough to permit it. Construction of the Shore Parkway during the 1930's, when highway construction was automatically equated with progress and environmental considerations almost invariably shrugged off, resulted in isolating these beaches and rendering them useless for recreational purposes—a process which was hastened by the erection of several massive housing developments and much of Kennedy Airport on beachfront land.

The effect of all this dumping, filling and outright pollution on Jamaica

^{2.} Id. at 17.

^{3.} National Academy of Sciences and National Academy of Engineering, 2 Jamaica Bay and Kennedy Airport, a Multidisciplinary Environmental Study 55 (1971) [hereinafter cited by Volume as Jamaica Bay and Kennedy Airport]. At present the Spring Creek plant, commenced in 1968, is being constructed. Other plants at Fresh Creek, Paerdegat Basin, Bergen Basin, Thurston Basin and Hendricks Creek are slated for completion in 1978. It is noteworthy that as early as 1938 Robert Moses recognized the recreational potential of the Bay and inveighed against its use as a dumping ground. See Johnson, A Touch of the Wild in the Heart of the City, Garden J. 132 (Oct. 1970) [hereinafter cited as Johnson].

^{4. 2} Jamaica Bay and Kennedy Airport 55.

Bay's once thriving shellfish industry has been predictably devastating. A century ago the Bay was an important source of commercial oysters, clams, lobsters and crabs. To this day Rockaway natives refer to themselves as "clamdiggers." But water pollution long ago destroyed the commercial value of these shellfish, and in 1921 city authorities closed the Bay for commercial shellfishing as a result of pollution from raw sewage entering the Bay.⁵ This sewage is still by far the main source of deterioration of the Bay's water, which, for an enclave of New York City, is still amazingly free of industrial pollution.⁶ An abortive plan in the 1920's for the development of Jamaica Bay, touted as "the world's largest seaport," never materialized.

In the 1940's, progress, rarely an unmixed blessing to an unspoiled area, came to the Bay with the building of Kennedy Airport. This enormous undertaking involved vast additional amounts of dredging and the filling-in of 4500 acres of once productive marshland—one-sixth the area of the Bay. Moreover, runway 4L at Kennedy was extended in the early sixties on an embankment stretching far out across the Bay and resting on Jo Co Marsh, an island near the center of the eastern half of the Bay. This construction has the effect of a dike, blocking off a large part of the Bay, known as Grassy Bay, from the east, and leaving only a few small outlets to the south. This cutting off of the natural flushing action of the tides has resulted in the stagnation of Grassy Bay and a severe reduction in its oxygen content and water quality.

In 1953 a major step in the regeneration of the Bay took place with the city's purchase of the Long Island Railroad trestle which traversed the Bay from north to south. This trestle, which had burned and was long out of service, was rebuilt by the city as a part of the transit system. Naturalists and Parks Department personnel, long concerned about the preservation of the Bay and its wildlife, worked together with Transit Authority engineers to create a fresh-water pond, known as East Pond, between the subway line and Cross Bay Boulevard, a north-south road bisecting the bay. Another fresh-water pond was created west of the road, known as West Pond, and the surrounding marshland and sand became the Jamaica Bay Wildlife Refuge. Dikes were constructed to protect the ponds and beach grass planted to contain the sand dikes. As a result of the setting aside of this small portion of the entire Bay as a wildlife refuge,

^{5.} Id. at 45, 49. See also Taormina, supra note 1 at 17.

^{6.} Johnson, supra note 3 at 132.

^{7.} Id. at 132-133.

numerous species of birds have returned to the area, including egret, heron and terns.8

More often than not, however, it is in spite of man that wildlife continues to live in or around Jamaica Bay. In fact, for man himself, the quality of life is constantly shaken by the noise of jet aircraft approaching and taking off from Kennedy Airport.

The increasing use of Kennedy Airport from year to year and the advent of jet aircraft have created severe environmental problems not only for the Bay but for its adjacent communities whose populations are in the hundreds of thousands.9 Aircraft noise has been the most blatant source of discomfort for the residents of Rockaway, South Ozone Park, Howard Beach, Lawrence, Inwood and other communities directly in the Kennedy flight paths. Since approximately 700,000 people live in areas subjected to serious jet noise at Kennedy, this problem has become one of most serious dimensions. Insomnia, nervous ailments and outright fear of crashes are part of the lives of many residents of these communities, whose children are subjected to what is caustically termed "jetpause teaching." In addition to this debilitating physical and psychological barrage of noise, jets taking off from and landing at Kennedy emit heavy doses of smoke and particulate matter (particles of dirt) which saturate the air of these surrounding communities. Furthermore, spills of jet fuel from Kennedy created a pernicious oil slick in the Bay which, until remedied, posed a serious threat of fire, and which, following a serious spill, could spread across substantial portions of the Bay.

