



Addressing the Environmental Impacts of Large Infrastructure Projects at the Department of the Interior: Making “Mitigation” Matter

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***Synopsis:** The Interior Department has been developing landscape-level management and planning tools to assist in identifying areas for siting major conventional and renewable energy projects, and other infrastructure projects on public lands. The Interior Department is beginning to use the same type of landscape-level reviews that assist in siting projects, or that underlie management plans, to match up project-related mitigation obligations with landscape-level conservation priorities in a region. This approach, particularly if coordinated with similar approaches by other agencies, holds the promise of regularizing, leveraging, and greatly improving the effectiveness of project-related mitigation investments.*

We are in the midst of an unprecedented government-wide focus on infrastructure permitting and development in the United States. Our nation’s energy industry is undergoing a significant expansion across our landscapes. Large, utility-scale solar and wind projects are springing up around the country, thousands of new oil and gas wells are being drilled each year on public and private lands throughout the nation, and new pipelines and electric transmission lines traversing the country are under construction, or are on the drawing boards. Meanwhile, bridges, roads, transit systems and other key infrastructure are being built, restored or replaced in every corner of our nation.

By definition, major infrastructure projects impact our landscapes. While avoiding and minimizing the impacts of infrastructure projects must continue to be the first option of project developers and reviewers, some projects may not be able to avoid the filling of wetlands, the disruption of wildlife corridors or other sensitive habitat, or negative effects on special areas in our National Parks, National Forests or BLM lands. Impacts may be felt for many years for some projects, and permanently for others.

When large infrastructure projects are proposed to cross federal lands or otherwise trigger federal permitting or review requirements, federal agencies must analyze their potential environmental impacts. In their analysis, a theoretical “mitigation hierarchy” is then applied to the proposed infrastructure, with project proponents expected to avoid or reduce potential impacts in the first instance and then, for unavoidable impacts, provide

compensation by sponsoring “mitigation” projects that are deemed to be reasonably equivalent to the damaged environmental values.

Theory and Reality Diverge

The concept of a mitigation hierarchy, and the expectation that project proponents will make meaningful conservation investments that help make up for unavoidable environmental impacts is sound, but its implementation has been uneven. All too frequently, the mitigation piece of the permitting puzzle has been an after-thought, with project proponents and permitting authorities alike giving limited, late, and inconsistent attention to mitigation requirements. While systems are in place to measure and address wetlands and some endangered species impacts, other types of environmental impacts are dealt with on an ad hoc basis, or not at all. The result is that mitigation often is piecemealed, with project proponents responding to a set of varied and unpredictable requests from agencies that may, or may not, generate meaningful environmental benefits.

Few are happy with this state of affairs. Even though infrastructure project applicants typically recognize their obligation to mitigate for unavoidable environmental impacts as part of their project planning, it is often difficult for them to determine exactly what mitigation will be required, and rarely is there an adequate dialogue with regulatory agencies about how best to effectuate such mitigation. Instead, project proponents face an unpredictable set of requirements and costs associated with compensatory mitigation that are only revealed late in the game, when financing is already settled and avoidance is no longer a cost-effective option.

On the other side of the coin, over-burdened permitting authorities do not find the exercise satisfying either. Often lacking broader guidance from headquarters, regional staff typically take well-worn paths that focus on those types of impacts that are well codified – wetlands and listed species in particular – while giving shorter shrift to other types of impacts on land, water and wildlife.

Interior’s Mitigation Strategy: Developing a New Framework

The major push for new infrastructure now underway provides an opportune time to address these long-standing frustrations and missed opportunities. The Department of the Interior – which plays a major role in permitting many large renewable and conventional energy generation projects, transmission projects, and water projects, among others – is taking steps to regularize and improve the mitigation evaluation and implementation process for projects under its purview. In so doing, Interior is ushering in a new mitigation approach that holds the promise of converting mitigation from an afterthought to a central tenet of project planning and execution – to the great benefit of both the infrastructure that we are building and the overall environment.

