

Adjudicatory Triggers of Enhanced Ambient Environment Information

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INTRODUCTION

Information gaps are a pervasive reality in many areas of regulation, especially environmental regulation. Among the regulatory strategies viewed as most prone to implementation failures due to such information gaps are ambient environment strategies that start with assessment of ambient conditions and tailor regulatory obligations to the state of the environment. Such schemes demand information and tailored regulatory responses that are often beyond the capacity of science or regulatory resources.¹ Others, however, criticize regulatory strategies for being context blind.² Both criticisms have undoubted merit, yet many regulatory schemes actually involve a hybrid strategy that utilizes what this paper will call “adjudicatory triggers” in conjunction with ambient environment strategies. Such adjudicatory trigger strategies require new gathering and analysis of information about environmental conditions and implemented realities before permits or other approvals can be obtained. Permits or approvals either will be adjusted in light of ambient conditions or in some instances will be denied as the result of such analyses.

These regulatory schemes are familiar to lawyers and environmental policy analysts, yet have not been characterized as suggested here. Like “speaking in prose without knowing anything about it” the benefits of adjudicatory trigger strategies have perhaps gone unnoticed due to their ubiquity.³ Only if one thinks about regulatory

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1. See, e.g., Oliver A. Houck, *The Clean Water Act TMDL Program V: Aftershock and Prelude*, 32 ENVTL. L. REP. 10,385, 10,386 (2002) [hereinafter *Aftershock and Prelude*] (“Ambient-based management has not worked well in any media—air, water, or waste.”); Oliver A. Houck, *Environmental Law in Cuba*, 16 J. LAND USE & ENVTL. L. 1, 58 (2000) (“The science, money, manpower, and political will necessary to make ambient controls work have been found lacking in virtually every program that has depended on them, including air and water quality, and hazardous waste cleanup.”); Howard Latin, *Ideal Versus Real Regulatory Efficiency: Implementation of Uniform Standards and “Fine-Tuning” Regulatory Reforms*, 37 STAN. L. REV. 1267 (1985) (noting difficulties in successfully implementing ambient air standards).

2. See, e.g., Bruce A. Ackerman & Richard B. Stewart, *Reforming Environmental Law*, 37 STAN. L. REV. 1333, 1335–40 (1985) (criticizing Best Available Technology strategies); Cass R. Sunstein, *Administrative Substance*, 1991 DUKE L.J. 607, 627–31 (1991) (same).

3. In Molière’s play *Le Bourgeois Gentilhomme*, Monsieur Jourdain asks something to be written in neither verse nor prose. A philosophy master says to him, “Sir, there is no other way to express oneself than with prose or verse.” Jourdain replies, “By my faith! For more than forty years I have been speaking prose without knowing anything about it, and I am much obliged to you for having taught me that.” MOLIÈRE, *LE BOURGEOIS GENTILHOMME*, Act II, sc. 4, reprinted in *EIGHT PLAYS BY MOLIÈRE* 345–46 (Morris Bishop trans., Random House 1957) (1670).

efficacy through a lens that seeks to see how well information is elicited, found, or remains missing—as did the conference on “data gaps” that led to this paper—does it become evident that several of environmental law’s most common schemes include the “adjudicatory trigger” strategy. The National Environmental Policy Act (NEPA) is the most obvious version of such a law. Under NEPA, other major federal actions trigger government requirements to gather and analyze information about environmental impacts. Other less obvious key statutory provisions, especially in the Clean Air and Water Acts, as well as several other laws, include their own adjudicatory information trigger elements.

A recent scholarly backlash against regulatory “fine tuning” and an often related scholarly embrace of technology-based regulatory approaches question the efficacy of schemes relying on ambient environmental information.⁴ Such schemes do sometimes require heroic diligence and information facility that is unlikely to occur in the real world. The adjudicatory trigger strategies discussed here, however, show that there is, in fact, a regulatory middle ground. Adjudicatory trigger strategies may offer lessons for other regulatory challenges—such as chemical safety data gaps—arising under regulatory schemes that sometimes utilize neither adjudicatory approval procedures nor permits, both of which typically utilize informational adjudicatory triggers. By combining permit incentives with a demand for environmental information, new information will be elicited. The amount of information about regulatory performance and environmental conditions will seldom be comprehensive, but it will at least be incrementally increased. At this point, unfortunately, compilation and analysis of such data from diverse sources is not a statutory requirement in regimes relying on adjudicatory triggers.

This Article will provide examples of adjudicatory triggers primarily through brief explication of a case study of the 1970s and 1980s Westway litigation. It then provides brief explanations of several representative regulatory examples. As revealed by the Westway story and the regulatory examples, adjudicatory triggers often serve as a useful mechanism to overcome the incentives of governments and private actors to ignore or undersupply environmental information. An applicant’s interest in a permit grant or other individualized regulatory approval necessitates gathering of new information that often did not previously exist. Proponents and opponents of the regulatory approval, as well as regulators fearful of being sued for an allegedly unjustified decision, will all share interest in gathering information supporting their views or decision. These diverse stakeholders will seldom share goals, but in the adjudicatory trigger setting, all will have incentives to gather relevant information.

Nevertheless, such schemes, as currently utilized, threaten to provide little comprehensive assessment or lookback review, plus they can lead to marginalization of non-governmental organizations (NGOs) and citizens. Citizens and NGOs will often find it hard to command the resources necessary to effectively participate in the

4. See Latin, *supra* note 1, at 1312–13 (labeling technology-based regulation as “more capable of implementation”); Sidney A. Shapiro & Thomas O. McGarity, *Not So Paradoxical: The Rationale for Technology-Based Regulation*, 1991 DUKE L.J. 729 (1991) (offering a systematic defense of technology-based regulation); Wendy E. Wagner, *The Triumph of Technology-Based Standards*, 2000 U. ILL. L. REV. 83, 86 (2000) (characterizing technology-based standards as “one of the most important innovations in U.S. environmental law”).

investigative and analytical process initiated by such adjudicatory triggers. In addition, excessive reliance on any one actor in such regulatory schemes can encourage strategic gathering and presentation of data, thereby leading to biased conclusions and the possibility of skewed regulatory decisions. Questions remain about what actors should play roles in such regulatory schemes. In addition, as is often the case, informational burdens and presumptions in light of uncertainty are critical to the efficacy of schemes utilizing adjudicatory triggers to require gathering and assessment of ambient environment information.

Part I provides examples of adjudicatory trigger strategies in the law, especially highlighting the history and lessons of the Westway battles to illuminate adjudicatory trigger strategies' actual functioning. Part II examines adjudicatory trigger strategies in light of theoretical and empirical explanations for regulatory data gaps and related incentives of regulatory stakeholders. Part III closes by discussing problems with adjudicatory trigger strategies and suggests responsive legal modifications.

I. ADJUDICATORY TRIGGER STRATEGIES IN APPLICATION

Adjudicatory trigger strategies are evident in numerous environmental statutes and regulations. The most obvious example is NEPA, which, almost in its entirety, is a statute based on the concept that an individual regulatory act, such as a permit grant, triggers an agency obligation to disclose, analyze, and receive comment regarding associated environmental impacts. NEPA can also be triggered by acts that are more legislative in nature, such as promulgation of regulations, but NEPA is most applicable to this paper as a law triggered by an adjudicatory request.⁵ Other laws—such as the Clean Air Act (CAA), the Clean Water Act (CWA), and the Endangered Species Act—have provisions that similarly utilize an adjudicatory trigger strategy, but they would less readily be identified in such terms by most regulatory lawyers and scholars.

To more fully explicate what is meant in referring to adjudicatory triggers, this section starts by telling, in concise form, the tale of the ill-fated Westway highway and park project.⁶ This multi-billion dollar mega-project in New York City, proposed for placement in the Hudson River, was ultimately defeated in 1985 after a fourteen-year battle. The project's defeat was largely due to information elicited by adjudicatory trigger elements and linked structures and presumptions in NEPA, CWA, and CAA. In briefer form, other statutes and regulations that include an adjudicatory trigger strategy are summarized.

5. See, Silvia L. Serpe, *Reviewability of Environmental Impact Statements on Legislative Proposals After Franklin v. Massachusetts*, 80 CORNELL L. REV. 413 (1995) (reviewing cases undercutting reviewability of legislative NEPA reviews and contrasting treatment of typical environmental reviews of regulatory actions).

6. This brief retelling of the Westway tale draws on my ongoing work on a book-length project with the working title of *Westway, the City, and the Art of Regulatory War*. I also draw on this Westway research, especially underlying documentary work, interviews, and case analysis in William W. Buzbee, *The Regulatory Fragmentation Continuum, Westway and the Challenges of Regional Growth*, 21 J. L. & POL. 323 (2005).

