

CONCLUDING PERSPECTIVE

The Challenge for Those Assessing Environmental Impact: Finding Our Way—Not Always a Linear Path

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To a new National Environmental Policy Act (NEPA) practitioner, there is first the process. NEPA is more than a document, although that seems to be the focus. There is the decision on what type of document, or is it a categorical exclusion? There is the scoping for issues and alternatives. There are the purpose and need, as well as alternatives that can meet the purpose and need. And then there are the impacts.

The list of topics that must be addressed can be overwhelming because the human environment is very broad. The human environment, in case the practitioner is thinking about narrowing the scope, is further defined to include the natural and social contexts. No one can be an expert on all topics to be addressed. As a result, the project manager tends to assign components to disciplinary experts, who write the text for their sections. Then the project manager's task becomes finding a writer, or, perhaps worse, somehow integrating these disparate approaches into a coherent narrative that supports a decision. The bundle of topics to be addressed and the inherent uncertainties in the process make the project proponents uncomfortable. The project proponents know the answer and what they want to do. Taking a hard look and considering alternatives can cause a delay on the linear path from problem formulation to project construction, but those involved in most projects know that there is never a linear path.

Nevertheless, attempts to flow-chart the NEPA process often show a linear path and focus on the development of a document. If all that is required is a document, then surely the process can be streamlined, rigid time lines established, and certainty provided for a project proponent. Unfortunately, NEPA processes seem to resist this streamlining because NEPA really is a decision process, despite efforts to

see it as a writing exercise. If a right turn is expected, the review process might veer left or elsewhere before it can be completed. The challenge to the practitioner is to be a manager for an unpredictable project. This is especially difficult because the NEPA practitioner is usually not the decision maker. The decision maker, even if a hands-on person, cannot possibly be aware of the nuances and the thousands of decisions that the analyst makes while compiling a report.

The uncertainty of NEPA and the related permitting results in calls for more certainty. When something takes longer than expected, proponents complain. The project proponents contend that if only there were better project management, if only there was a definite time line, or if only the process was streamlined, then all would be well.

The Cookbook Approach

The first impulse for streamliners of NEPA is to create a cookbook (checklist). NEPA cookbooks exist for most agencies, and many practitioners use them. This seems efficient because it is based on available information and places everyone on the same page, all doing the same analysis, leading to certification and approval of that analysis. While a one-size-fits-all approach is not usually feasible, we should know enough to predict a range of completion times with variances for extenuating circumstances (Keys, Cantor, and Senner, 2011). Unfortunately, the environmental impact statement (EIS) for a large, controversial project is never simple or short, so the analyst has to anticipate complexity and difficulty.

In some cases, a more prescriptive approach may be acceptable. Since NEPA began 45 years ago, each federal agency has evolved its own idiosyncrasies, so it will likely be hard to force everyone into the same format and time line.

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Not all resources are relevant to every project. New or different resources and concerns need to be considered for other projects. Our understanding of both the natural and the social environments changes over time. We need to be cautious about a tendency to focus on a good *process* when the *product* is what really matters (Cockerill, 2010). A checklist is useful but alone insufficient to achieve a major purpose of NEPA—to make better decisions.

The Problem of Significance

There is an almost intense need to avoid talking about significance in many NEPA documents. The easiest way to do this is to defer to other laws and regulations. As long as a project complies with the Endangered Species Act, National Historic Preservation Act, Clean Air Act, Clean Water Act, and the like, and those permits and concurrences are going to be issued by other agencies, then the environmental analysis seems to be on the way to a speedy, streamlined conclusion.

Certainly, regulatory violations or adverse impacts to endangered species or historic sites eligible for the National Register of Historic Places are signs that there might be NEPA significance, but state-listed species, locally valued features, and a wide variety of other ecosystem components need to be recognized also. What is missing from significance discussions is often an identification of special areas, thresholds, and locally valued components.