There are two key elements to the new mitigation strategy that the Interior Department is putting into place. First is a concerted commitment to enter into early discussions with project proponents regarding key design features of proposed projects, so that agencies can identify serious and potentially project-threatening environmental impacts on the

front end. In this way, siting and other design features of major projects can be adjusted to account for serious agency concerns before applicants invest heavily in problematic project features. To inform these decisions, and to integrate early analysis in a programmatic way, DOI's landscape-level planning efforts have been leveraged to facilitate smarter siting and avoidance of critical resources.

Second, for those environmental impacts that cannot be avoided, the Interior Department is applying new tools that will facilitate meaningful, landscape-level mitigation investments in sensitive areas while, at the same time, enable agencies to guide impactful development to the most appropriate areas. More specifically, because Interior's land management and wildlife agencies have been actively collecting data and developing integrated management strategies on a landscape level, as chronicled below, the Department and its partners are well-positioned to identify restoration and conservation needs on a regional basis. Mitigation obligations for infrastructure projects in a given region can then be coordinated with real restoration or conservation needs in the same region. The results will be better for both companies and the environment: project proponents' mitigation dollars will go towards meaningful, landscape-level environmental needs – rather than small-bore and/or ad hoc mitigation efforts – and on-going public and private investments in more significant, regional restoration or conservation needs will get a boost from project-related mitigation dollars.

I. Early Review of Proposed Projects to Avoid or Minimize Environmental Impacts

The first key step in reinvigorating the “mitigation hierarchy” is for permitting agencies and project proponents to give more serious attention at an early stage – *before* the project proponent has committed to specific project features – so that meaningful siting and design adjustments can be made to avoid or minimize environmental conflicts.

The best example of this approach is the early review process that our Department has engaged in over the past four years in siting a large number of complex, large-footprint, renewable energy projects on public lands that we manage. For example, proceeding under a Memorandum of Understanding with California Governor Schwarzenegger and then Governor Brown, and with the full cooperation of developers, utilities, and conservation organizations, promising renewable energy projects in California have been subject to a collaborative review process that enables federal and state regulatory agencies to approach project proponents on a unified basis to identify serious environmental concerns early in the process. The joint federal/state “Renewable Energy Action Team” has provided the forum for early discussions regarding siting and other design features for wind and solar projects in California, triggering significant changes in some proposed projects and paving the way toward a smoother and less divisive permitting process.

After successfully test-driving this early review approach in the context of the Administration's renewable energy project push, the President called on all agencies to pursue this approach in his 2012 Infrastructure Permitting Executive Order 13604. The Executive Order specifically notes that agencies should integrate their evaluation of potential environmental impacts “into project planning processes so that projects are

designed appropriately to avoid, to the extent practicable, adverse impacts on public health, security, historic properties and other cultural resources, and the environment, and to minimize or mitigate impacts that may occur.”¹

The Interior Department is striving to follow this path on a more consistent and cross-agency basis. In many cases, the key is to have serious agency/applicant discussions prior to – and during – the process of preparing environmental impact statements under the National Environmental Protection Act. All agency hands need to be on deck early, along with flexible and cooperative project applicants, so that potential issues will be flagged and, hopefully, shaped by candid and productive agency/applicant discussions, before the full EIS process begins in earnest.

II. Off-Site Mitigation: Syncing up Landscape-level Management Initiatives and Infrastructure Mitigation Obligations

The second initiative underway at the Interior Department is to make more effective use of mitigation-related obligations arising due to unavoidable environmental impacts from infrastructure projects. This initiative grows out of our recognition that mitigation dollars often are not spent in the most environmentally effective way because either (1) government land managers, companies, or NGOs have not identified high-value restoration or conservation needs near the location of proposed projects; or (2) in those regions where there already is a focus on landscape-level restoration or conservation needs, government authorities are not “connecting the dots” and seeking to apply project-related mitigation obligations to those needs.