The City of New York has pursued divergent polices in this area. While the city has moved periodically toward preservation of the Bay and its enhancement as a natural resource, at the same time it has persisted in certifying the construction of vast residential developments directly on the Kennedy flight paths. This land-use policy has aptly been described by the National Academy of Sciences as a "collision course" and "tantamount to a bizarre kind of environmental brinksmanship, the result of which must almost inevitably be a major disaster for both the aviation industry and the communities of the Kennedy Airport environs."

^{8.} Id. at 136.

^{9.} About 627,000 people lived within two miles of Jamaica Bay in 1960. The figure is undoubtedly substantially higher today. 2 Jamaica Bay and Kennedy Airport 48.

^{10.} Id. at 94-95.

^{11.} Id. at 100-01.

Despite its manifold problems of air and water pollution, jet noise and land-use, Jamaica Bay remains a valuable coastal wetland area, its heart a wildlife refuge which has been characterized as "an oasis of clean air and greenery in the midst of the concrete jungle." This article will briefly examine first the development of legal tools to protect a coastal wetland such as Jamaica Bay, and next the specific legal steps which are being taken and should be taken to achieve that result.

The Law and Coastal Wetlands—A Brief Summary

The law of wetlands¹³ has reflected the competing tug of various interests, *i.e.*, the tension between private property rights and those of the sovereign, the conflict between urbanization and commercial interests and recreation and protection of natural resources.

As far back as Roman times, governmental interest in public administration, commerce and navigation led to the development of the concept of public waterways and tidal areas. The "air, running water, the sea, and consequently the seashore" were common to all.¹⁴

By the Roman law, the sovereignty of government extended over the sea, but the occupation of it belonged to all the subjects of the empire universally, for the unlimited exercise of fishing, navigating, and taking water; and as this privilege was illimitable and unrestrainable, so, therefore, it was incapable of individual exclusive appropriation. . . . 15

Thus as early as the Roman law, there existed the concept of a public trust in tidelands¹⁶—a point of departure for courts and legislators in developing future tideland law.

With the emergence of the Dark Ages, the centralization of the Roman Empire was replaced by the feudal system of lords and vassals. Centralized government was fragmented and commerce dwindled. Ownership of tidelands was vested in the immediate fiefdom, and the concept of public ownership of the tideland faded.¹⁷ As monarchies gradually became pow-

^{12.} Johnson, supra note 3 at 132.

^{13.} The law, as such, does not lend itself easily to categorization. As early as 1893 the Supreme Court, in a case involving tidal waters, said, "there is no universal and uniform law upon the subject . . ." Shively v. Bowlby, 152 U.S. 1, 26 (1893).

^{14.} Note, The Public Trust in Tidal Areas: A Sometime Submerged Traditional Doctrine, 79 Yale L.J. 762, 763 (1970), quoting Justinian, Institutes 1, 2.1.1.

^{15.} Id. at 763. See Schultes, Aquatic Rights 2 (1839).

^{16.} Note, The Public Trust in Tidal Areas: A Sometime Submerged Traditional Doctrine, supra note 14, at 764.

^{17.} Id.

erful, "the territorial water became embedded in history and law as a tangible asset to be enumerated in every king's list of riches." The Magna Carta (1215) heralded a partial return to the Roman concept of a public trust in tidal and navigable waters. The king became in effect the trustee of the public rights to tidelands for fishing, shellfishing and commerce. He became their guardian but he no longer could restrict them to his own individual use. This public trust doctrine was carried over into the common law and adopted in the colonies, and thus transmitted to this country intact.

In the United States the public trust doctrine has been construed to give precedence to the fostering of navigation, commerce and fishing, in that order, with little consideration to other interests.²² With heightened awareness of environmental protection in recent decades, the courts have recognized and on occasion given priority to the needs of society as a whole to preserve coastal wetlands.²³

At the federal level a heightened concern for the protection of wetlands has been shown in recent years. Although a permit from the Army Corps of Engineers has been required for dredging or filling in navigable waters since 1899,²⁴ in 1958 the additional approval of the Fish and Wildlife Service of the Department of the Interior was made a requirement.²⁵ In 1970 the National Environmental Policy Act²⁶ was superimposed on these earlier statutes, mandating the filing of a statement as to the environ-

^{18.} Senate of the State of California 21 (1953), Report of the State Interim Committee on Tidelands.