When dealing with the generic list of issues, there is a tendency to describe the common elements of the resources and indicate their potential presence. This is somewhat helpful but not the entire story. To begin to go further, the environmental impact assessment (EIA) needs to consider the conservation footprint of the area in question. This footprint includes the collection of acreage in national parks, national forests, wildlife refuges, and other lands (Samson, 2013). Some of these would no doubt be special areas that need to be considered in the analysis, but beyond the conservation footprint are other areas that are not protected but perhaps should be. The identification of *special areas* needs to be a function of future NEPA analyses. These areas may be special because of botanical, zoological, geological, historical, archaeological, or local cultural considerations. In many cases, these areas can be identified only through public and agency consultation, which also tends to be minimized in the rush to address the regulated resources. Significance can be identified through local knowledge and a local site visit to better understand the setting. Special areas can be similar to, or the same as,

valued ecosystem components, the identification of which needs to be a bigger part of EIAs to increase the confidence that the decision maker has it right. What is unique about this area and how will your project affect it?

Thresholds and Green Infrastructure

The issue of *thresholds of significance*, which are something else that many agencies and practitioners avoid considering, is actually an area where more prescriptive guidance would be useful. Ecosystem assessments, watershed assessments, and Department of Interior Landscape Conservation Cooperative assessments, all of which are rarely used now, need to be referenced and used in NEPA documents. These documents alone may not include thresholds but can point the way to what is important and aid in the effort to define thresholds. The practitioners of large-scale landscape conservation need to recognize that NEPA can point them toward the common direction they are seeking.

NEPA as a federal planning process needs to play a role in establishing green infrastructure on a landscape scale (Allen, 2012). *Green infrastructure*, although often minimally defined as bicycle trails, actually has three levels: Level 1 is the site scale and includes low-impact development, urban forestry, and storm-water management. Level 2 includes green space for water quality and greenways for recreation. Level 3 is green infrastructure for species habitat and wildlife corridors (Allen, 2012). Landscape-scale initiatives, which are based on landscape ecology and conservation biology principles, include cores, hubs, and corridors. One reason this level of analysis is needed in NEPA documents is because climate change is expected to cause species and habitats to relocate. The location of disruptive projects along potential migration corridors is a consideration that needs to be analyzed prior to a decision to go forward with a project (Lerner and Allen, 2012).

Cumulatively Speaking

In controversial projects where there is scientific uncertainty, more data can always be collected. However, to meet the need for timely decisions, NEPA has to rely on current data. Over a career, NEPA analysts are involved in far too many projects in which they have not been made fully aware of the natural and human settings (the context) of the action because technical specialists are sent to conduct field reviews that focus on only one issue. NEPA is a big-picture activity, not a one-resource activity. It is not even an activity

in which there is only one standard list of resources. Analysts can rely on published information or database information from reliable resources, but there is no substitute for a field tour with stops at sites of interest. Prior to documentation, analysts must have a good understanding of the natural and human settings.

The overall setting, which has been termed the *region of influence*, sets the stage for the effects analysis. The setting may be defined by ecoregions, physiographic regions, watersheds, human communities, or, preferably, a combination of these. For example, the setting could first be delineated by a broad-scale ecoregion, then by particular watersheds, and then perhaps reduced by a social or economic boundary relevant to where the decision will be effective. Without a good understanding of the setting, it is difficult to evaluate significance or cumulative effects. And without a good definition of the region of influence, the boundaries are not defined and the potential environment for assessment of impacts is too large. To produce effective analyses, the area for analysis of cumulative effects has to be limited by screening measures.

In response to a troublesome court decision, the Council on Environmental Quality (CEQ, 2005) issued guidance on the use of past actions in cumulative-effects analysis (CEA). In brief, analysts were allowed to focus on identifying the present effects of past actions, not on compiling a catalog of all past actions that might have affected the present environment. However, there is still the problem of identifying present and reasonably foreseeable future actions (RFFAs). This is another area where more prescriptive guidance would at least help get analysts on the same page and develop some uniformity in CEAs.