A. The Westway Tale

The Westway project was first proposed in the early 1970s.⁷ It was a proposed highway and park, which in its final proposed design would have run 4.2 miles both adjacent to and actually in the Hudson River. For much of its length, a highway replacing the decrepit West Side Highway would have been within a massive new landfill placed along the western edge of the lower portion of Manhattan, stretching up to the midtown area. This huge fill would have stretched as far as a thousand feet into the Hudson. It would have replaced piers, pilings, warehouses, and shipping facilities. Huge amounts of newly developable land—ninety-seven acres, to be exact—would have sat atop the landfill and on existing upland areas that were part of the project.⁸ A ninety-four acre park would also have been built above the new sunken highway, displacing several miles of the Hudson's flowing waters.⁹ Thirty-six acres of land would be dedicated to the highway interchanges and ramps, and additional roadway would have been under the landfill in a tunnel.¹⁰

The project was possible for financially strapped New York City because this section of highway was added to the Federal Interstate Highway System. By gaining that designation, its highway construction costs were borne ninety percent by the Federal Government, and ten percent by the state. In addition, once the city and state chose a plan known as the “modified outboard plan,” which placed most of the highway in the river in fill with a park and developable land on the fill or on adjacent former surface streets, it avoided much direct displacement of existing uses. At first, little opposition was anticipated by project planners although several environmentally oriented federal agencies provided comments expressing concerns about environmental impacts, especially air pollution and water impacts. However, once federal transportation laws were amended in the early 1970s to allow recipients of Federal interstate highway funds to “trade-in” such funds for mass transit and especially after a 1976 amendment allowed construction amounts to increase with anticipated increased construction costs, citizen opposition was galvanized. New York City's mass transit system, especially its subways, were in dire need of repairs and upgrades and were used far more intensively by New Yorkers than were the city's highway links. By the end of the battle, close to two billion dollars in project funds were eligible for either the Westway project, or most of those funds could be traded in for a more modest road and mass transit funding.

Numerous local, state, and federal laws were implicated by this project, but for purposes of this paper NEPA, CAA, and CWA were most important in how they served as adjudicatory triggers, which lead to elicitation and gathering of several

7. The facts and project description are found in many hundreds of documents. The opinions cited below describe the project basics. The *New York Times* provided a concise but thorough description of the project and battles up until the eve of the final 1985 court trials, decisions and concurrent political maneuverings. See Sam Roberts, *Battle of the Westway: Bitter 10-Year Saga of a Vision on Hold*, N.Y. TIMES, June 4, 1984, at B4; Sam Roberts, *For Stalled Westway, a Time of Decision*, N.Y. TIMES, June 5, 1984, at B1.

8. Westway Record of Decision, US Army Corps of Engineers at 3–5 (January 24, 1985) (New York District).

9. *Id.*

10. *Id.*

bodies of information that had previously been lacking. Project proponents were concerned that without adequate disclosure and investigation of conditions, unfavorable project treatment or permit denial would follow. Still, temptations to squelch unfavorable information proved critical to Westway's ultimate defeat in the courts and rebuffs from Congress late in the battle. Those judicial and legislative defeats proved critical when state and city officials had to decide whether to battle on or accept trade-in dollars.

NEPA was triggered by several aspects of this project, including: the grant of federal interstate highway funds; approvals that were needed under the CAA; a permit needed under the Rivers and Harbors Act; and, most significantly, the CWA's Section 404 "dredge and fill" permit essential to the massive filling that Westway entailed. Given the size of the project and its many impacts, this was not an instance where proponents sought completely to avoid NEPA's Environmental Impact Statement (EIS) obligations. Instead, this project immediately went into the stage of drafting an EIS around 1974, only four years after NEPA's enactment. In a decision that was unusual then and would be rare today, the actual EIS drafting was directed not by one of the key federal agencies, but by a private consulting firm hired by New York State. This firm, SYDEC, was headed by a former Federal Highway Administration Administrator, Lowell Bridwell. SYDEC, in turn, relied on consultants for work on the EIS.

The EIS, in its draft and final form, was impressive and massive. It was filled with diagrams, pictures, and discussion of virtually all aspects of the project. It predicted little in the way of harms. It stated that traffic would flow more smoothly and the park and new shoreline would improve the aquatic environment. These assertions were soon tested in the comment process, eventually in agency tribunals before special masters, and finally in federal court.

The initial legal hook utilized by mass transit proponents and clean air advocates who opposed Westway was to argue that permitting Westway would violate New York City's federal CAA obligations. Under New York City's State Implementation Plan (SIP), the City had to adopt enforceable strategies to protect air quality. Among the measures in the SIP at that time was an "indirect source permit" program. New York State, which administered the Clean Air SIP and permitting process, would have to determine that permitting an indirect source like Westway would not attract new cars and pollution to the area and thereby exacerbate several areas of the City's nonattainment with the Federal National Ambient Air Quality Standards.

This challenge largely turned on whether the larger road, easier transportation flow, and the ninety-seven acres of new development would bring an increased number of cars onto the highway and possibly into New York City, causing deterioration of air quality. Project proponents conceded it would bring many thousands of new cars onto the Westway itself, but they claimed that with improved traffic flow, ventilation systems, and the tunnel construction, the project would either be air quality neutral or improve the air. The leading citizen opponent, Marcy Benstock of the Clean Air Campaign, allied with several other citizen and environmental groups, and, assisted by their lawyers, challenged these assertions. They claimed that the project would add to city congestion and degrade the air, as would more truck traffic along the West Side and in Westway's tunnel. As this permit application was pending before the state, the

regional director of the United States Environmental Protection Agency (US EPA) for the region, Eckardt Beck, stated he disapproved of Westway.¹¹ While it was not at that moment deciding on a permit, US EPA oversaw state SIP planning and compliance. To the consternation of federal, state, and city officials, the New York State Department of Environmental Conservation (DEC) commissioner, Peter Berle, on an appeal from a permit hearing, denied the permit after finding that New York State's Department of Transportation, the permit applicant, had failed to carry its burden.¹²

Throughout the CAA portions of this battle, substantial new information and techniques were explored for measuring cars and their air pollution impacts. The tradeoffs of car mixes, car speeds, tunnel ventilation designs, shifts in driving patterns, and even parking plans were all scrutinized closely. The big question was whether modeling of anticipated uses indicated that Westway would exacerbate New York City's CAA nonattainment problems, especially its carbon monoxide nonattainment status. Lengthy administrative hearings about air permits and impacts substantially added to the mix of information known about traffic impacts. Here, as in the other examples discussed below, the permit applicant's desire for a permit and regulators' legal obligations, as well as opponents' desire for defeat of Westway, led all the parties to gather and create new kinds of data and modeling that did not previously exist. Expert panels debated air issues, and citizens and others participated in the questioning.¹³

In this setting of political hardball and with billions in potential benefits and patronage at stake, both federal and state leaders acted. If the law was a hindrance, at least new decision makers might utilize their discretionary latitude to grant Westway project applications. Beck was reassigned to Washington and replaced by an administrator expected to be more amenable to Westway.¹⁴ Berle was fired, and he too was replaced with a more congenial official.¹⁵

By the time of a second round of permit testimony, proponents revealed modest project revisions to address air quality concerns. In particular, project proponents, assisted by lawyers and engineers, discovered that minor changes to tunnel entry and exit points consisting of little more than fences and bushes—what came to be known as the “briar patch” solution—would keep citizens away from high pollution concentrations and allow dissipation of carbon monoxide sufficient to avoid violations of the law. Critics decried this “briar patch” solution, but with this change Clean Air Act violations no longer appeared likely. With the changes in project design and agency personnel, the DEC granted the permit and the US EPA took no action under

11. Paul R. Pescatello, *Westway: The Road from New Deal to New Politics* 267–68 (Jan. 1986) (unpublished Ph.D. dissertation, Cornell University) (on file with the *Indiana Law Journal*).

12. See Michael B. Gerrard, *The Saga of Westway*, AMICUS J., Fall 1980, at 10, 12–13.

13. See REPORT TO THE COMMISSIONER FROM ALBERT J. ROSENTHAL, HEARING OFFICER, IN THE MATTER OF THE APPLICATION OF THE WESTSIDE HIGHWAY PROJECT FOR A PERMIT TO CONSTRUCT AN INDIRECT SOURCE OF AIR CONTAMINATION, at 2–3 (Sept. 13, 1977) (discussing hearings, expert panels and questioning formats).

14. Gerrard, *supra* note 12, at 13.

15. *Id.* at 12.

its SIP reviewing authority. The underlying law and regulations were not changed, but the minor project redesign and personnel changes did the trick.¹⁶

The combination of new information about traffic and car pollution and careful analysis about how project design around entry and exit tunnels could address potential violations led to improved knowledge and a design cure. The kinds of analyses of traffic patterns developed in connection with Westway and other projects during the early days of NEPA and the CAA are still used today, in updated and improved form.

The CWA concerns, especially concerning landfill impacts, proved a thornier challenge. Most significantly for much of what followed, the initial EIS claimed that the interpier environments that would be displaced by Westway were “biologically impoverished” and virtually devoid of macroorganisms. Elsewhere, this environment was characterized as a “biological wasteland.” Intuitively, these claims seemed about right. At that time, the Hudson had not started to show the benefits of the federal Clean Water Act’s protections. It was laden with debris, fecal matter, and assorted industrial effluents. Primitive sewage treatment efforts were just getting underway.