^{19.} Note, The Public Trust in Tidal Areas: A Sometime Submerged Traditional Doctrine, supra note 14, at 765.

^{20.} Id. at 767-69.

^{21.} As to lands under water, the public trust doctrine is plainly the law of New York. Stewart v. Turney, 237 N.Y. 117, 142 N.E. 437 (1923); State Water Resources Comm'n v. Liberman, 37 App. Div. 2d 484, 326 N.Y.S.2d 284 (3d Dep't 1971).

^{22.} Note, The Public Trust in Tidal Areas: A Sometime Submerged Traditional Doctrine, supra note 14, at 783.

^{23.} In 1952 Wisconsin's highest court expressly upheld the analogous right of enjoyment of the recreational attributes, including scenic beauty of navigable streams, and held that right to be legally significant and enforceable. Muench v. Public Service Comm'n, 261 Wis. 492, 511-12, 53 N.W.2d 514, 522 (1952).

^{24. 33} U.S.C. § 403 (1970).

^{25. 16} U.S.C. § 662(a) (1970). See also discussion in Teclaff, The Coastal Zone—Control Over Encroachments into the Tidewaters, 1 J. Maritime L. & Com. 241 (1970).

^{26. 42} U.S.C. §§ 4321-4347 (1970).

mental impact by any federal agency engaging in conduct with a substantial effect on the environment. This language was broad enough to encompass dredging or filling of coastal wetlands by any instrumentality of the federal government.

In the past few years several states have enacted legislation not only requiring permits to fill or dredge in coastal wetlands, but also, in some cases, actually vesting title to all wetlands in the state.²⁷ Although New York has not as yet gone as far as these states, our Conservation Law requires a state permit for dredging or placing fill in the navigable waters of the state.²⁸ However, the statutory definition of the "navigable waters of the state" inexplicably excludes Nassau and Suffolk Counties.²⁹

Recent judicial construction of Conservation Law section 429-b has strengthened this important weapon, upholding its constitutionality and its applicability to privately held lands.³⁰ Over and above the salutary provisions of the Conservation Law, the remedy of common law public nuisance action is available to enjoin acts detrimental to the environment. In New York this remedy has repeatedly been invoked in recent years in

- 27. Mass. Gen. Laws Ann. ch. 130, § 27A (1970); R.I. Gen. Laws Ann. § 11-46.1-1 (1970). In a unique approach, California has created a San Francisco Bay Commission with explicit authority to regulate that bay and its adjacent wetlands. Cal. Gov't Code § 66600 (West 1966); see Candlestick Properties, Inc. v. San Francisco Bay Constr. & Dev. Comm'n, 11 Cal. App. 3d 557, 89 Cal. Rptr. 897 (1970).
- 28. N.Y. Conserv. Law § 429-b (McKinney Supp. 1971). The law requires the State Department of Environmental Conservation, "before granting such permit [to] ascertain the probable effect on the use of such waters for navigation, the health, safety and welfare of the people of the state and the effect on the natural resources of the state, including soil, forests, water, fish and aquatic resources therein, likely to result from such channel excavation or fill." Id. at § 429-b (3). It is clear that tidelands are generally the property of the state under New York law. "To the rights of the crown the People of this state succeeded, upon their separation, and the title to the lands under water, where the tide flows and reflows, vested and remained in them." Roberts v. Baumgarten, 110 N.Y. 380, 383, 18 N.E. 96, 97 (1891). Legislation has been introduced at the recommendation of the Attorney General's office to provide statewide land use control for all wetlands and a halt to all dredging and filling pending adoption of such controls. N.Y. Bills, A 9046, S 7939 (1972).
- 29. N.Y. Nav. Law § 2(4) (McKinney Supp. 1971). Legislation has been introduced before the New York State Legislature which would correct the situation which exempts from state regulation the very areas in which most of New York's coastal wetlands are found. N.Y. Bills, A 2639, S 2328 (1971).
- 30. State Water Resources Comm'n v. Liberman, 37 App. Div. 2d 484, 326 N.Y.S.2d 284 (3d Dep't 1971).

suits to protect wetlands as well as other aspects of environmental protection.³¹

In cases where private builders and developers may destroy coastal wetlands through overbuilding, effective legal opposition may be mounted before the planning board, whose approval is generally necessary. Proof of the environmental injury which would result from such activity is often enough to convince planning boards to resist such attempts.³²

In New York State, a law exercising the state's full latent powers over wetlands is needed, as is the prompt expansion of the permit law, Conservation Law section 429-b, to cover all of Long Island. Over and above statutory advances, however, vigilant enforcement by public agencies and private conservation groups is essential to ensure that irreplaceable legacies such as Jamaica Bay are not dissipated through neglect. The keen public awareness of the unique value of these coastal wetland areas which has arisen in recent years is the most effective guarantee of continued vigilance.