The potential benefits of providing companies with an opportunity to apply and leverage their mitigation obligations toward higher-profile, regional restoration or conservation needs is enormous – for the companies, who want their mitigation to be spent in a meaningful way, and for land managers and communities, who are looking to leverage investments in important restoration or conservation projects.

Once again, the President’s infrastructure Executive Order is showing the way, and encouraging the Interior Department and other agencies to combine landscape-level planning exercises and project mitigation strategies. As stated in the Federal Plan Implementing Executive Order 13604, Departments are called upon to “identify opportunities to integrate intra- and inter-agency mitigation processes to expedite project review and encourage large-scale—watershed, regional or landscape-level—mitigation planning, where appropriate and feasible.”²

The Department of the Interior’s implementation plan under the Executive Order accepts the challenge and notes that DOI already is “foster[ing] inter-agency collaboration” on a

¹ Executive Order 13604—Improving Performance of Federal Permitting and Review of Infrastructure Projects (<http://www.gpo.gov/fdsys/pkg/DCPD-201200202/pdf/DCPD-201200202.pdf>)

² *Implementing Executive Order 13604 on Improving Performance of Federal Permitting and Review of Infrastructure Projects: A Federal Plan for Modernizing the Federal Permitting and Review Process for Better Projects, Improved Environmental and Community Outcomes, and Quicker Decisions* (http://www.permits.performance.gov/sites/all/themes/permits2/files/federal_plan.pdf)

number of fronts, “including the Solar Programmatic Environmental Impact Statement [the ‘Western Solar Plan’]; the Geothermal Environmental Impact Statement; the Desert Renewable Energy Conservation Plan; the Arizona Restoration and Design Energy Project; BLM’s Rapid Ecological Assessments and the Sage-grouse Habitat Conservation and Planning Strategy.”³ Indeed, as discussed below, BLM has gone one step further in proposing a new mitigation manual that encourages that the nation’s largest land manager – BLM – to apply a suite of off-site mitigation tools, including a new emphasis on regional mitigation strategies and planning, so that project-based mitigation dollars can be spent more effectively.

Connecting the Dots Between Mitigation Obligations and Regional Restoration and Conservation Needs

For a variety of reasons that I recently described in a speech at Stanford’s Lane Center for the American West, federal, state, and tribal authorities – working with communities, NGOs and other interested parties – are engaged in an unprecedented number of landscape-level management and planning exercises.⁴ Many of these are the same landscapes in which large new infrastructure projects are being planned or built. The trick now is to connect the dots, and better match up the restoration and conservation needs these integrated landscape-level management and planning exercises are identifying with project-based mitigation obligations related to the siting of major infrastructure projects in those regions.

Examples of landscape-level initiatives that are assisting in the siting of new projects in lower conflict areas, *and* in identifying regional mitigation needs that might provide a good match for those projects’ mitigation obligations, include:

- **Western Solar Plan.** Through its Western Solar Plan, BLM has reviewed landscapes in six southwestern states and identified “solar energy zones” that have fewer environmental conflicts, access to transmission, and other features that make them particularly suitable for solar project development and attractive to project developers. Importantly, the Western Solar Plan calls on BLM and its partners to identify regional mitigation opportunities that can be paired with solar energy zones, so that applicants who are siting projects in solar energy zones can invest their mitigation dollars in meaningful, landscape-scale needs in the region. In this way, project-specific mitigation obligations can be directed into larger and more meaningful investments that mesh with broader environmental restoration and protection investments that federal and state governmental authorities, tribes, local communities, NGOs, and others may be prioritizing.
- **Desert Renewable Energy Conservation Plan.** The Interior Department’s Bureau of Land Management (BLM) and Fish & Wildlife Service are working with the California Energy Commission, the California Department of Fish and Wildlife, and other state, local and tribal partners in developing the Desert