Had these claims of no impact been accurate, Westway would likely exist today. Unfortunately for Westway’s supporters, underlying technical documents contained data that proved the opposite. Some of this data pre-dated the Westway project, but additional sampling was undertaken as part of the EIS investigatory project. This initial data gathering and new sampling constituted a classic adjudicatory trigger leading to elicitation of new information. Surmise about fish could be tested against actual newly gathered information about Hudson fisheries.

Project opponents retained a fisheries expert to analyze the underlying data that had been gathered and summarized by Westway’s proponents in the EIS. The EIS fisheries consultants and EIS drafters for the state, however, had not made this data easily accessible. Nowhere other than in underlying technical data documents had the proponents presented results about the interpier area where Westway would actually be placed. Instead, the proponents had buried the reality of abundant fish in the area by averaging transects across the width of the river. By averaging the fish-laden interpier area and more rapidly flowing and sparsely populated central river areas, tables and diagrams accompanying the EIS made it appear that fish populations were small and insignificant. As the opponents’ fisheries expert exclaimed to an ally after first seeing the data, the EIS claims that the interpier areas where Westway would go were a biological wasteland or biologically impoverished were false: “the place [was] crawling with fish.”¹⁷

In particular, data revealed that striped bass, a fish in an imperiled state on the East Coast, made particularly intensive use of the Westway interpier areas during portions of their first two years of life. The EIS presentation, however, neither conceded this nor presented data in a straightforward way. As stated by trial judge Thomas Griesa after the first major CWA trial, the Westway advocates’ “graph purporting to deal with this data . . . [was] misleading, since it average[d] the data in such a way as to show the numbers of striped bass in the interpier area as only about one-third of what they actually were.”¹⁸ He characterized this as a “sleight of hand.”¹⁹ Even more misleading,

16. See Albert K. Butzel, *Recapturing New York City’s Waterfront, Part I: The Demise of Westway and the Birth of Hudson River Park*, 13 ENVTL. L. N.Y. 217, 218 (2002).

17. Interview of Michael Gerrard, Partner, Arnold & Porter, LLP (Oct. 2000).

18. *Action for Rational Transit v. W. Side Highway Project*, 536 F. Supp. 1225, 1247

the qualitative EIS language speaking of the area as a “wasteland” and “impoverished” further left the impression that the area was environmentally insignificant.

This crucial misrepresentation, exacerbated by supportive text statements, started the unraveling of a seemingly unstoppable project. Despite the ongoing support of several presidents, governors, mayors, and senators plus strong support from unions, real estate companies, banks, and much of the business community, Westway was quickly in a defensive posture from which it never recovered. The EIS investigation, claims of no harm, and disclosure of contradictory underlying data set in motion even more close scrutiny.²⁰

The NEPA EIS was in turn linked to the Army Corps’ consideration of the state’s requested Section 404 “dredge and fill” permit. This application, and the Army Corps’ assessment of it, were closely linked to fisheries information relevant to the EIS. Section 404 permits are not “right to pollute” laws such as the CAA’s or CWA’s air discharge or point source permit limitations. Under those schemes, unless a receiving environment is in violation of relevant standards or a new pollution addition will create violations, most applicants can pollute, provided they comply with numerical limitations.

Section 404 permits are different. The statutory language and implementing regulations—further fleshed out in interpretive materials, adjudicatory actions on particular permits, and case decisions—created then and still create today a strong presumption against any use of fill in “waters of the United States.”²¹ This presumption becomes a virtual prohibition if such fill will cause significant degradation of an important aquatic habitat. The burden is therefore on an applicant to prove that its proposed fill should overcome either the usual permit denial or the especially strong protective presumptions and near mandatory veto if the fill and resulting degradation is in a significant aquatic habitat. The permit applicant or the government can seek to come up with compensatory wetlands or mitigate away harms, but, there too, the burden is on the applicant to prove it deserves to overcome the denial presumption.

Due to the EIS conclusion of no harm and similar conclusions in the Section 404 permit proceeding, in 1981, the Army Corps granted the essential Section 404 permit. Earlier federal natural resource agency objections had led to elevation of this decision to the Corps Division Engineer, but he sided with the district’s initial decision to grant

(S.D.N.Y. 1982), *aff’d*, 669 F.2d 614 (2d Cir. 1983), and *aff’d in part, rev’d in part sub nom. Sierra Club v. U.S. Army Corps of Engineers*, 701 F.2d 1011 (2d Cir. 1983).

19. *Id.* at 1248.

20. This heightened scrutiny was not due just to the Clean Water Act’s requirements. The backpedaling and inaccuracies triggered more rigorous review under well established, but seldom utilized elements of “arbitrary and capricious review” set forth in *Citizens to Preserve Overton Park, Inc. v. Volpe*, 401 U.S. 402, 415 (1971). With inadequate fact finding or other irregularities, litigants and courts are given greater latitude to go behind the administrative record and test government claims. *Id.*

21. The regulations at the time were the Section 404(b)(1) Guidelines for Specifications of Disposal Sites for Dredged or Fill Materials, 40 C.F.R. § 230.10 (1984) (EPA regulations), and 33 C.F.R. § 320.4(b)(1) (1984) (Army Corps of Engineers regulations); *see also* *Buttrey v. United States*, 690 F.2d 1170, 1180 (5th Cir. 1982) (explaining that the presumption against the alteration of wetlands “is very strong”).

the permit. In 1981, no objections or elevation occurred, and the US EPA declined to exercise its veto power under Section 404.

Citizen opponents' discovery of EIS inaccuracies and statistical manipulations, confirmed by commenting federal agencies' criticisms, led citizens to file challenges in the district court. There, the information elicited due to NEPA and Section 404 was quickly challenged. The project's lawyers found themselves on the defensive. Sensing defeat if Judge Griesa were not presented with a more complete picture and additional supportive materials, the defendants surrendered their usual insistence on confining court challenges to the underlying administrative record and the agency's stated rationale. This more open administrative challenge could never have happened had it not been for information elicited by the adjudicatory triggers of NEPA and Section 404 analysis.

Unfortunately for the Westway champions, two trials during 1981 and 1982 challenging the Westway EIS and the associated approvals revealed the questionable underpinnings of the claims of no harms and the falsity of the assertion that the interpier areas were biological "wastelands." Demonstrative charts showing the statistical realities of fish populations were presented by the citizen plaintiffs. Westway's proponents could not effectively explain away the disparity, and the origin of the key misleading EIS language remained a mystery and a subject of odd memory lapses. Only when sheepish lawyers admitted that a lawyer with Beveridge & Diamond, counsel for the New York State Department of Transportation, had drafted the key EIS passages was the mystery solved.²² Matters were not helped when the key Army Corp decision maker, the district engineer, revealed he had been negotiating a new job with the permit applicant's main engineering consulting firm. All of these disclosures led the judge to conclude that the EIS and the related approvals lacked the requisite accuracy and good faith basis. The trial judge in two trials invalidated the permits and remanded the project's permit applications for new consideration following accurate and complete disclosure. Although some of the trial court's more extraordinary injunctive relief was rejected by the Second Circuit Court of Appeals, the appellate court upheld the trial court's key EIS conclusions and permit invalidations, as well as the requirement of more detailed Army Corps recordkeeping.²³

What ensued between 1982 and 1985 could fill hundreds of pages. First, both New York State and the United States Congress held investigative hearings and issued reports seeking to find out more about what had happened. Rather than finding that a lone federal judge had been unduly alarmed, as many expected then and still

22. *Sierra Club v. U.S. Army Corps of Eng'rs*, 541 F. Supp. 1367, 1380–82 (S.D.N.Y. 1982), *aff'd in part, rev'd in part* *Sierra Club v. U.S. Army Corps of Eng'rs*, 701 F.2d 1011 (2d Cir. 1983) (subsequent history omitted) (discussing origin of misleading consultant report language that influenced EIS language, and stating that after the second trial on Section 404 issues, Gary Baise of Beveridge & Diamond advised the court of an attorney-client memorandum with this language found by the court to be inaccurate). The court indicated other Westway proponents were accountable for the "fallacious nature of that material," but also stated that "the court is compelled to say that it sees no justification whatever for Beveridge & Diamond setting forth a statement of facts which was so divorced from the truth." *Id.* at 1381.

23. *Sierra Club v. U.S. Army Corps of Eng'rs*, 701 F.2d 1011, 1032, 1035 (2d Cir. 1983).

sometimes claim today,²⁴ both the federal and state investigations found even more irregularities and concessions of misleading behavior by Westway's champions. Both hearings led to reports that made recommendations for structural changes to discourage undue conflicts of interest, which could lead to overzealous advocacy.²⁵

As these legislative investigations proceeded, Westway's advocates tried to get the project back on track. Once again, however, the gathering of fisheries information was combined with attempts to justify conclusions in tension with those discoveries. The Army Corps District Engineer, Colonel Fletcher "Bud" Griffis, convened a panel of fisheries experts to recommend how to best study the striped bass and the significance of the Westway site. That panel recommended a twenty month, two winter study. The district engineer agreed with this recommendation and proceeded with this decision. New York Governor Mario Cuomo, however, caused a sort of regulatory backfire when he sought to squelch the two winters of fisheries studies. He succeeded in persuading the Army Corps leadership to cut the studies short. By granting Governor Cuomo's request that only one winter of striped bass movements be studied, rather than the twenty months recommended by the government's own fisheries experts, Westway was put in an unfavorable regulatory posture. Then existing regulations mandated that the Army Corps make "worst case" assumptions about impacts where information is uncertain.²⁶ Had more information been gathered in order to create a firmer evidentiary basis for claims of no harms or to provide evidence of lesser harms to a greater degree of certainty, then this "worst case" assumption might have been avoided.²⁷ Cuomo thus accelerated the regulatory process, but he put the project on an even more unfavorable footing, despite already facing a skeptical judge who had earlier invalidated key project approvals.

