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NEPA, Ecosystem Management and Environmental Accounting

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Impairment of ecosystems results in a rapid and massively expensive consumption of capital. The most recent comprehensive estimate of the world-wide value of the annual value of services derived from the world’s natural capital has been estimated between $16 trillion and $54 trillion. Robert Costanza et al., The Value of the World’s Ecosystem Services and Natural Capital, 387 Nature 253, 254 (1997). Although these irreplaceable ecosystem services, such as water purification, soil creation and preservation, flood control, atmospheric control, pollination, nutrient substrate for plants and animals, are enormously valuable, and in some cases essential, to human existence, we consume them as if they were free and inexhaustible, even though their real value is significantly larger than the world’s entire GNP. Id. As a result, “because ecosystem services are largely outside the market and uncertain, they are often ignored or undervalued, leading to the error of construction projects whose social costs far outweigh their benefits.” Id. Stated in the opposite, ignoring environmental costs, such as the cost to human health and the environment from residual air and water emissions (i.e., those emissions that remain after the discharger has met all environmental laws) and from a development project’s diminishment of an ecosystem’s capacity to provide vital services, is no different from valuing these costs very precisely at $0.

Theoretically, if the price of every resource included the cost to human health and the environment of using that resource, then the market would encourage the efficient use of each resource, reducing total environmental costs to society. By using estimates of ecosystem services values in project appraisals, the loss of ecosystem services could be weighed against the benefits of a specific project to estimate the true societal cost of the project. However, neither domestic nor international law, both of which are largely products of nineteenth century economic theory, hardy individualism and nationalistic feeling, requires or even encourages this.

If law were to reorient our analytical framework so that each decision were to include, to the greatest extent possible, adverse environmental consequences, we could institutionalize a process of making sound ecosystem management decisions. One law that was supposedly designed to break decision-making out of its narrow, economically focused box was the National Environmental Policy Act (NEPA), 42 U.S.C. §§ 4321-4370d. Predicated on the idea that governmental decisions should not be made without full consideration of adverse environmental implications of the decisions, NEPA suggests that the more environmentally realistic our expectations, the greater the opportunity to reduce poverty, increase wealth, and diminish environmental degradation. Unfortunately, NEPA does not advance the cause of sound ecosystem management or the related concept of sustainable development, but, as will become apparent, allows decisions affecting ecosystem development to be whitewashed with a thin coat of “apparent” soundness or sustainability. In other words, NEPA, as it has evolved, lets us feel comforted by the illusion that our decisions are environmentally sensitive; as a society we willingly pretend that environmental impact statements are important, thorough, reliable analyses, when in most cases they are mere formalities based on data and predictions made by people who have no accountability for error.

Enacted January 1, 1970, NEPA was the first environmental law of the modern environmental age, and is now the model for a law that has been adopted worldwide. Although it does not use the phrase ecosystem management or sustainable development in its text, the purpose of NEPA was to achieve that which is now referred to as sustainable development, namely, “...[t]o declare a national policy which will encourage productive and enjoyable harmony between man and his environment; to promote efforts which will prevent or eliminate damage to the environment and biosphere and stimulate the health and welfare of man.” Id. at § 4321. To implement this policy, Congress directed that agencies “insure that presently unquantified environmental amenities and values...be given appropriate consideration in decision-making along with economic and technical considerations;” and that they “include in every recommendation or report on proposals for legislation and other major federal actions significantly affecting the quality of the human environment, a detailed statement...on...the environmental impact of the proposed action.” Id. at § 4332(2)(B), (C).

As with most new requirements, compliance with

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the new beast known as the environmental impact statement (EIS) requirement was slow. Although NEPA § 102 requires that each federal agency must prepare an EIS when making a decision that could significantly affect the human environment, many agencies, particularly those with a mandate to promote development projects, such as the Atomic Energy Commission, vigorously resisted. In response, the early litigation under NEPA, such as Calvert Cliffs Coordinating Comm., Inc. v. U.S. Atomic Energy Comm’n, 449 F.2d 1109 (D.C. Cir. 1971), addressed the fundamental failure of the agency to include environmental impacts in its evaluation and approval of licenses to construct nuclear power plants. In that now famous decision, the court declared that “Congress did not intend [NEPA] to be . . . a paper tiger,” and ruled that all agencies of the federal government “must—to the fullest extent possible under its statutory obligations—consider alternatives to its actions which would reduce environmental damage.” After it became clear that NEPA applied broadly to all agencies of the government, the litigation shifted to more lawyerly gamesmanship in which agencies tried to avoid significant environmental evaluation by narrowly defining the statutory requirements so that hard issues might not be subject to the EIS mandate.