McGee and Nesbit (2008) suggest that, for effective analysis, analysts should not automatically describe all aspects of the affected environment but instead determine those resources that are actually affected. The first step is to trace out a chain of causation from an action under consideration to a resource of concern. An adequate NEPA analysis should provide reasons for the CEA area delineated for each resource, as well as the analysis timescale. The following sequence of questions can be asked to define a CEA (McGee and Nesbit, 2008):

1. What action is proposed?
2. What resources would be discernibly affected?
3. For each resource affected, what is the current condition and trend derived from past natural and human-induced events?

4. What are the appropriate spatial and temporal scales of analysis?
5. What happens to the current condition if the proposal is not implemented?
6. How do the incremental effects of the proposal change the trajectory of the no-action alternative?

With a better handle on the boundaries of the analysis and catalog of RFFAs, analysts can better use uniqueness and thresholds to identify significance.

Two New Issues

Because NEPA broadly defines the human environment, the list of issues that must be analyzed is subject to change and deletion over time. Two current concerns generating much discussion are climate-change and life-cycle cost-net energy analysis. There is a tendency to place climate under air quality, and life-cycle cost analysis rarely seems to have a home. Because climate includes more than just carbon and methane emissions, its evaluation needs to include more than just air quality. Climate and life-cycle cost should have their own home. Keys, Canter, and Senner (2011) suggest that global change could be placed under the energy-requirements and conservation-potential section, which is usually minimized in EISs or ignored in environmental assessments. Similarly, life-cycle cost analysis could be placed under the natural or depletable resources section, another section that tends to be minimized or ignored.

Both climate science and life-cycle cost analysis include modeling and assumptions that can influence the final outcome of the analysis. In fact, whatever the NEPA analysis, there often will be scientific uncertainty about some issue, so decisions are made often under conditions of some uncertainty. NEPA can disclose uncertainties and enable mitigation, monitoring, and follow-up to ensure that the results anticipated from a decision are realized. Mistakes may occasionally be made, but they will at least be well-informed mistakes. If this is a concern, the precautionary approach of European Union environmental law can be considered. In brief, the precautionary principle states that, in the absence of scientific consensus, the burden of proof that an action is not harmful falls on the proponent. Ultimately, this is likely too strict a standard for mission-oriented agencies and probably also impractical for permitting in the United States, but an explanation of why the precautionary principle is not being used would make for some interesting reading in Records of Decision.

What Needs Improvement

It has been pointed out that the NEPA decision-making process mirrors the seven-step military decision-making process (Keys, Canter, and Senner 2011). In almost every agency, there has been much effort to make projects and their alternatives clearer and the decision documents more useful. The transportation community has made a major effort, now included in the Every Day Counts initiative, to produce reader-friendly documents and to achieve permitting-agency concurrence through NEPA–Section 404 merger processes. The Eco-Logical process of the Federal Highway Administration (FHWA, n.d.) provides a comprehensive project management approach to ensure that all environmental factors are considered in transportation planning, and provides that this information is carried through the subsequent NEPA process. The only problem that I see is that some NEPA-like responsibilities are being placed on the metropolitan planning organizations (MPOs). While time-consuming in the beginning, these processes save time at the end of the project. In addition to the resource agencies, practitioners using NEPA also have to make an effort to consider input from all relevant disciplines, interests, the local people, and indigenous people. NEPA is still weak in its social impact analysis and environmental justice components (Abel and Stephan, 2008). Some sort of cooperative modeling and mapping with participants can help everyone see the limitations of their problem definitions and solutions (Cockerill, 2010). To some extent, this occurs on projects where there is meaningful public involvement and participants develop the trust needed to understand other perspectives. It has occasionally occurred in the West where community groups meet to reach consensus on forest management approaches (US Department of Agriculture, 2012).

Was It a Good Job?