A new draft EIS, issued in May of 1984, conceded in numerous places that there would be significant adverse impacts on fish, especially striped bass that were imperiled on the East Coast but abundant in the Westway interpier areas. Opponents celebrated these concessions, although they, especially Federal natural resource agencies, still claimed that this draft EIS was understating the significance of the waters and the project's impacts. Still, the draft did concede "significant" fishery impacts, whereas the first EIS claimed no adverse impacts.

Between the draft and final EIS, however, concession after concession of harm was changed to statements that Westway would not cause harms. The Section 404 permit

24. See, e.g., PHILLIP LO PATE, *WATERFRONT: A JOURNEY AROUND MANHATTAN* 105 (2004) (referring to Westway's defeat as attributable to "picayune inconsistencies" and "the judge's dislike of a witness").

25. COMM. ON GOV'T OPERATIONS, *WESTWAY PROJECT: A STUDY OF FAILURE IN FEDERAL/STATE RELATIONS*, H.R. Rep. No. 98-1166, at 52-56 (1984); STATE OF N.Y. COMM. ON INVESTIGATION, *THE WESTWAY ENVIRONMENTAL APPROVAL PROCESS: THE DILUTION OF STATE AUTHORITY* (1984).

26. *Sierra Club v. U.S. Army Corps of Eng'rs*, 614 F. Supp. 1475, 1483-84 (S.D.N.Y. 1985) (discussing the regulatory framework and worst case analysis requirements).

27. Colonel Griffis hoped that with the two winter study he could base his permit decision on sound data rather than worst case analysis. Under such a worst case analysis, he thought he would have to deny the permit. In his view, the Cuomo request and Corps leadership decision left it so there "was no way to win at that point." Interview with Colonel Fletcher Griffis, District Engineer, Army Corps of Eng'rs (Mar. 24, 2005).

decision similarly concluded that the project would not cause significant harms, even when conceding that the interpier areas were unusually popular with young striped bass. These changes were not explained in the documents themselves.²⁸

Armed with the final EIS and claims of compliance with the judge's earlier orders, New York State and the other Westway advocates requested that Judge Griesa dissolve his injunction. Opponents, however, saw the draft to final EIS changes as an outrageous burying of the truth. Once again, but this time over federal and state objections, Judge Griesa held hearings to determine the basis for the EIS claims. On the eve of the trial, however, the lead United States Attorney defending the government's actions again agreed to allow limited trial taking of evidence to test and, he evidently hoped, justify the record and government decisions.²⁹

The 1985 trial stretched over several months. Once again, missteps provoked the disbelief and ire of Judge Griesa, and they led to fairly wide ranging trial testing of regulatory claims and decisions to approve Westway.

Different conceptions of the word "significant" were key to the government defense. The Westway lawyers claimed the draft meant significant only in the statistical sense of "perceptible" or measurable, while citizen opponents challenged this claim by pointing to other language that seemed to mean far more than "perceptible." Challengers also effectively cross examined government witnesses.

Perhaps most fatal to Westway, late in the trial a private fisheries biologist was proffered by the government lawyers to explain the final EIS theory under which the striped bass populations would not be harmed. In testimony that the court ultimately found lacking in credibility and "remarkable in the annals of courtroom testimony," the witness disavowed his own written statements about Westway impacts, conceded general presumptions about fish populations but insisted they did not apply to Westway, and repeatedly said he had not meant what he had written, even at the time that he wrote it.³⁰ Once again, the judge rejected the EIS and the underlying permits.

On appeal, the Second Circuit found the judge had overreached his appropriate role in scrutinizing a regulatory decision, but upheld his denial due to unexplained changes between the draft and the final EIS.³¹ When Congress cast an overwhelming vote that, if made law, threatened to cut off all Westway fill funding and a trade-in deadline loomed, Mayor Koch and Governor Cuomo threw in the towel. After a short period of

28. See *Sierra Club*, 614 F. Supp. at 1490–1510 (extensively discussing the draft and final EIS language). These unexplained changes led the trial court to conclude that the "contention of the Corps that there was no change in conclusions from the DSEIS to the FSEIS (or no change in conclusions as to the most probable worst case) is sheer fiction." *Id.* at 1501. In upholding portions of Judge Griesa's decision about these changes, the Second Circuit started by stating, "A change in something from yesterday to today creates doubt. When the anticipated explanation is not given, doubt turns to disbelief." *Sierra Club v. U. S. Army Corps of Eng'rs*, 772 F.2d 1043, 1046 (2d Cir. 1985).

29. Attorney Howard Wilson argued against "broad based inquiry into everything the Corps was thinking." But, confronted with questions about the language changes, he conceded that plaintiffs had reason to ask, "Was there a change in language? What does this all mean on that narrow issue? On that narrow issue it is appropriate to have discovery and hearing" Transcript of Hearing, April 4, 1985, at 24, *Sierra Club v. U.S. Army Corps of Eng'rs*, 614 F. Supp. 1475 (S.D.N.Y. 1985).

30. *Sierra Club*, 614 F. Supp. at 1510.

31. *Sierra Club*, 772 F.2d at 1055–56.

discussion with federal officials and legislators, they accepted a trade-in of almost two billion dollars in Westway funds for transit use and a more modest replacement road. Westway was dead.

In the Westway story, one sees the conjunction of adjudicatory permit requests triggering information gathering and analysis and the strongly protective set of presumptions inherent in Section 404 permit settings. At every step in the regulatory process and the related litigation process, additional information about the state of the Hudson's environment and the striped bass was elicited. Here, the information proved unfavorable, which led to obfuscation or outright inaccurate claims of no harm. Still, were it not for the Westway permit battles, far less information about the Hudson's state and striped bass would exist today.

The imposition of burdens of proof of no harm on the permit applicants was critical to this set of events. They had to gather supportive data to prove the absence of harm. Equally significant, efforts to avoid information or ignore its impacts led to unfavorable treatment before the deciding agency and later the courts.

B. The Clean Air Act State Implementation Plan and the Linked Permit Process

The CAA's SIP process is one of environmental law's quintessential ambient environment regulatory strategies. It was implicated by Westway and led to gathering and creation of new environmental information. This section explains, in somewhat greater depth, how the SIP provisions and linked permit processes serve as adjudicatory triggers of enhanced environmental information.

These sets of provisions start with the federal law's requirement that the EPA set a cap on permissible levels of a small number of criteria pollutants through the National Ambient Air Quality Standards (NAAQS) process.³² State air planning regions must then assess their air quality and derive their plans (SIPS) about how they will attain federal standards.³³ Any categories of sources not regulated directly by federal regulation are potentially subject to state SIP planning. When a jurisdiction is in nonattainment by violating a NAAQS standard, then more stringent requirements must be followed by SIP planners.³⁴

Of particular importance to this paper's discussion of adjudicatory trigger strategies are the requirements in Section 7503 that new sources, in cooperation with state planners, acquire offsets from existing sources to ensure that any new source in a nonattainment area retires other pollution sources and contributes to progressively cleaner air. They then can receive permits if they can meet emissions equal to the Lowest Achievable Emission Rate (LAER). LAER, in turn, is defined in Section 7501 as the more stringent of either the most stringent limitation on a similar source in a SIP (unless proven to be unachievable) or the most stringent limitation achieved in practice by similar sources. Under Sections 7503 and 7509, permits are not allowed if regulators (or later litigants and judges) determine that the SIP is not being implemented adequately or the permit applicant is violating its regulatory obligations at other sources.

32. See 42 U.S.C. §§ 7408–09 (2000).

33. See 42 U.S.C. § 7410 (2000).

34. See 42 U.S.C. §§ 7410(a), 7501–15 (2000).

These SIP planning and linked permit requirements, especially in nonattainment areas, constitute yet another adjudicatory trigger strategy. A proposed new source in a nonattainment area will set in motion several kinds of information searches that enrich the pool of data about the environment, regulatory reality, and pollution sources. The SIP process requires ongoing assessments of actual air quality and contributors to air degradation, and it requires ongoing identification of sources that can do better or sources that should be encouraged to shut down.³⁵ Air quality must be monitored, and the consequence of regulatory breakdowns by the regulators or the permit applicant in nonattainment areas is mandatory permit denial.³⁶ Even if the permittee and state regulators are doing their jobs in accordance with the law, they must still identify sources that can improve or shut down so there are pollution offsets creating a net improvement to the air.³⁷ Finally, the LAER requirement sends all permit stakeholders searching both other SIPs and other similar pollution sources to find what is, in essence, the state of the art in achievable pollution control.³⁸

This nuanced series of provisions thus enlists multiple stakeholders in a search for new information. By the time a lawful nonattainment permit is issued, all the parties know more about regulatory status, air quality, pollution sources, and the most stringent levels of achievable pollution control. Key here is the use of the permit trigger to set all of this investigation in motion. As evident in the Supreme Court's recent Alaska Department of Environmental Conservation case, the effective use of benchmarks for regulatory obligations also makes these statutory provisions both subject to interactive regulatory engagement and eminently enforceable in court.³⁹

C. Hazardous Waste Voluntary Cleanup Schemes

During its early years, the Comprehensive Response Liability, Compensation, and Liability Act (CERCLA)⁴⁰ created a seemingly bottomless pit of potential liability.⁴¹ Even sources willing to clean up contaminated sites, thus furthering CERCLA's goal of remediating contaminated sites, typically found it impossible to know how much cleanup would suffice, whether state or federal officials might demand more, or if a

35. Robert W. Adler, *Integrated Approaches to Water Pollution: Lessons from the Clean Air Act*, 23 HARV. ENVTL. L. REV. 203, 234–36 (1999) (comparing the Clean Water and Air Acts and setting forth the sequence of information gathering and analytical state obligations under the Clean Air Act).