The early litigation that arose under NEPA fell into two large categories: threshold questions and adequacy questions. In cases raising threshold questions, agencies asserted that no EIS was needed because one of the elements of the statute’s requirement (“proposals . . . for . . . major federal action significantly affecting the quality of the human environment”) for an EIS was not present. The second category of cases addressed whether the EIS adequately evaluated the adverse environmental consequences of a project, as well as alternatives that could avoid or mitigate the harm. In 1978, the President’s Council on Environmental Quality (CEQ) promulgated regulations, 40 C.F.R. parts 1500–1508, that substantially standardized the way that federal agencies approach the NEPA process.

The courts, however, significantly narrowed the practical impact of the mandate that agencies think deeply about the environmental consequences of their actions, that they seriously explore alternatives, and that they consider the larger, long-term picture of accommodating development with ecological soundness, even though these requirements remain in the words of NEPA and the CEQ regulations. In a series of decisions, the U.S. Supreme Court has bleached out the meaning of NEPA and the CEQ regulations by its “crabbed interpretation of NEPA” and its dismissal of the goals of NEPA in § 101(b) as “largely rhetorical.” Lynnton Caldwell, NEPA Revisited: A Call for a Constitutional Amendment, ENVTL. F, Nov.-Dec. 1989, at 18.

The Supreme Court’s Evisceration of NEPA

How has this state of affairs come about, and what can be done to fix it? In the early years after NEPA was enacted, a core issue was whether NEPA imposed on agencies any substantive obligations to select the least environmentally harmful alternative, and if so, the scope of that substantive obligation. NEPA’s substantive goals require an agency to balance economic and ecological effects of a project, but courts, when reviewing agency decisions, are reluctant to overrule an agency’s choice among alternatives. The Supreme Court has endorsed judicial deference to agency judgment, even where that judgment undermines the substantive goals of NEPA, the Act simply does not require an agency to choose the alternative that is environmentally preferable. Strycker’s Bay Neighborhood Council, Inc. v. Karlen, 444 U.S. 223 (1980).

Since the late 1970s, the Supreme Court has been unwilling to read the substantive goals of NEPA into its interpretations, especially when major government policy issues were at stake. It did this, in part, by narrowing the remedies it would permit under NEPA. First, in Kleppe v. Sierra Club, 427 U.S. 390 (1976), the Court, defined “proposal” in the most narrow, legalistic sense possible, on the theory that an agency could avoid preparing an EIS so long as it was only contemplating action. This excused the agency from having to prepare an EIS for the Great Plains coal region before issuing a series of coal mining leases in the region. Instead, the Court allowed the agency to issue individual leases in the region with individual EISs that only evaluated local impacts and thus avoided evaluating the regional environmental impacts of coal mining in the Great Plains. According to the Court, an EIS need not be prepared until the eleventh hour: “the moment at which an agency must have a final statement ready is the time at which it makes a recommendation or report on a proposal for federal action.” Id. at 405–06. In this case, as with most other complicated projects,
preparation of an EIS is so time-consuming that it must begin years in advance for results to be considered in decision-making. Nevertheless, the Court refused to allow a district court to order an agency to begin preparation of an EIS in time for it to be completed by the formal proposal. By looking at NEPA solely as a procedural requirement devoid of any substantive value, the Court signaled its hostility toward NEPA’s advancement of any of its sustainable development goals, even in a requirement as minor as allowing courts to order agencies to begin preparation of EISs early enough to provide meaningful input.

The Court decided Klepppe two years before the CEQ issued its regulations. In defining “proposal,” the CEQ regulations state that a proposal “exists at the stage in the development of an action when an agency subject to the Act has a goal and is actively preparing to make a decision on one or more alternative means of accomplishing that goal and the effects can be meaningfully evaluated.” 40 C.F.R. § 1508.23. Unfortunately, CEQ’s rejection of Klepppe’s hostility toward NEPA’s substantive underpinnings did not deflect the Court’s efforts to gut NEPA of any substantive importance.