Now let us turn to the specific environmental problems of Jamaica Bay and its adjacent communities. We find a varied assortment of problems, whose solutions range from the obvious to the complex and elusive.

From Dustbin to Gateway: Problems and Solutions

1. Aircraft Noise

Undoubtedly Jamaica Bay's most critical environmental problem, from the standpoint of sheer discomfort experienced by residents of its shores, is that of jet noise from Kennedy Airport. No less than 368 flights land or take off at Kennedy Airport on a typical day between four and nine

^{31.} State v. Town of Huntington, 67 Misc. 2d 875, 325 N.Y.S.2d 674 (Sup. Ct.), aff'd mem., 37 App. Div. 2d 858, 326 N.Y.S.2d 981 (2d Dep't 1971) (air pollution); People v. Port of N.Y. Authority, 64 Misc. 2d 563, 315 N.Y.S.2d 9 (Sup. Ct. 1970) (action to enjoin jet fuel spillage into Jamaica Bay from Kennedy Airport). The recent revitalization of the public nuisance action in the environmental field is excellently described in Benshoof, Aesthetic Nuisance: An Emerging Cause of Action, 45 N.Y.U. L. Rev. 1075 (1970). Nuisance is a time honored remedy in the area of water pollution. Lord Hale in 1786 declared, "Generally that which stopps the port or shokes it up, as castinge out of filth or ballast or otherwise, obstructs the passage of ships . . . or stoppinge up a channel or rode . . . are prima facie nuisances." Note, The Public Trust in Tidal Areas: A Sometime Submerged Traditional Doctrine, supra note 14, at 785, citing Hale, First Treatise 338 (c. 1786).

^{32.} See Landing Estates, Inc. v. Jones, 67 Misc. 2d 354, 324 N.Y.S.2d 255 (Sup. Ct. 1971), in which the court upheld planning board rejection of an attempt to develop coastal wetlands.

P.M.³³ It is not generally recognized that many of these flights are not commercial flights at all, but are "general aviation" *i.e.*, private and corporate aircraft not carrying public passengers. Nearly all commercial flights at Kennedy, and many of the general aviation flights, employ jets. The noise levels constitute, as we have noted, a serious and protracted health problem to 700,000 residents, far transcending mere annoyance.

In 1969 New York State instituted legal action against the Port of New York Authority, which operates Kennedy Airport, and against the airlines serving Kennedy.⁸⁴ The suit alleges that unnecessary and excessive noise at Kennedy constitutes a public nuisance, and invokes the authority of the Attorney General to bring suit on behalf of the people of the State to abate such a nuisance.⁸⁵

Following the institution of this suit, discussions between the Federal Aviation Agency, aircraft manufacturers, airlines and the State have taken place in an attempt to adopt a schedule for the installation of sound-muffling equipment on existing jets and the elimination of excess noise on engines to be constructed in the future.

What legal remedies are available to the aggrieved homeowner besieged by jet noise from low-flying planes? Under both civil law and common law a landowner owned his tract usque ad coelum—up to the sky. The courts have reduced the scope of this doctrine, allowing an owner aggrieved by noise from overflights to recover damages for what is termed an inverse condemnation, holding that the doctrine does not justify the granting of an injunction against overflights.

Attempts by states and municipalities to enjoin or restrict overflights have been rejected by the courts on the ground of federal preemption through the Federal Aviation Act of 1958³⁹ and its predecessor statutes. State and municipal legislation on the subject has been declared uncon-

^{33. 2} Jamaica Bay and Kennedy Airport 37, Table A-2.

^{34.} People v. Port of N.Y. Authority, Sup. Ct. Nassau Co., Civ. No. 6981/70.

^{35.} People v. Port of N.Y. Authority, 64 Misc. 2d 563, 564, 315 N.Y.S.2d 9, 10 (Sup. Ct. 1970), aff'd mem., 37 App. Div. 2d 858, 326 N.Y.S.2d 981 (2d Dep't 1971).