³ Department of the Interior Agency Plan Implementing Executive Order 13604 on Improving Performance of Federal Permitting and Review of Infrastructure Projects (<http://www.doi.gov/news/pressreleases/loader.cfm?csModule=security/getfile&pageid=359605>)

⁴ See http://west.stanford.edu/sites/default/files/DJHayes_Lane_Center_Speech-20130430.pdf

Renewable Energy Conservation Plan – an ambitious plan covering more than 20 million acres in the Mojave Desert in California that identifies “development focus areas” for project development, on the one hand, and conservation lands that should be protected from development, on the other hand. Mitigation is being baked into an integrated, landscape-level management and planning exercise that is driven by the need to site large renewable energy projects in future years in southern California.

- **Rapid Eco-regional Assessments.** Interior’s BLM has launched fourteen Rapid Eco-regional Assessments (REAs) since 2010 that examine ecological values, conditions, and trends within large ecoregions, such as the Sonoran Desert and the Colorado Plateau. REAs span administrative boundaries and include both public and private lands. They identify regionally important habitats for fish, wildlife, and species of concern and gauge the potential of these habitats to be affected by four overarching environmental change agents: climate change, wildfires, invasive species, and development (both energy development and urban growth). At the same time, REAs also help identify areas that do not provide essential habitat, that are not ecologically intact or readily restorable, and where development activities may be directed to minimize impacts to important ecosystem values.
- **The WGA’s Crucial Habitat Assessment Tools.** The Western Governors Association has been working for several years on a project that is developing Crucial Habitat Assessment Tools (CHATs) to identify wildlife corridors and other key habitats that need priority attention. CHATs develop landscape-level data that, much like the BLM’s Rapid Eco-regional Assessments, can help direct new projects to lower conflict areas, while also identifying regional restoration or conservation needs that are good candidates for mitigating project impacts.
- **Sage Grouse Habitat Protection Plans.** The Interior Department and other federal and state authorities are devoting significant attention to the habitat needs of greater sage grouse in 11 western states in a coordinated planning effort designed to obviate a potential listing of sage grouse under the Endangered Species Act or to reduce the impact if listing is necessary. In concert with the federal land management planning, states are developing landscape-level plans that identify sage grouse strongholds and related sage grouse habitat protection strategies. This extensive, science-driven planning exercise potentially could provide a road map for impactful mitigation-related investments for project developers who potentially may be impacting sage grouse habitat (e.g., transmission lines; oil and gas and wind developments).
- **Working Lands for Wildlife.** The Fish & Wildlife Service and the U.S. Department of Agriculture’s Natural Resources Conservation Service are investing federal dollars in wildlife protection needs for imperiled species on working landscapes – from the greater sage grouse and the lesser prairie chicken to the gopher tortoise and New England cottontail.

There are other landscape-level management exercises that provide similar opportunities. By way of example, the Interior Department, working in partnership with the U.S. Forest Service, has instituted a new approach for allocating a significant percentage of its Land & Water Conservation funds to focus on the most deserving and in-need landscapes. When infrastructure is proposed to be sited in these regions, mitigation dollars can potentially be matched up with public LWCF monies to create a more significant environmental benefit.

Similarly, a massive interagency process is underway to address long-standing restoration needs in the Gulf of Mexico, following the Deepwater Horizon oil spill. With so much expertise being focused on sound restoration investments in the Gulf, there may be significant leveraging available for off-site project mitigation dollars from the region.

Finally, land, water and wildlife managers at all governmental, tribal and NGO levels are using Interior Department-supported Landscape Conservation Cooperatives and regional Climate Science Centers around the country to better understand conservation challenges in their regions and to identify adaptation and resilience investments that can address such pressures – investments that project mitigation dollars might be appropriately directed toward.