Shortly after its Klepppe decision, and seven months before the CEQ issued its regulations, the Court narrowed the vision called for by NEPA. In Vermont Yankee Nuclear Power v. NRDC, 435 U.S. 519 (1978), public interest groups challenged the issuance of a nuclear power plant construction license on the grounds, inter alia, that the agency had failed to consider alternative sources of electricity, including energy conservation. The Court in Vermont Yankee stated explicitly that although NEPA established “significant substantive goals for the Nation,” the duties it imposed on agencies was “essentially procedural.” Five years after the Arab oil embargo, the Court rejected the D.C. Circuit’s opinion that the Atomic Energy Commission, now the Nuclear Regulatory Commission, violated NEPA by failing to consider energy conservation alternatives to nuclear power. Even though the 1973 energy crisis prompted both CEQ and Federal Power Commission regulations to mandate evaluation of energy conservation alternatives, and by 1978 the nation was well underway in responding to drastic oil price increases by reducing energy use 30 percent per dollar of annual GNP, the Court dismissed any agency duty to reconsider the need for the multibillion-dollar power plants because the draft EIS had been prepared a year and a half before the energy crisis. The Court said Congress had decided to “try nuclear energy” and had “resolved” the fundamental policy questions with respect to nuclear power, and although “time may prove wrong the decision to develop nuclear energy, . . . a single alleged oversight on a peripheral issue” would not be allowed to stop the decision to build these nuclear power plants. Id. at 558. Thus, even though NEPA clearly applied to the construction of nuclear power plants, and even though the ignored “peripheral issue” was the central question of whether the power plant was needed, the Court refused to allow NEPA to do its job. Ironically, in 1978 the nuclear power industry was already dying. Since 1978 no new proposals for nuclear power plants have been advanced, half of the contracts already let as by 1978 were canceled within the next decade, and of the plants that were constructed, several have closed prematurely.

Just two years after Vermont Yankee, the Court announced summarily that an agency was “free under NEPA to reject an alternative acknowledged to be environmentally preferable solely on the ground that any change in [plans] would cause delay.” Strycker’s Bay Neighborhood Council v. Karlen, 444 U.S. 223, 230 (1980) (Marshall, J., dissenting). As a result, NEPA does not require an agency either to develop or implement a plan to mitigate environmental damage, so long as the agency considers mitigation in general terms as an option; nor does NEPA require an agency to perform a “worst-case analysis” to assess the effects of catastrophe. Robertson v. Methow Valley Citizens Council, 490 U.S. 332 (1989). Rather, under revisions to the CEQ regulations issued in 1986 by the Reagan administration, while an agency must evaluate “reasonably foreseeable . . . impacts which have catastrophic consequences, even if their probability is low,” the agency need not develop new information relevant to the evaluation of such catastrophic impacts if the costs of obtaining such information are “exorbitant”; rather, the agency can base its evaluation on “theoretical approaches or research methods generally accepted in the scientific community.” 40 C.F.R. § 1502.22(b).

Thus, NEPA now merely requires a relatively narrow document that accompanies files reflecting foregone conclusions. At best, NEPA may marginally improve narrow decisions affecting the environment, but NEPA does not provide even marginal ecological or sustainable security. Unfortunately, NEPA, the most widely copied environmental law in the world, now provides the means to thoroughly wallpaper over serious structural flaws in our decisions, so that decisions appear to be sustainable when in reality they are no more than mirages of environmental concern.
NEPA's Structural Defect: No After-the-fact Responsibility for Errors

NEPA's fundamental flaw is the little-appreciated fact that no one is responsible for substantive errors in EIS evaluations. Short of outright fraud, so long as the NEPA process has been followed, there is no consequence to the decision-maker for making a bad decision, nor is there any obligation to follow up on the actual environmental impacts. The combination of narrow judicial oversight and lack of accountability for error can produce terrible consequences. For instance, when the federal government was deciding whether to build the Teton Dam, officials considered the likelihood of its collapse to be too remote to require even a mention in the EIS. Unfortunately, as it was being filled for the first time, the dam collapsed, killing 11 people, leaving 25,000 people homeless, and totally or partially inundating 300 square miles of downstream land. Denis Binder, NEPA, NIMBYS and New Technology, 25 Land & Water L. Rev. 11 (1990). The cost of the collapse, in 1976 was about $1 billion, including more than $400 million that the United States government paid to victims. Teton Dam Disaster Act of 1976. Pub. L. No. 94-400. The decision-makers and project proponents were not held accountable for their mistakes, though, and “none of the designers and builders of the dam were fired, and few were inconvenience.” MARC REISSNER, CADILLAC DESERT: THE AMERICAN WEST AND ITS DISAPPEARING 425 (1986).