^{36.} United States v. Causby, 328 U.S. 256, 260-61 (1946).

^{37.} Id. at 261; Griggs v. Allegheny County, 369 U.S. 84 (1962).

^{38.} American Airlines, Inc. v. Town of Hempstead, 272 F. Supp. 226, 231 (E.D.N.Y. 1967), aff'd, 398 F.2d 369 (2d Cir.), cert. denied, 393 U.S. 1017 (1969); Loma Portal Civic Club v. American Airlines, Inc., 61 Cal. 2d 582, 394 P.2d 548, 39 Cal. Rptr. 708 (1964).

^{39. 49} U.S.C. §§ 1301-1542 (1970).

stitutional both under preemption and as an undue interference with interstate and foreign commerce.⁴⁰

Although the amounts awarded as damages for inverse condemnation have been substantial, the only avenue for realistic legal redress for jet noise at present is that of public nuisance and even here the highly technical nature of the aircraft noise problem, coupled with the impracticability of attempting to actually enjoin overflights, precludes immediate relief.

There are, however, certain meaningful steps which can be taken promptly to alleviate the jet noise problem. First, the sheer number of overflights is in excess of actual transportation needs. 41 Competition between airlines has resulted in a proliferation of flights on trunk-line routes, so that each of three companies maintains hourly service between New York and Chicago, to cite only one example. Three huge jets taking off and landing every hour through the day, each with numerous empty seats, not only deafen the Bay area with triple the noise of one consolidated flight, but also expend three times the fuel and create three times the airport congestion. Examining this problem, the National Academy of Sciences, in its comprehensive environmental study "Jamaica Bay and Kennedy Airport" (1971), has estimated that of 155 peak-hour commercial flights (6-7 p.m.) serving New York City's three airports, consolidation of flights could reduce the number to 121 without eliminating existing nonstop service during that period to or from a single city. 42 The National Academy of Sciences found as a fact that "[m]uch of the responsibility for this excessive schedule frequency in several markets lies with the federal government, particularly the CAB and the FAA. However, the Port of New York Authority cannot escape a major share of the responsibility for allowing this inefficient air carrier use of the region's airports during peak hours and the serious deterioration in the quality of the region's air service that has been the inevitable result."48

Secondly, improvements in intercity ground transportation, particularly high-speed rail service, would rapidly alleviate airport noise and congestion by reducing the number of flights needed to nearby cities

^{40.} American Airlines, Inc. v. Town of Hempstead, 272 F. Supp. 226, 231 (E.D.N.Y. 1967), aff'd, 398 F.2d 369 (2d Cir.), cert. denied, 393 U.S. 1017 (1969); Allegheny Airlines v. Village of Cedarhurst, 238 F.2d 812 (2d Cir. 1956).

^{41. 2} Jamaica Bay and Kennedy Airport 25, 26.

^{42.} Id. at 27, Table 1-3.

^{43.} Id. at 26.

by both commercial and general aviation.⁴⁴ The federal government's resources, a small part of which are now committed to the High-Speed Ground Transportation Project which has already introduced the Metroliners and vastly improved rail service between New York and Washington, must continue to be dedicated to making rail service more rapid and attractive, as it is in Western Europe and Japan. Funds spent on improvement of our trains will thus have an immediate effect on noise levels and airport congestion over Jamaica Bay.⁴⁵

Finally, every effort should be made to exclude general aviation flights (privately owned aircraft not carrying passengers or freight for hire as a common carrier) from Kennedy Airport, at least during peak periods. The twenty-five general aviation flights taking off or landing at Kennedy Airport between 6 and 7 p.m. on the typical weekday carry fewer passengers than 3 commercial flights. And general aviation flights contribute disproportionately to the anticipated growth of peak period airport use, as well as contributing substantially to present traffic congestion. The Metropolitan area has several airports not used by commercial flights—Flushing (Queens), Teterboro (N.J.), and Farmingdale (L.I.), as well as Westchester County Airport which is used by relatively few commercial flights—all of which are eminently suitable for general aviation use. There is no reason why these private planes which do not serve the public should be permitted to take off and land from an already overburdened Kennedy Airport during peak traffic hours.