So the federal agency is done, and a Finding of No Significant Impact or Record of Decision has been issued, or the action was determined to be categorically excluded. There may have been some critical comments if a public review was conducted, and, if it was an EIS, the Environmental Protection Agency even reviewed and rated it. But, ultimately, the agency decides for itself whether it did a good job. Perhaps this is the way it has to be, since it was the agency that had to decide whether to take an action. Some other possible models could be considered. For instance, a NEPA document could be approved by both the proponent agency and an independent NEPA expert agency before proceeding. Such an approach would likely be problematic

in the United States, where the second-opinion agency would be seen as having a different agenda. But if it was clear that the second-opinion agency concurred in the quality of the analyses and the appropriateness of the process, this would give the legal defense greater confidence and be helpful in bolstering it. This happens already to a certain extent when more than one agency is taking action on a given project. The cooperating agency is allowed to participate in the review and adopts it as its own, certifying that the analysis was adequate.

The use of mitigation of some sort is assumed in almost every NEPA review. If nothing else, we commit to use of best management practices (BMPs). It is not always clear what these BMPs are, but agencies are getting better at defining their standard NEPA BMP list, which usually includes more than just erosion control or compliance with regulatory standards. Project proponents are usually so happy to be done with the NEPA review that following up on the mitigation is at best an afterthought. Following up on the mitigation is only part of the need.

NEPA is actually a fairly unique futurist exercise where the consequences of several different alternative courses of action are projected over the life of a project. Determining whether these projections were accurate is an important follow-up need, especially for future decision making on the same types of projects. NEPA professionals should follow up on past reviews. How good were they in their projections? What really happened? The need to answer these questions is implied in the NEPA process, but the reality is that agencies move on after the initial process is completed. An independent group of NEPA environmental auditors needs to look over the reviews, providing guidance for future analysts on what was accurate and what was not.

The Ultimate (Impossible?) Challenge

NEPA is not a cookbook with easy-to-follow directions, and it may not always be a predictable process. It is a professional activity where the agency decision makers should be more involved. And, in the end, all concerned should agree that relevant issues were raised, considered, and fully addressed. Perhaps this is impossible. But it is the ultimate challenge to the EIA practitioner.

References

Abel, T.D., and M. Stephan. 2008. Tools of Environmental Justice and Meaningful Involvement. *Environmental Practice* 10(4):152–163.

- Allen III, W.L. 2012. Advancing Green Infrastructure at All Scales: From Landscape to Site. *Environmental Practice* 14(1):17–25.
- Cockerill, K. 2010. Cooperative Modeling to Promote Systems Thinking in Applying the National Environmental Policy Act. *Environmental Practice* 12(2):127–133.
- Council on Environmental Quality (CEQ). 2005, June 24. *Guidance on the Consideration of Past Actions in Cumulative Effects Analysis*. Memo to heads of federal agencies from James L. Connaughton, Chairman. CEQ, Washington, DC, 4 pp. Available at http://www.gsa.gov/graphics/pbs/CEQ_Guidance_Consideration_PastActions_CumulativeEffectsAnalysis.pdf.
- Federal Highway Administration (FHWA). N.d. *Eco-Logical: Webinar Series*. FHWA, Washington, DC. http://www.environment.fhwa.dot.gov/ecological/eco_webinar_series.asp.
- Keys, D.L., L. Canter, and R. Senner. 2011. Strengthening the National Environmental Policy Act of 1969. *Environmental Practice* 13(3):216–226.
- Lerner, J., and W.L. Allen III. 2012. Landscape-Scale Green Infrastructure Investments as a Climate Adaptation Strategy: A Case Example for the Midwest United States. *Environmental Practice* 14(1): 45–56.
- McGee, J., and R. Nesbit. 2008. Proximate Causation and the No Action Alternative Trajectory in Cumulative Effects Analysis. *Environmental Practice* 10(3):107–115.
- Samson, F.B. 2013. Dilemma of the Conservation Footprint: Land Tenure, Self-Constitution, and Orchestrated Regionalism in the United States. *Environmental Practice* 15(2):169–172.
- US Department of Agriculture, Pacific Southwest Region. 2012, February. *Status Report to Congress, FY 2011: Herger-Feinstein Quincy Library Group, Forest Recovery Act Pilot Project* [HFQLG Project]. HFQLG, Quincy, CA, 46 pp. Available at <http://www.fs.fed.us/r5/hfqlg/publications/>.