There are several reasons for this lack of accountability. First, the government and its officials are protected from tort liability for their discretionary decisions even if the exercise of discretion was abused. Second, the Supreme Court has made clear that so long as an agency has prepared an EIS (within the narrow requirements established by the Court), the soundness of the ultimate decision will not be examined. These decisions “cast doubt on a court’s ability to order an agency or an agency-regulated party to do what it has promised to do to protect the environment,” Thomas O. McGarity, Judicial Enforcement of NEPA-Inspired Promises, 20 Envtl. L. 569, 571 (1990), particularly because there is no provision in NEPA for citizen enforcement of any agreement or promise made as part of the project’s approval. After the EIS is completed, if an agency decides to select an alternative not evaluated or even mentioned in the EIS, the only remedy is for the agency to supplement its EIS to include its new initiative, feeble as it may be. If the agency change were not detected or challenged until after the project was completed, however, any NEPA claim would likely be dismissed as moot, without even the paper “remedy” of an after-the-fact supplemental EIS.

Finally, even if an agency specifically conditions its approval on compliance with explicit, measurable criteria placed in legally binding documents such as contracts, permits, licenses or the like, courts are reluctant to enforce these requirements, in large part because they “tend to take at face value . . . that the environmental protective permit conditions will be observed by the permittee,” an assumption that is “woefully naive.” McGarity, Judicial Enforcement of NEPA, at 599. In other words, although courts will carefully examine agency claims that permit conditions and mitigation measures will reduce environmental effects that an EIS is not needed, once this determination is made, the courts simply assume that the conditions will be enforced, even in the absence of any binding assurances. Unfortunately, the failure of an agency to enforce is presumptively nonreviewable, Heckler v. Chaney, 470 U.S. 821, 831 (1985), and NEPA contains no private right of action or citizen suit provision. I draw the dismal conclusion that, because of the combination of a crabbed judicial interpretation of NEPA’s EIS obligations and the lack of accountability for mistakes in judgment, together with the inability to enforce criteria the EIS identified as environmentally protective, NEPA is useless in promoting sound ecosystem management. NEPA does, however, retain considerable value in whitewashing development projects so the public believes that long-term environmental interests are being protected.

Placing the Risk of Mistake on the Predictor

NEPA’s tragic devolution can be traced to the lack of any criteria to measure conduct and to hold actors accountable for their decisions. The lack of post-EIS review and monitoring not only makes the promises of mitigation hollow, but decision-makers and project advocates have also learned the short-term lessons of NEPA litigation in meeting NEPA’s technical requirements without hindering a project by asking important questions. This short-term approach results in no post-project monitoring and deprives us of the feedback needed to improve future decisions. Under the current state of the law, project proponents know there is no consequence from underestimating adverse environmental effects. Because there is no liability for inaccuracy, there is no need for post-project review that
Imagine a hypothetical, but typical, ecosystem issue: a developer who wants to build a shopping mall on land that is somewhat marshy and fronts on a two-lane road that is near its traffic capacity. In its application for a wetlands permit from the Corps of Engineers, the developer predicts that the project will generate little additional traffic and little harmful runoff into the marsh area. In preparing the EIS, the agency accepts the developer's traffic predictions, and approves the permit allowing construction. (In the event that it issues the permit based on an environmental assessment (EA) and finding of no significant impact (FONSI), the Corps may be even more likely to defer to the developer's traffic predictions.) Upon completion, however, the traffic actually increases to many times the level predicted in the EIS, resulting in severe congestion, more traffic accidents, greater pollution runoff into the marsh, greatly increased air pollution, and destruction of the previous character of the area. The public now clamors for the state, at great expense, to widen the road and deal with the pollution and lifestyle issues. When confronted with the modest predictions in the EIS, the agency says, with a shrug, that it complied with NEPA at the time of its decision; the developer responds, with an enigmatic smile, that it simply relied on the estimates of its consultants for the predictions. Neither the agency nor the developer is accountable for the error. On the other hand, if the developer and agency had at the outset accurately predicted the impacts of the project, they most likely would have faced stiff public opposition and might not have received the requisite approvals. The lesson for project proponents is obvious: All they need do is superficially comply with NEPA by mentioning, but minimizing, the environmental effects.

To improve decision-making under NEPA, the decision-makers and project proponents must be held accountable for their predictions, mitigation promises, and the residual environmental consequences of the projects. The EIS must be required to identify objective, measurable criteria that can be used to judge the ultimate accuracy of the prediction. These criteria should reflect the quantity and quality of the external environmental impacts created by the project, and be translatable into specific, dollar-based valuations that can be incorporated into project valuation, and be secured against, as with any other financial risk.