36. 42 U.S.C. § 7503(a)(3)–(4).

37. 42 U.S.C. § 7503(a)(1)(A), (c).

38. See 42 U.S.C. § 7501(3).

39. *Alaska Dep't of Env'tl. Conservation v. EPA*, 540 U.S. 461, 491–92 (2004) (upholding the power of the US EPA to object to state CAA permitting choice as violating statutory requirements).

40. 42 U.S.C. §§ 9601–04 (2000).

41. William W. Buzbee, *Remembering Repose: Voluntary Contamination Cleanup Approvals, Incentives, and the Cost of Interminable Liability*, 80 MINN. L. REV. 35, 47 (1995) (discussing how “CERCLA’s, and to a lesser extent RCRA’s, broad potential liabilities are unlimited by time, degree of culpability or causation of actual harm” thereby leading “entities falling into a PRP category or considering involvement with a contaminated site [to] have powerful incentives to seek a certain and final resolution to their cleanup liabilities”).

court in litigation would agree that the cleanup was sufficiently in compliance with CERCLA's requirements.⁴²

Since the mid-1990s, however, legal changes have reduced the degree of uncertain residual liability risks. State laws, federal and state regulatory initiatives, and, most recently, federal statutory amendments, have offered owners, sellers, and buyers the possibility of largely capped liabilities. Such limited liability or even non-liability is possible if sellers fully disclose known contamination, buyers do not exacerbate contamination risks, and owners engage in good faith cleanups.⁴³ The sources of law are manifold, but the aggregate impact of these legal changes is to use owner incentives, especially in transactional settings, to trigger disclosure and investigation of contamination, as well as a reduction in liabilities following good faith cleanup efforts. Here, the adjudicatory trigger is more transactional than regulatory, but increased regulatory involvement in such voluntary cleanups ends up providing all stakeholders with enhanced information about the property and, in many instances, also results in a remediated site.

D. The Endangered Species Act's Numerous Adjudicatory Triggers

The Endangered Species Act (ESA) is another federal law that utilizes adjudicatory triggers in numerous key provisions. The ESA is by no means perfect. As critics have noted, it tends to do a lot when it may be too late.⁴⁴ The law nowhere requires comprehensive assessment of habitat to figure out what lands should be protected to maximize biodiversity or avoid more distant species threats. Nevertheless, once its provisions are triggered by federal agency actions or private plans that could result in "takes" of endangered or threatened species or harms to critical habitats, then the ESA sets in motion several interrelated provisions. These provisions require the gathering, disclosure, consultation and analysis of information about the likely impacts of a proposed action.⁴⁵

Most significantly, when a federal agency proposes an action, it is required to assess whether any potential endangered species effects are implicated.⁴⁶ The action agency is obligated to consult informally with the Fish and Wildlife Service (FWS) about such risks. This, in turn, sets in motion FWS investigation of the action and the affected area. Where an action implicates endangered species and their habitat, then

42. *Id.* at 38.

43. See generally MICHAEL B. GERRARD & JOEL M. GROSS, AMENDING CERCLA: THE POST-SARA AMENDMENTS TO THE COMPREHENSIVE ENVIRONMENTAL RESPONSE, COMPENSATION, AND LIABILITY ACT (2006) (discussing and setting forth post-1986 amendments and related regulatory materials).

44. Michael Bhargava, *Of Otters and Orcas: Marine Mammals and Legal Regimes in the North Pacific*, 32 *ECOLOGY L.Q.* 939, 984-985 (2005) ("Although the ESA may be able to protect an individual species from total extinction—undoubtedly an important goal—much of the damage done to surrounding ecosystems can occur before the species is listed as threatened or endangered.").

45. See *Bennett v. Spear*, 520 U.S. 154 (1997) (providing a general discussion of the ESA's procedures and requirements in a case largely turning on issues of standing).

46. 16 U.S.C. § 1536(a) (2000).

the law requires more in depth investigation in the form of a biological opinion.⁴⁷ If that, in turn, confirms conflicts between the proposed action and the ESA's strong prohibitions on harms to endangered and threatened species and their habitats, then either the action will be prohibited, or plans must be modified to avoid or mitigate the harms.⁴⁸

If private action triggers the government involvement, then it may set in motion the government consultation process just described, or the private actor may seek approval of a habitat conservation plan or other ameliorative actions so it can proceed despite the possibility of an "incidental take" of such species.⁴⁹

The net effect of both the government and private triggers of ESA protections is that the proposed action triggers in depth investigation of the relevant environment and species. The net result is a wealth of new information that may not have existed before.⁵⁰

II. ADJUDICATORY TRIGGERS, INCENTIVES, AND REGULATORY DESIGN

The adjudicatory trigger strategies discussed above can be quite effective in eliciting new information about the environment and regulatory efforts, but can nevertheless leave gaping information holes. This section looks at adjudicatory trigger strategies to assess how such strategies respond to stakeholder incentives. With information-eliciting regulatory strategies, as is generally true in any study of regulatory design, the key to effective regulation is realistic assessment of incentives and tailoring of the regulatory scheme in light of those stakeholder incentives. As policy analysts and legal experts across the country and globe struggle to devise effective regulatory responses to greenhouse gas emissions and resulting climate change, acknowledgement of informational gaps and the benefits of informational adjudicatory triggers could prove critical.

A. The Roots of Data Gaps

The tendency of individuals and institutions to fail to gather good information, especially information about environmental amenities and other public goods that are unowned, has long been noted in political economy scholarship.⁵¹ This lack of good information presents fundamental challenges both to effective functioning of markets and to effective regulation or other political responses.

47. 16 U.S.C. § 1536(b) (2000).

48. *Id.*

49. 16 U.S.C. § 1539(a) (2000).

50. Holly Doremus, *The Purposes, Effects, and Future of The Endangered Species Act's Best Available Science Mandate*, 34 ENVTL. L. 397, 408 (2004) (explaining that scientists will often be asked to assist in providing information about the effects of a proposed action in order to provide the decision makers with the best scientific data available).

51. See William W. Buzbee, *Recognizing the Regulatory Commons: A Theory of Regulatory Gaps*, 89 IOWA L. REV. 1, 29–30 (2003) (discussing this literature). For the classic work about the importance and costs of information, see George Stigler, *The Economics of Information*, 69 J. POL. ECON. 213 (1961).

As George Stigler observed, a standard economics assumption is that markets only perform efficiently if market actors have perfect information, yet the gathering, disseminating, and distilling of information is costly.⁵² Relatedly, political and regulatory systems depend on accurate information if a legal or regulatory response to a social ill is to be effective, yet adequate information is often lacking there as well.⁵³ Where the underlying regulatory challenge involves dispersed amenities that no one owns, such as air basins or flowing watersheds, or endangered species, accurate and adequate information is especially unlikely to exist.

First and most significantly, absent creation of incentives through regulatory intervention, few if any private actors are likely to see gathering of such information as in their interest. Huge numbers of people and companies may share an interest in air or waters on which they depend for sustenance, pleasure, and commercial use, yet that sort of dispersed, common interest in an unowned resource makes it unlikely anyone will invest in information gathering. Private actors cannot profit from investigation into the state of a commons resource, and all are tempted to free ride on the efforts of others.⁵⁴ In small community settings, especially homogenous communities with shared social norms and capacity to socially censure those who abuse or overuse a common resource, resources are at times protected.⁵⁵ But in large, complex environments with large populations and diverse regulators, social norms are unlikely to overcome free rider temptations; individual market incentives to gather such information will likely be modest to nonexistent.⁵⁶ In a complex, heterogeneous

52. See Stigler, *supra* note 51.

53. See, e.g., Daniel C. Esty, *Environmental Protection in the Information Age*, 79 N.Y.U. L. REV. 115, 121 (2004) (analyzing how “information gaps lead to market failures, legal system breakdowns, and regulatory difficulties”); Houck, *Aftershock and Prelude*, *supra* note 1, at 10,389-91, 10,393-94, 10,419 (arguing that science can support water quality based portions of the CWA calling for permit modifications under the Total Maximum Daily Load provisions, but noting lack of information to support them and lack of money to find the necessary information); Wendy E. Wagner, *Commons Ignorance: The Failure of Environmental Law to Produce Needed Information on Health and the Environment*, 53 DUKE L.J. 1619, 1623-1624 (2004) (“[M]uch of the scientific information needed to ensure environmental protection is still missing. The quality of most air, water, and land in the U.S. is unknown, even though the country has devoted hundreds of pages of laws to regulating activities that threaten the environment.”).