2. Air Pollution

Much of what has been said with regard to aircraft noise is equally applicable to air pollution caused by jet engines. Here too, the problem and its solution are largely matters of engineering. Both particulates and

^{44.} One out of six airline passengers to or from New York has as his destination Boston, Providence, Philadelphia, Baltimore or Washington. 2 Jamaica Bay and Kennedy Airport 35.

^{45.} In a parallel situation, the Interstate Commerce Commission, charged with regulation of many aspects of passenger train service, has recognized the importance to the environment of maintenance and enhancement of rail transportation to prevent not only road traffic congestion but also the ". . undesirable effects of our national, regional and local roadbuilding programs in the areas of land use, taxation, scenic pleasure, air cleanliness, and safety which are all too familiar to most Americans today." New York, N.H. & Hartford R.R., Trustees, Discontinuance of all Interstate Passenger Trains, 327 I.C.C. 151, 159 (1966). See also the interesting discussion of this point in Hanks & Hanks, An Environmental Bill of Rights, 24 Rutgers L. Rev. 230 (1970).

^{46. 2} Jamaica Bay and Kennedy Airport 24.

hydrocarbons are emitted by the exhausts of most currently used jet engines in significant quantities.⁴⁷ Here, as in the case of noise, legal action by the State of New York has been brought to compel the installation of anti-pollution equipment.⁴⁸ By a stipulation signed on January 7, 1972, as a result of negotiations between the airlines and the State of New York, an agreement has been reached under which the airlines by December 31, 1972 will install reduced-smoke combustor cans on all of the JT8D jet engines, which are the prime offenders. The JT8D jet engine, the most widely used commercial jet engine, is used on the Boeing 727 and 737, the Douglas DC-8, and the Sud Aviation Caravelle. By the end of 1972 these engines should be discharging far less smoke and fumes.

Pooling of duplicate commercial flights, improvement of intercity rail transportation, and elimination of general aviation take-offs and landings at Kennedy during peak periods would reduce air pollution even more dramatically than jet noise, since congestion at airports keeps planes circling in holding patterns or idling on runways, activities which produce as much air pollution as productive flying but less noise than actual take-offs and landings.

3. Runway Extension

The exhaustive National Academy of Sciences' study was prompted by the much heralded plans of the Port Authority to extend Kennedy Airport's runways into the Bay in order to achieve what it deemed to be more efficient use of the airport. The Authority agreed to submit its proposals to the Academy and to be bound, at least as to the propriety of the runway extension, by its recommendations. Fortunately for the future of the Bay, the Academy's findings are firmly opposed to any incursion into the Bay for runway extension.⁴⁹ The Academy's report vividly concluded that further filling in of marshland and resultant lowering of water quality throughout the Bay would leave "only pigeons, rats and sea gulls . . . to remind the city dweller of his natural contemporaries."⁵⁰

While the report of the Academy was pending and the Port Authority was continuing to insist on the supposed need for extension of Kennedy Airport's runways into the Bay, the Attorney General's office publicly

^{47.} Id. at 96.

^{48.} People v. American Airlines, Inc., Civ. No. 40287/70 (Sup. Ct., filed Jan. 28, 1970); People v. Air Canada, Civ. No. 40632/70 (Sup. Ct., filed Feb. —, 1970).

^{49. 1} Jamaica Bay and Kennedy Airport 2.

^{50.} Id. at 18.

announced its opposition to these extensions and recommended legislation to prohibit any incursions into the Bay for airport purposes.⁵¹ The announcement of the Authority that it would respect the integrity of the Bay and abandon its proposal for runway extensions represents an environmental victory of the first magnitude.

4. Water Pollution, Sewage and Jet Fuel

It is amazing that the considerable pollution of the waters of Jamaica Bay over the years has not taken a greater environmental toll. As we have seen, untreated sewage has been discharged into the Bay for decades. More recently, discharge of jet fuel from Kennedy Airport into the Bay has created a serious hazard.

Fortunately, both of these sources of pollution are capable of abatement. The city's construction of secondary treatment facilities is moving ahead, and once the Spring Creek plant, now under construction, is placed in service, discharge of untreated waste into the Bay will be significantly reduced. The other facet of the city's pollution abatement program, the construction of separate storm sewers, will take longer. Until its completion, in times of heavy rain or snow, the excessive flow from combined sanitary and storm sewers will continue to short circuit sewage treatment plants and cause raw sewage to be discharged into the Bay.