Fortunately, the emerging discipline of environmental externality valuation will allow us to use law to define ecosystem management principles and sustainable development in economic terms. At a macroeconomic level, externality valuation has been pursued by the emergence of natural resource accounting, under which national income accounts (e.g., Gross Domestic Product) are adjusted directly or indirectly to reflect environmental degradation associated with a nation's economic activity. For example, if the wealth of a country selling off its forests were reduced by the value of the topsoil lost from the clear-cutting, the country's annual income would be revealed to be not the result of sustainable production, but of liquidation of capital. Natural resource accounting more accurately reflects a country's true annual income and net worth than the current system of financial accounting.

These techniques have been applied at the project level. The World Bank has developed a broad range of techniques to evaluate the economic costs of environmental impacts of projects, in the Bank's environmental and financial evaluations of project lending proposals. For instance, the impact of logging in the Philippines was examined by comparing continued logging, its ecosystem damage, and resulting losses of tourism and fishing income (the "without" a logging ban project) with a logging ban that reduced forestry income but increased or sustained tourism and fishery income (the "with" project scenario). The result of the comparison was that a logging ban would result in a 70 percent revenue increase over continued logging. John A. Dixon, et al., Economic Analysis of Environmental Impacts 44-45 (1996).

In the United States, evaluation expertise has emerged in two areas: natural resource damage assessment and state public utility commission integrated resource planning. Damages to natural resources from oil spills or hazardous wastes must now be paid for under oil pollution and hazardous waste laws. Natural Resource Damages Assessment, 15 C.F.R. pt. 990. In the area of energy regulation, expertise is emerging in establishing preliminary values for the external damages caused by residual emissions from utilities, after all environmental regulations are met. Social Costs and Sustainability: Valuation and Implementation in the Energy and Transport Sector (Olav Hohmeyer et al., eds., 1997). Thus, both after-the-fact liability for external damages and before-the-fact evaluation of environmental externalities can be monetized and directly incorporated into a decision-maker's calculus.
**Securing Against the Risk: Externality Insurance**

Returning to the earlier hypothetical of a proposed development along an old country road near a wetlands, the EIS would specifically identify the environmental externalities and valid, reliable measurement criteria for each; in this case increased vehicle traffic. The EIS would then calculate the additional environmental burden each vehicle, on average, would place on the environment. This burden would then be translated into a dollar amount per vehicle, for which the project proponent would be held financially responsible in the final agency decision. The decision-maker would still have full discretion to choose among alternatives, but now the externalities created by that choice would be internalized into the project alternatives. The decision would incorporate the baseline public environmental costs deemed acceptable for the development project, but all excess environmental costs will be borne by the project proponent. Thus, to the extent the adverse environmental effects are monetized, decision-makers and project proponents will be unable to ignore, underestimate, or fail to mitigate these adverse environmental effects.

In the hypothetical, it might be determined that each additional vehicle will impose $10 per day of externalities on the environment and surrounding community. If the EIS predicts that the project will result in one hundred additional vehicles per day, then the externalities associated with the project as proposed would be $1,000 per day. The agency approval would require a secured environmental externality performance bond in that amount. In other words, for each vehicle over one hundred per day, the project proponent would have to pay $10. Agency project approval would contain traffic measurement criteria such as how to measure, how often, by whom, data reporting methods, and, most critically, a secured obligation under which the project proponent would pay $10 plus the economic benefit enjoyed by the project due to the understated estimate for any traffic over the baseline. Thus, if the project resulted in 500 vehicles per day instead of the one hundred predicted, the project would pay $4,000 per day for the excess externalities created. The risk of error will be absorbed by the project proponent, and not the community or the environment. The obligation would continue for some reasonable impact measurement period, during which the bulk of the effects would be observed.

**Evaluation expertise has emerged in two areas:**

- **natural resource damage assessment and state**
- **public utility commission integrated resource planning.**

The core feature of this proposal is the mandate that the potential liability for external environmental harm be secured. Although the method of securitization will vary depending upon the nature of the project, a central tenet of sustainable development, that environmental externalities be internalized into routine decision-making, requires that the risk of uncertain adverse consequences be placed upon project proponents and direct beneficiaries. One method of achieving this goal of creating accountability for externalities is to combine the concept of a performance bond with insurance.