The challenge – and the opportunity – is to sync up mitigation obligations with these landscape-level assessment and planning exercises, so that restoration and conservation needs identified through landscape initiatives can be addressed, in part, with mitigation dollars from projects in the region.

DOI is establishing the policy framework to accomplish this mission. The agency plan issued by the Department under the President’s infrastructure Executive Order, for example, explicitly makes this point:

“DOI remains focused on prioritizing investments which are likely to preserve and enhance mitigation benefits over time; facilitate adaptive management; address and mitigate for distinct or unique assemblages of species or communities or locations that provide valuable ecosystem services; and that contribute to the permanence of conservation protections. **To promote the implementation of these principles across projects, DOI will continue to use current landscape-level planning initiatives... to identify sensitive habitats and landscape-scale mitigation opportunities in these regions.**” (Emphasis added.)

BLM’s recently-released draft mitigation “instruction memorandum” expands even further on these points. It urges BLM managers to adopt a “regional mitigation approach” that “shifts the BLM’s mitigation focus from a permit-by-permit perspective to a landscape-scale planning perspective.” As BLM explains: “This landscape-scale planning perspective will enhance the BLM’s consideration of mitigation at the project level and afford greater certainty to permit applicants, partners, stakeholders, and the public.”⁵

⁵ Bureau of Land Management IM 2013-142, Interim Policy, Draft Regional Mitigation Manual Section 1794(http://www.blm.gov/wo/st/en/info/regulations/Instruction_Memos_and_Bulletins/national_instruction/2013/IM_2013-142.html)

New Tools

New tools are being developed to undertake regional mitigation planning, and to identify restoration and conservation needs within the framework of landscape-level initiatives. Greater use of GIS mapping techniques, for example, is emerging as an indispensable tool in this regard. BLM's Rapid Eco-regional Assessments, for example, are providing sophisticated mapping of regional environmental hot-spots. The Western Governors Association is using Crucial Habitat Assessment Tools to map out sensitive wildlife corridors and other key habitats. And Interior is deploying a new GIS-based "Landscape Decision Tool" to provide senior decision-makers with the geospatial information they need to identify conflicts and resource imperatives on a regional level.

An open question is whether key investments in regional restoration or conservation needs can be "banked" in some way, and then made available for mitigation credits for area infrastructure projects. Wetlands banks work. Can they be expanded to provide more broad-based mitigation banks? Should we encourage private parties and foundations to get into the business of investing in sensitive landscapes with the expectation that (at least some) project-related mitigation dollars will likely be matched up with such sensitive landscapes? And what is a sound way to measure relative mitigation needs for a specific project against regional investments?

Finally, are there additional, statute-specific tools that might be used to facilitate the matching up of mitigation requirements and landscape-level planning exercises? For example, when federal agencies' actions may impact endangered species, such agencies typically take specific mitigation actions that the Fish & Wildlife Service specified in biological opinions or permits issued under the Endangered Species Act. Rather than responding to time-intensive, one-of-a-kind mitigation requests, can landscape-level species needs be identified and addressed through prior planning (e.g., through implementation of detailed ESA recovery plans or the type of landscape-level planning exercises identified above), thereby opening the door to more broad-based and effective regional mitigation opportunities under the ESA? And, given the keen interest in addressing the habitat needs of the greater sage grouse ahead of a potential listing of sage grouse in 2015 under the ESA, should companies and landowners who invest prospectively in measures to protect sage grouse habitat receive anticipatory mitigation credit or some other type of incentive for such investments?

III. Conclusion

The unprecedented attention that the Interior Department is devoting to landscape-level management and planning is not only improving the siting process for major energy and other infrastructure projects, but it also is providing tools to reduce project impacts and, for impacts that are unavoidable, to apply project-related mitigation obligations to important regional restoration and conservation needs. Understood in this light, mitigation obligations should no longer receive "limited, late, and inconsistent attention." Instead, mitigation investments can and should be leveraged with other public and private funds to generate major, landscape-level benefits in each region of the country.