Construction of sewage treatment plants and storm sewers is expensive. Federal legislation provides for grants-in-aid to the states and cities to meet these costs. ⁵² Although New York City has spent millions on Spring Creek and other pollution abatement facilities, and New York State has not only paid its proportionate share but has advanced the federal share to the city, the United States has not come forward with its segment of the undertaking, and has not even reimbursed the State for what amounts to a large-scale interest-free loan to the federal government. In view of the relative financial resources of the three levels of government, and the breadth of the tax base available to each, the failure of the federal government to meet its responsibilities is irresponsible, and its criticism of state and municipal anti-pollution efforts shows a hypocrisy unequaled since that of Tartuffe.

The other major cause of pollution of Jamaica Bay is the discharge of

^{51.} N.Y. Bills, A 2056, S 1917 (1971); Joint Legislative Committee on Environmental Management, Report, The Challenge of the Seventies 98 (1971). The Joint Legislative Committee went on record against any runway extension. Id. at 101.

^{52. 33} U.S.C. §§ 1157, 1158 (1970).

jet fuel from Kennedy Airport. This is due to the absence of separators which would remove the oil from storm runoff entering the Bay from the airport's outfall on the north side of Grassy Bay. A public nuisance action on behalf of the State to achieve that result, instituted in 1970 by the Attorney General's office, is now in progress, and the State's application for a preliminary injunction has resulted in an order, obtained on the consent of the Port Authority, requiring it to install a boom, a collar-like device in the Bay surrounding its outfall, to contain any spills of jet fuel so that they will not spread across larger areas of the Bay.⁵³

A permanent solution to the jet fuel spillage problem, however, necessitates the installation of enough separators by the Port Authority to remove jet fuel from its storm runoff. This is the relief sought in the State's action, and legislation has also been introduced to accomplish that goal.⁵⁴

5. Filling and Dredging

Does it make environmental or economic sense to continue to fill in or dredge Jamaica Bay? The thinking of enlightened people has shifted dramatically in recent years from an almost automatic approval of such projects as "progress" to a healthy skepticism about irrevocably altering natural water courses. In Jamaica Bay, dredging took place in the past not only to obtain landfill for John F. Kennedy Airport but also for housing developments, as well as for commercial sand and gravel companies. ⁵⁵ In more recent years "sanitary landfill," a euphemism for garbage, has been dumped in the Bay from Spring Creek in the north and Edgemere to the south.

The environmental recklessness of this activity is now recognized, and the City of New York Environmental Protection Administration, which encompasses the Department of Sanitation, has announced its intention to phase out its use of the Bay as a rubbish heap.⁵⁶

6. Floyd Bennett Field

On the west side of the Bay, like a closed fist thrust between Canarsie and Rockaway Inlet, lies Floyd Bennett Field, formerly a Naval Reserve airfield now lying dormant. Competing and contradictory proposals for

^{53.} People v. Port of New York Authority, 64 Misc. 2d 563, 315 N.Y.S.2d 9 (Sup. Ct. 1970).

^{54.} N.Y. Bills, A 2050, S 1924 (1971).

^{55. 2} Jamaica Bay and Kennedy Airport 57-59.

^{56.} Park Ass'n of New York City, Jamaica Bay and the Rockaways, Report of May 28, 1968, § 2.

the use of this sizable tract have been advanced. In 1968 the Regional Plan Association, a non-governmental civic group, sponsored a study which recommended erection of what it termed a "residential-industrial complex" which would provide housing for 100,000 people on the airfield site. This proposal was later endorsed by Charles J. Urstadt, State Commissioner of Housing and Community Renewal. At about the same time, proposals for a Gateway National Park, to encompass Jamaica Bay, Breezy Point at the tip of the Rockaway peninsula, and Sandy Hook, began to take shape. These areas include the portions of the former airfield fronting on Jamaica Bay as well as the contiguous undeveloped parts of Marine Park.

As between recreational and mass-housing uses for this area, the former is plainly a more realistic and more prudent use of the land resources involved. Floyd Bennett Field, isolated at the extreme southeastern tip of Brooklyn, is literally miles from any rapid transit facility. Access to employment for residents of any housing to be built there would have to be either by private automobile or by buses to existing subway lines in central Brooklyn, an irrational proposal when applied to 100,000 residents. In addition, flight patterns in and out of Kennedy Airport would expose these residents to the very intolerable noise levels which have plagued the nearby existing communities for over a decade. Moreover, the tract fronts directly on Jamaica Bay and could easily be adapted to a variety of recreational uses which would be consistent with leaving it in an unspoiled state.