In its simplest, and perhaps most pure, form, the environmental externality bond would be a condition of project approval, with the bond being in the amount of the environmental externalities the project is estimated to create. Alternatively, the bond could be set in the amount of damages greater than estimated as part of the public approval process. In either case, the operation of the environmental externality bond system would be similar. At the conclusion of the project, the bond would be returned, less the amount of the environmental harm actually caused by the project, or less the amount of excess externalities experienced. This approach would motivate both the government and the project proponent to investigate more thoroughly the environmental impacts of the project, mitigation measures available to reduce project impacts, innovative alternatives to the project, and methods to measure impact. At a minimum, this approach will cut out projects for which the anticipated environmental damage would exceed the anticipated project benefits or profits. The bond could shift the burden of proof as to the actual environmental damage from the public to the project proponent by building within the bonding system the presumption that the predicted environmental damage will be deemed to have occurred unless the project proponent proves otherwise. Under this approach the firm posting the bond would have the burden of establishing that the actual environmental damages caused by the project were less than predicted damages upon which the bond was based.

Under this system, the agency and project proponent will have the incentive to be realistic about the adverse environmental impacts of the project and to think creatively about alternatives that would eliminate or reduce the impacts. To avoid excess externality payments, the project proponent will want to estimate the impacts to be realistically high, because that would set the base-
The best insurance against future environmental harm ... is to reduce emissions and adverse environmental consequences now.
ty insurance (or self-insurance) obligation would be backed by adequate financial security. Both the public and the project proponents will benefit from the incentives to reduce risk; if the private sector reduces project risk by reducing emissions and ecosystem harm, it will enjoy the economic benefit of substantially reduced environmental externality insurance premiums, while the public will be exposed to reduced risk of harm to human health and the environment. Because the developer would be rewarded for reducing emissions or protecting ecosystems instead of making payments into an insurance account, it will have a market-based incentive to reduce emissions or undertake ecosystem protection now. The sooner emissions and ecosystem impacts are reduced, the greater the risk reduction and the improvement to environmental quality.

From the project proponent's perspective, this proposal allows private management to act flexibly, either innovating in emissions reduction or ecosystem protection, or buying insurance, to best meet its needs. On the other hand, the public will also internalize the externalities associated with development decisions by paying for the benefits of the environmentally beneficial projects in prices that reflect true social costs, or by paying for the environmental externality insurance as a routine operating expense no different than any other insurance expense that is included in the price of goods and services we purchase. It would also be relatively easy to introduce this idea into project decision-making. Because this is neither new environmental regulation, nor taxation, but prudent oversight of economic risk, the environmental externality insurance plan can be implemented through NEPA.

When NEPA was first enacted in 1970 it commanded each agency to "identify and develop methods and procedures ... which will insure that presently unquantified environmental amenities and values may be given appropriate consideration in decision-making along with economic and technical considerations." NEPA § 102(2)(B). NEPA § 102(1) requires that, to the "fullest extent possible," the federal government shall administer regulations and public laws "in accordance with" the policies set forth in the statute. As a first step in finally implementing this requirement, all that is needed is for the CEQ to amend its regulations to require externality valuation and securitization for all decisions for which NEPA documents are prepared. (In my view, this should be required for decisions based on an EA and FONSI, as well as for decisions based on an EIS.) Each federal agency would then be required to make corresponding changes in its NEPA regulations or implementing procedures.

To ensure that implementation is effective and that obligations are enforced, NEPA should be amended to add a citizen's suit provision, now almost standard in other environmental laws, that would allow citizens to sue the government for failing to perform a nondiscretionary duty (e.g., failing to include specific, secured, measurable externality valuation criteria in EISs and project approvals) and to sue private persons as private attorneys general to enforce explicit, quantified, externality conditions when the government fails to do so. These simple changes would preserve the government's decision-making discretion, but would improve the quality of each decision by making the decision-maker and the project proponent accountable for the decision. Even in the absence of revised regulations, lawyers representing government, the private sector, and public interest participants in the NEPA process can advance ecosystem management by beginning to develop measurable environmental externality criteria with which to evaluate development projects.

This proposal would combine the substantive goals of NEPA with the traditional risk shifting skills of lawyers and the emerging discipline of environmental externality valuation. From post-project monitoring and feedback, ecological lessons can be learned, and externality measurement criteria can be refined, which in turn will result in better information for project evaluators considering project designs and alternatives. In so doing, law will be the engine that both defines and implements sound ecosystem management for our nation and the world.

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