54. See Buzbee, *supra* note 51, at 18.

55. See ELINOR OSTROM, *GOVERNING THE COMMONS* (1991). See generally Carol M. Rose, *Rethinking Environmental Controls: Management Strategies for Common Resources*, 1991 DUKE L. J. 1 (1991).

56. See Jon Cannon, *Choices and Institutions in Watershed Management*, 25 WM. & MARY ENVTL. L. & POL’Y REV. 379, 407-11 (2000) (arguing that the Chesapeake Bay Program’s successes are partly attributable to the fact that it involves a limited number of actors with similar interests, and contrasting failures in watersheds with a greater number of interested parties and attendant free rider problems); David W. Case, *Corporate Environmental Reporting as Informational Regulation: A Law and Economics Perspective*, 76 U. COLO. L. REV. 379, 439-41 (2005) (analyzing why private parties lack incentives to produce environmental performance information due to its “public good” nature and inability to capture benefits of producing the information); James E. Krier, *The Tragedy of the Commons, Part Two*, 15 HARV. J.L. & PUB. POL’Y 325, 334-37 (1992) (criticizing Garrett Hardin of “simply assum[ing] the problem away. Confronted by a community, the structure of which makes coordination seemingly impossible,

country like the United States, it is unlikely that private incentives will lead to good information about environmental amenities.⁵⁷

Similarly, government actors have few incentives to gather such information. First and most importantly, with dispersed natural resources, multiple government actors are likely to share interests, but no one regulator is likely to see a river, airshed, global atmosphere, or rare species as its particular responsibility.⁵⁸ With the underlying resource lacking a particular jurisdictional link, no single regulator will have incentives to invest in costly gathering and analysis of information about that amenity. As I have written in the past, if a natural resource or harm to a natural resource is not matched with a particular government actor or a particular jurisdiction, then citizens concerned about the resource will be unsure about where to turn for government action.⁵⁹ Citizen demands, therefore, will be dispersed or will simply not be made. The net impact is that neither citizens nor regulators will feel that that regulatory challenge is theirs to solve. In such “regulatory commons” settings, essential information will therefore often remain lacking.

Data gaps are especially likely where the underlying information will lead to political or business disadvantage.⁶⁰ Information gaps are a particular risk when dealing with a degraded environment. Although this nation’s environmental laws allow a substantial amount of pollution to continue, virtually all of those laws require more stringent regulation and sometimes veto of proposed actions where the relevant environment is degraded or regulatory actors are failing to do their job. In the Westway story, for example, both the CAA permit and the Section 404 dredge and fill permit threatened to be denied due to the possibility that they would make a bad

he admonishes it . . . to coordinate!”).

57. See Esty, *supra* note 53, at 185 (arguing that private parties often take advantage of information gaps and form small, well-organized groups to distort existing information, while the relatively disorganized general public cannot coordinate to stop them); Kenneth M. Murchison, *Learning From More than Five and a Half Decades of Federal Water Pollution Control Legislation: Twenty Lessons for the Future*, 32 B.C. ENVTL. AFF. L. REV. 527, 585 (2005) (arguing that due to EPA’s dependence on industry information, regulated industries had incentives to overstate compliance costs).

58. See Jonathan H. Adler, *Jurisdictional Mismatch in Environmental Federalism*, 14 N.Y.U. ENVTL. L.J. 130, 163–67 (2005) (arguing that efforts to create a comprehensive picture of ecosystem health are hampered by chronically incomplete private, state, and EPA data collection); Buzbee, *supra* note 51, at 9 (providing an example of this in the context of the “regulatory commons” problem); Howard Latin, *Regulatory Failure, Administrative Incentives, and the New Clean Air Act*, 21 ENVTL. L. 1647, 1692 (1991) (stating that the SIP process of the CAA “imposes overlapping functions that create uncertainty about which institution(s) must make the hard choices necessary for attainment. If federal, state, and regional regulators are all responsible for attainment, each agency can blame the others when compliance is not achieved.”); cf. James Salzman, Barton H. Thompson, Jr. & Gretchen C. Daily, *Protecting Ecosystem Services: Science, Economics, and Law*, 20 STAN. ENVTL. L.J. 309, 316–17 (2001) (explaining New York City’s successful protection of its watershed and avoidance of costly water treatment requirements as resulting from the fact that New York was the only player, eliminating free rider problems and allowing the city to assess its costs and benefits).

59. See Buzbee, *supra* note 51.

60. See Wagner, *supra* note 53, at 1633–37 (arguing that where information will reveal externalities, there is a double disincentive to produce it because production costs will not be recouped and, second, the information may create additional losses in the market and through legal requirements and liabilities).

environmental situation even worse. With the Section 404 permit, the protective statutory presumptions apparently provoked Westway's proponents to avoid data collection, bury harmful data, and deny its apparent implications. But they could not altogether avoid such data collection and analysis; the permit adjudicatory triggers under CAA, CWA, and linked NEPA analysis forced them at least to make a semblance of required data collection and analysis. The CAA lawyers and engineers devised a cure. Section 404's far more protective presumptions, and the striking importance of the Westway interpier areas to striped bass, provided citizen and NGO opponent with enough data and strong legal hooks to mount an effective challenge.

Westway was an extreme case in its size and its complete defeat, but the regulatory dynamics it revealed were not unusual. To avoid more burdensome regulation or veto of proposed projects, business actors and politicians eager to attract business will often have natural incentives not to uncover harmful information. Where the problematic information concerns regulatory failures such as failures to enforce the law, meet planning commitments, or fund required activities, regulators will naturally seek to avoid embarrassing revelations. The net effect of these incentives, in the setting of cross-jurisdictional environmental concerns or degraded environments, is that information about the state of the environment and regulatory status will tend to be under-produced, at least absent some countervailing regulatory incentive.

B. Ambient Environment Regulatory Schemes and Information Gaps

Ambient environment schemes are particularly problematic. At their most basic, they require regulators to figure out the state of the relevant environment, to engage in a sort of reverse engineering that allocates regulatory burdens in light of the state of the receiving environment, and then in an ongoing way to keep such information current, further adjusting regulatory requirements.⁶¹ Such schemes thus require information that is often at the limit of human knowledge and scientific capabilities, plus such regulatory strategies require ongoing vigilance and regulatory zeal of sorts that are seldom observed in studies of regulatory behavior. As observed by Professor Houck, ambient based water quality management requires a tremendous amount of "current, continuous, and definitive"⁶² information and demands "more of science than it can deliver. The issues turn out to be more complex than imagined. They require extrapolations of causes and effects—be they over toxicity, carcinogenicity, persistence, bioaccumulation, exposure pathways, synergy, dilution, or distribution—that are rarely dispositive and highly susceptible to challenge."⁶³

Many scholars note the frequent failures of such schemes. Perhaps the most egregious failed regulatory scheme is the Clean Water Act's Total Maximum Daily Load (TMDL) provisions. The TMDL program lacks the sort of adjudicatory trigger element that can prod reluctant private and government actors to gather and act on information about the environment.⁶⁴ Instead, the TMDL program hinges on an initial

61. See Murchison, *supra* note 57, at 595 (observing that "[a]mbient-based controls present greater difficulty than feasibility-based controls" due to how they "require regulators to consider the interaction between multiple sources of pollution and a dynamic body of water").

62. Houck, *Aftershock and Prelude*, *supra* note 1, at 10,389.

63. *Id.* at 10,406.

64. See Bradley C. Karkkainen, *Information-Forcing Environmental Regulation*, 33 FLA

burden on state regulators to rank river segments for uses and then assess which are degraded. Then, water quality segments are supposed to be evaluated to determine what maximum daily load of pollutants they can bear and meet their designated uses. Only then are regulatory burdens on polluters adjusted, with regulators expected to ratchet back technology-based permits in areas with impaired waters.

In contrast to schemes that combine adjudicatory trigger elements with ambient environmental strategies, the TMDL provisions harness none of the incentives of assorted stakeholders to elicit and analyze relevant information.⁶⁵ Even the TMDL provision's regulatory sanctions and litigation threats are toothless.⁶⁶ The main federal threat is to take over the state's obligations, yet the federal government is even less suited to make the array of locally sensitive decisions than are the states.⁶⁷ Certainly, permittees have no incentive to prompt more vigorous enforcement.⁶⁸ Only beneficiaries have incentives to push all to clean up America's waters, but they too lack necessary resources and do not have a viable litigation threat.⁶⁹ Unsurprisingly, TMDL obligations went largely unimplemented throughout the United States until over a decade after they became law. Only citizen suits and, later, judicial injunctive relief began to turn this scheme into at least a partially implemented reality.⁷⁰

ST. U. L. REV. 861, 889–90 (2006) (arguing that EPA and the states generally ignored the requirement to propagate TMDLs until citizen suits in the late 1980s “successfully advanced the theory that persistent failure to submit the required lists amounted to ‘constructive submission’ of inadequate lists, obligating the EPA to impose TMDLs where states had failed to do so”); Murchison, *supra* note 57, at 573–78 (explaining uncertain chain of regulatory obligations and enforcement options under the TMDL provisions).