For these reasons the mass-housing proposal was opposed in a statement I made to the Joint Legislative Committee on Environmental Management last year. Incursions into coastal wetlands for construction purposes must be justified by the most compelling reasons in order to warrant the irreparable destruction of tidelands. That burden has not been satisfied by the proponents of massive apartment house complexes on Jamaica Bay.

7. The Hurricane Barrier

As in similar low-lying coastal reaches, flooding from storms occurs from time to time in Jamaica Bay. In 1960, Hurricane "Donna" struck Rockaway with extraordinarily severe impact, resulting in much flooding of streets and basements.

The Army Corps of Engineers has advocated the erection of an 18-foot

^{57.} Regional Plan Ass'n, A New Town in Town, cited in Jamaica Bay and the Rockaways, supra note 56.

high "hurricane barrier" across the mouth of Rockaway Inlet, 12 feet wide, and with gates creating a 600-foot opening for navigation—all at a cost of \$59,000,000,⁵⁸ a 1968 cost estimate which like all such figures must be sharply increased to reflect recent inflation. In fact, aside from its elephantine cost, the suggested cure would be worse than the disease. To a far greater degree than the proposed runway extension from which the Port Authority itself has finally retreated, this barrier would greatly worsen the pollution of the Bay by obstructing the natural flushing action of the tides within the Bay, which daily sweeps a large amount of sewage, oil and the like out to the open sea.⁵⁹ Further, such a massive barrier would have unpredictable and possibly quite severe effects on the temperature and salt content of the waters of the Bay.⁶⁰

As additional storm sewers are placed into service in South Queens, the impact of future storms on the Bay and its surrounding communities will be blunted. However, the erection of a colossal dike across the mouth of the Bay would be environmentally devastating.

8. The Gateway National Park

The most constructive and imaginative proposal advanced to preserve Jamaica Bay intact has been the Gateway National Park, ⁶¹ which would weave together the Bay area, Breezy Point and adjacent Fort Tilden, Sandy Hook and some smaller parcels into an unspoiled recreational area within reach of millions of urban and suburban residents, and protected in perpetuity by National Park status. The plan envisages linking these areas by ferry, and extending existing rapid-transit lines to reach the Bay.

Although the President, the Department of the Interior, the states of New York and New Jersey, the City of New York, the four senators from New York and New Jersey and numerous congressmen from the metropolitan area have endorsed the proposal, and legislation to create this National Park has recently passed the Senate, it has not yet been enacted into law.⁶² It is my hope that the Gateway National Park will soon become

^{58.} Park Ass'n of New York City, Jamaica Bay and the Rockaways, Report of May 28, 1968, § 1.

^{59.} See map of Jamaica Bay and the Rockaways, supra p. 2 (Harrison 1968). The results of the barrier on the flushing action of tides is self-evident.

^{60.} The National Academy of Sciences is likewise opposed to the erection of a hurricane barrier. See 1 Jamaica Bay and Kennedy Airport 18.

^{61. 2} Jamaica Bay and Kennedy Airport 89.

^{62.} See Bennett, Right Way for the Gateway, N. Y. Times, Oct. 31, 1971, § 1-A, at 10, col. 3. The National Academy of Sciences is dubious about the Gateway concept, mainly on the ground that it concentrates on development of

a reality and that the federal government, which alone has the resources to achieve the task, will promptly allocate funds to permit the rapid completion of the necessary sewage treatment facilities and transportation links to fulfill this exciting and dramatic concept.

Recognition by all levels of government of the importance of preserving and enhancing Jamaica Bay must go hand in hand with heightened citizen awareness of its value. Even today, despite the pollution of the air and water of the Bay, a recent group of visitors found an amazing variety of wildlife there: ducks, glossy ibis, egret, heron, gulls, geese, plover, cormorants, terns, shrimp, clams, crabs, mussels, snapper, menhaden and bluefish, to name a few. 63 Increased concern for the environment and particularly the protection of coastal wetlands, of which the Bay is a uniquely fine example, has already yielded important results, such as the halting of the runway extension plan. If that concern is transmuted into meaningful legislation and allocation of resources to the protection of the Bay, an irreplaceable asset of New York will be preserved, and the tarnished jewel will regain its luster.

Breezy Point beaches which are less accessible than those of the Bay. 1 Jamaica Bay and Kennedy Airport 19. In my judgment, the preservation of the Bay through National Park status is the paramount necessity.

63. Bennett, Right Way for the Gateway, N.Y. Times, Oct. 31, 1971, 31-A at 10, col. 3.

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