65. See Houck, *Aftershock and Prelude*, *supra* note 2, at 10,403 (arguing that because private point sources pay their own abatement costs while the government generally pays abatement costs for private nonpoint sources, this dichotomy has “created an attitude within the nonpoint industry of an entitlement to pollute akin to a property right”); see Murchison, *supra* note 56, at 586–87 (arguing that nonpoint sources of pollution have essentially been excluded from the regulatory framework).

66. See Houck, *Aftershock and Prelude*, *supra* note 1, at 10,412–13 (arguing that EPA's response to state failures under the Clean Air Act demonstrated that EPA's threat to take over state regulation in the TMDL setting was not credible).

67. See Daniel A. Farber, *Taking Slippage Seriously: Noncompliance and Creative Compliance in Environmental Law*, 23 HARV. ENVTL. L. REV. 297, 303 (1999) (arguing that EPA does not have the resources to assume primary responsibility for any state enforcement program).

68. See Murchison, *supra* note 57, at 597 (“Government entities establish regulations because environmental controls increase costs of regulated entities without improving their revenues. Predictably, regulated entities try to minimize those costs. Regulations work most effectively when cooperation is less costly than defiance.”).

69. See Houck, *Aftershock and Prelude*, *supra* note 1, at 10,411–12 (arguing that citizens are no longer able to sue EPA to force it to promulgate TMDLs because EPA shifted implementation planning from § 303(d) to §§ 303(e) and 319).

70. See *Id.* at 10,403 (discussing role of citizen enforcement and court decrees in prompting TMDL implementation); Linda A. Malone, *The Myths and Truths that Ended the 2000 TMDL Program*, 20 PACE ENVTL. L. REV. 63, 78 (2002) (“It took twenty-five years and a number of citizen suits to compel the states even to begin their part of the process by listing impaired waters. . . .”); Murchison, *supra* note 57, at 573–78 (tracing history of citizen suit enforcement in TMDL setting).

Similarly, prior to the early 1970s amendments of the CAA and CWA, these laws were substantially based on precatory provisions that sought to encourage states to assess and clean up the environment. Lacking permit triggers or realistic sanction elements, little was actually accomplished.⁷¹ Only when they were amended to their current forms, utilizing a hybrid of technology-based permits with mixed degrees of sensitivity to environmental conditions, with far more enforceable commands, was substantial progress made.⁷²

Where regulatory provisions lack adjudicatory triggers and realistic litigation threats that can lead to meaningful sanctions, regulatory drift and other forms of “regulatory underkill” become particularly likely.⁷³ As Daniel Farber and Howard Latin nicely capture in articles cataloguing regulatory proclivities and reasons for regulatory failure, heroic expectations for regulators tend to lead to disappointment.⁷⁴ At a minimum, as Farber explains, “slippage” from statutory goals occurs. As with the TMDL programs, sometimes complete implementation failure is the result. When one factors in the frequent reality of inadequate funding of environmental agencies and excessive regulatory tasks, especially new requirements to analyze costs, benefits, federalism impacts, small business implications and the like, regulators are often easily derailed from zealous regulatory enforcement. Factoring in the frequent additional layers of delegation of federal programs to state regulators, there is yet more room for slippage from statutory goals.⁷⁵

In short, regulatory provisions tend to perform poorly when they rely only on the hope for regulatory zeal to assess and clean up the environment. Either the assigned regulatory task needs to rely on sometimes crude but still determinable information

71. See Murchison, *supra* note 57, at 530–35 (arguing that pre-1970 water pollution control acts provided little enforcement power to the federal government and little was actually done to clean up the water).

72. See Houck, *Aftershock and Prelude*, *supra* note 1, at 10,396 (arguing that before 1972—when Congress provided for EPA oversight and citizen enforcement of pollution control laws—states had neither the ability nor political will to enforce antipollution laws); Malone, *supra* note 70, at 77 (arguing that by imposing uniform technology based standards for point sources, the 1972 Act created permits that could be monitored and enforced); Murchison, *supra* note 57, at 534 (contrasting lack of progress prior to 1972 and later changes that improved Clean Water accomplishments).

73. See William W. Buzbee, *Regulatory Underkill in an Era of Anti-Environmental Majorities*, in STRATEGIES FOR ENVIRONMENTAL SUCCESS IN AN UNCERTAIN JUDICIAL CLIMATE 141 (Michael A. Wolf ed., 2005) [hereinafter STRATEGIES].

74. See Farber, *supra* note 67, at 311, 316 (stating that Congress often passes “unrealistic or symbolic statutes” that may be thought of as “the government’s opening demand in negotiations”); Latin, *supra* note 58, at 1718–19 (arguing that implementation falls short because Congress does not “assess realistically the incentives of the people who must make regulatory programs work”).

75. See Farber, *supra* note 67, at 303–04, 312–13 (observing that states are uneven in their compliance with federal statutes and the EPA lacks the resources to monitor them); Houck, *Aftershock and Prelude*, *supra* note 1, at 10,395 (reporting that in 2001 the EPA inspector general found “that the states were wanting in every aspect of enforcement [of the Clean Water Act] from identifying violators, to taking enforcement actions, to the assessment of penalties and fines”); Latin, *supra* note 58, at 1692–93 (arguing that shared responsibility between the states and the federal government provides another opportunity for enforcement to slip).

such as best technology-based standards, or more environmentally sensitive schemes need to rely on adjudicatory triggers that align private incentives of both polluters and citizen opponents to prod regulators and supply them with information.

III. PROBLEMS OF ADJUDICATORY TRIGGER STRATEGIES AND POTENTIAL SOLUTIONS

This Article's cataloguing of the benefits of adjudicatory trigger strategies should not be mistaken for a paean to their perfection. Such schemes can work well, but they too can fail, plus they also lack a few key elements that could render them far more effective.

A. Problems

Adjudicatory trigger strategies promise enhanced information and effective utilization of stakeholder incentives, but they also threaten to fall short of their idealized potential. The factors contributing to such shortcomings can be broken down into two basic categories: failures to share and compile information, and risks that unequal resources and incentives will skew the information that is ultimately elicited.

The biggest downside of adjudicatory trigger strategies is that they tend to create piecemeal analysis. One EIS does not necessarily build on past EIS studies. One permit's analyses may never be plugged into later similar permit proceedings. Many such triggers elicit quite specific information about a geographically limited area. Because they tend to require substantial information about the environment and anticipated impacts on it, they are forward looking. Seldom do any provisions of federal law create requirements or even modest incentives for private actors or regulators to look back at past analyses and predictions to assess their accuracy.⁷⁶ Thus, in the Westway story, one finds an array of actors seeking to bury the truth or skew their analyses. If they had succeeded, no legal provisions would have later led to

76. See U.S. GEN. ACCOUNTING OFFICE, GAO/RCED-99-250, ENVIRONMENTAL PROTECTION: ASSESSING THE IMPACTS OF EPA'S REGULATIONS THROUGH RETROSPECTIVE STUDIES (1999) (analyzing the extreme rarity of retrospective analysis of past EPA regulations and outlining some of the potential uses and challenges of retrospective studies); Michael B. Gerrard & Michael Herz, *Harnessing Information Technology to Improve the Environmental Impact Review Process*, 12 N.Y.U. ENVTL. L.J. 18, 26-30 (2003) (suggesting placing environmental impact statements online as a necessary step toward meaningful retrospective analysis, stating that under such a system, "[r]ather than reinventing the wheel with each EIS, preparers could draw on the work of those who preceded them"); Thomas O. McGarity & Ruth Ruttenberg, *Counting the Cost of Health, Safety, and Environmental Regulation*, 80 TEX. L. REV. 1997, 1998-99 (2002) (suggesting that retrospective empirical cost assessments would help check systematic overestimates of industry regulatory compliance costs in prospective cost-benefit analysis, but that such assessments will not be performed unless current economic incentives are altered). Such retrospective analysis does pose its own risks. See James T. Hamilton & W. Kip Viscusi, *The Benefits and Costs of Regulatory Reforms for Superfund*, 16 STAN. ENVTL. L.J. 159, 162 (1997) ("The increase in reporting requirements for regulators spurred by the detailed retrospective regulatory assessments and other reports to Congress required by some bills, coupled with proposed cuts in agency budgets, would lead to regulatory gridlock.").

assessment of the accuracy of such claims or punishment if found to be in error. The CAA is an unusual counter example, with its use of nonattainment permits to trigger assessments of the environment, regulators' actual diligence, and the state of the art in pollution control.

Nevertheless, adjudicatory trigger strategies, like most regulatory schemes, rely on the presence of opponents to challenge facile or false informational claims, nudge regulators to do their job, and possibly initiate litigation where necessary. Seldom, however, will there be citizens with adequate time or monetary resources, let alone skill and knowledge, to participate effectively in such settings. Regulators will have professional staff, and private actors seeking permits will have expert consultants. Adjudicatory trigger strategies will ideally create enhanced information, but in reality threaten to be skewed by unequal resources and analyst bias.

B. Solutions for Adjudicatory Trigger Strategy Shortcomings

This Section catalogs several antidotes to such risk factors. Concededly, however, some of these curative responses contain an element of circularity; resource constraints and skewed incentives will remain problems unless corrective strategies that counteract unequal resources are put in place. Despite assuming away a chief cause of the underlying problem, this Section nevertheless proposes curative measures. The curative efforts would harness self interest with incentives for effective participation by stakeholders who threaten to go unheard. As in many areas of environmental and risk regulation, retention and even revival of judicial oversight is critical.

Methodical cataloging and retention of environmental information is critical. With web access to many agency databases, it is no longer far fetched to ask agencies methodically to take information adduced through adjudicatory trigger events and index them by site and threatened resource. Similar sorts of databases have been collected in connection with the Toxic Release Inventory (TRI), allowing interested citizens to search by location and determine what toxics are released in the area.⁷⁷ Were such databases coordinated and searchable, especially if state and local studies were included, then the often isolated and episodic nature of adjudicatory trigger information might be alleviated over time.⁷⁸

Still, more than mere compilation and indexing is needed. Much of NEPA's analysis and analogous information produced due to other adjudicatory trigger schemes is prospective in nature, predicting what will occur in the future. Underlying baseline condition analysis remains critical to such schemes, but the predictive elements—predictions of how a proposed action will affect the environment—typically remain no more than predictions. Few of these schemes require any sort of “lookback” or retrospective analysis to see how well analysts did, to assess how the project or permitted activity compared to its promise, or to collect data that analyzes actual environmental impacts. CAA nonattainment permitting contains a variant on a lookback scheme, at least making the next desired permit a trigger to assess how the polluter and regulator have actually been doing, while also updating information about

77. See generally Bradley C. Karkkainen, *Information as Environmental Regulation: TRI and Performance Benchmarking, Precursor to a New Paradigm?*, 89 GEO. L.J. 257 (2001) (discussing the effectiveness of the TRI).

78. Gerrard & Herz, *supra* note 76, at 27–28.

pollution control technology.⁷⁹ Few other such schemes, however, contain similar mandates or incentives for lookback.

Even if such lookback requirements became more pervasively required, the problem of skewed resources and incentives would remain. Regulators and permit seekers would have resources to undertake necessary gathering and analysis of information, but citizens and other interested parties, who typically lack a substantial monetary or judicially created incentive for creation and analysis of information, would remain comparatively disadvantaged. Information about the state of the environment, let alone information about how someone else's proposed project will affect the environment, is costly to gather and requires great skill to analyze. A bottom line reality is that citizens and other more tangentially interested stakeholders will need the assistance of scientists, and often help from engineers and attorneys as well.⁸⁰ At this time, apart from limited funding provided by CERCLA for neighbors seeking to participate in decisions about how to remediate a contaminated site, few laws at any level provide a mechanism to ameliorate resource imbalances during the often lengthy regulatory investigation and review stage. Should citizens later bring a meritorious claim in litigation, those litigation expenses may be subject to an attorney's fee and cost reward under federal "citizen suit" provisions, but none of the often far longer and more expensive costs of the regulatory stages will be recoverable.

Several responses to this challenge are possible. First, laws should be amended to provide financial assistance for citizens participating in regulatory proceedings, at least where (as with such litigation-stage awards), citizens can show how their participation provided a benefit by, for example, serving as a check against inaccurate or insufficient claims or analyses of the permittees or regulators. Ideally, such a subsidization strategy would provide both initial modest funding to facilitate citizen participation and a more substantial cost or fee award upon later proof of the importance of the citizen role.

Some might complain, however, that such a proposal effectively seeks to empower citizens to perform a role duplicating what regulators already do. Tax dollars are already paid so the government can provide such functions. Ideally, this would be true. The reality, however, is that regulators are regularly overextended and subject to repeated encounters with permittees. Even without making assumptions of regulatory capture, corruption or venality on the part of regulators, it is empirically justifiable to assume that regulators will often fail to perform their tasks. In the Westway story, one sees some diligent regulators, but also other regulators who failed to act, acquiesced in misleading claims, and even affirmatively made what federal courts concluded were misstatements. Moreover, government actors frequently are not disinterested

79. See *supra* notes 32–39 and accompanying text.

80. Of course, a highly motivated and intelligent citizen can develop expertise and serve in such a role. In the Westway battles, Marcy Benstock was a critical strategic force. She was a citizen opponent and head of the NGO, the Clean Air Campaign. As she emphatically pointed out, federal environmental and natural resource agencies provided critical, pointed criticisms of Westway, and many other groups, including local, state, and federal legislators were aligned opponents. Still, she provided critical continuity and information to opponents and the press. See Jack Newfield, *Marcy Benstock: The Woman Who Blocked Westway*, in *THE EDUCATION OF JACK NEWFIELD* 169 (1984). For discussion of the importance of a project stewards to a complex project's success, see Buzbee, *supra* note 6, at 348–50, 355.

regulators, but themselves the entities seeking a permit or violating the law by failing to protect the resource. A citizen “checking” role is a necessary reality.

In suggesting that citizen participatory roles be subsidized or even later rewarded with compensation of costs and fees, this Article is concededly running counter to judicial trends. Citizen standing in the courts has been subject to judicial rollback since *Lujan v. Defenders of Wildlife*⁸¹ was decided in the early 1990s.⁸² Recent cases have revived or at least preserved a citizen role under such provisions, but other justiciability doctrines have cut the other way. Most recently, in the *Norton v. Southern Utah Wilderness Alliance* case,⁸³ the Supreme Court made it extraordinarily difficult under the Administrative Procedure Act for a citizen to bring suit alleging unlawful failures to act unless able to allege discrete violations of required activities.⁸⁴ Similarly, fee award rights have been undercut.⁸⁵ The net effect of these judicial cutbacks on citizen litigation rights is that any improved adjudicatory trigger schemes relying on citizen involvement will have to make the right to an award even more explicit than under current law.

Critically important to adjudicatory trigger schemes is how burdens of proof are allocated. If the pervasive uncertainties and costs associated with environmental information are effectively imposed on citizen participants in regulatory proceedings, then rarely will citizens succeed in challenging a permit grant. Similarly, if governments must overcome a burden before they can say “no” or require a permittee to modify plans, then there too permit grants will seldom meet with denial. Only if the permittee or entity seeking adjudicatory approval carries the burden to establish that resulting harms will be modest and acceptable will information be elicited and will a realistic possibility of government and citizen oversight exist. Recent proposals and enactments requiring “peer reviewed” science or proof of data quality threaten to impose insurmountable hurdles if imposed on governments or objectors.⁸⁶ Imperfect information and limited resources mean that seldom will anyone be able to establish claims to a certainty that are adequate to survive peer review.

Lastly, retention of redundant and overlapping participation and enforcement schemes is important to the success of adjudicatory trigger strategies. The reality is that most events serving as a regulatory adjudicatory trigger will sail through review procedures with few challenges.⁸⁷ Preserving the roles of multiple actors with different

81. 504 U.S. 555 (1992).

82. See William W. Buzbee, *The Story of Laidlaw: Standing and Citizen Enforcement*, in ENVIRONMENTAL LAW STORIES (Richard J. Lazarus & Oliver A. Houck, eds.) (2005) at 214–24 (analyzing case trends following *Lujan*).

83. 542 U.S. 55 (2004).

84. See Alyson C. Flournoy, *Following the Court Off-Road in Norton v. Southern Utah Wilderness Alliance*, in STRATEGIES, *supra* note 73, at 215; Robert L. Glicksman, *Securing Judicial Review of Agency Inaction (and Action) in the Wake of Norton v. Southern Utah Wilderness Alliance*, in STRATEGIES, *supra* note 73, at 163.

85. See, e.g., *Buckannon Bd. & Care Home, Inc. v. West Va. Dep’t of Health & Human Res.*, 532 U.S. 598 (2001) (rejecting “catalyst” theory for awards of attorney’s fees).

86. See Sidney A. Shapiro, *The Information Quality Act and Environmental Protection: The Perils of Reform By Appropriations Rider*, 28 WM. & MARY ENVTL. L. & POL’Y REV. 339, 347–48 (2004); Sidney A. Shapiro, *OMB’s Dubious Peer Review Procedures*, 34 ENVTL. L. REP. 10,064 (2004).

87. For example, the Army Corps recently reported that only one percent of Section 404

goals and areas of expertise reduces the risk that environmental information will be overlooked or misrepresented. By retaining this multiplicity of actors, more proposals will meet with defeat or requirements that they be modified. This possibility of scrutiny and defeat, however, is critical to keep the process honest.

CONCLUSION

Adjudicatory triggers of enhanced environmental information are a useful regulatory strategy, but are far from a panacea. Still, they can serve as a useful complement to other strategies and will typically elicit information that might otherwise be lacking or out of date. As in most areas of environmental and risk regulation, checks on lax regulatory behavior and tailoring of information and uncertainty burdens will be critical to success in protecting the environment.