

Department of the Interior Departmental Manual

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Series: Public Lands

Part 604: Landscape Scale Management

Chapter 3: Landscape-level Mitigation Policy

Originating Office: Office of Policy Analysis

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3.1 **Purpose.** This chapter establishes Department of the Interior (Department) policy and provides guidance on how to mitigate adverse impacts resulting from activities authorized, funded, or carried out by Bureaus or Offices to manage resources using landscape-level considerations and processes.

3.2 Scope.

A. This chapter applies to the Department and its component Bureaus and Offices. This chapter does not replace existing authorities or regulations.

B. This chapter does not apply:

- (1) where the Secretary of the Interior (Secretary) does not have discretionary control over, or otherwise lacks authority to manage, the resources in furtherance of this chapter;
- (2) when implementation costs are reimbursable under Reclamation laws; and
- (3) to the Office of the Inspector General.

3.3 **Authorities.** The Department's landscape-level mitigation functions are consistent with the following authorities:

- A. National Environmental Policy Act (NEPA) of 1969, 42 U.S.C. § 4321 et seq.
- B. Fish and Wildlife Coordination Act, 16 U.S.C. § 661-667(e).

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- C. Endangered Species Act, 16 U.S.C. § 1531 et seq.
- D. Federal Land Policy and Management Act, 43 U.S.C. § 1701 et seq.
- E. Archaeological Resources Protection Act of 1979, 16 U.S.C. § 470aa-mm.
- F. Clean Water Act, 33 U.S.C. § 1251 et seq.
- G. National Historic Preservation Act, 54 U.S.C. § 300101 et seq.
- H. National Wildlife Refuge System Administration Act, 16 U.S.C. § 668dd et seq.
- I. Migratory Bird Treaty Act, 16 U.S.C. § 703-7120.
- J. Bald and Golden Eagle Protection Act of 1940, 16 U.S.C. § 668-668c.
- K. Fish and Wildlife Conservation Act, 16 U.S.C. § 2901-2912.
- L. The Wyden Amendment, 16 U.S.C. § 1011.
- M. Paleontological Resources Preservation Act, 16 U.S.C. § 470aaa, et seq.
- N. Foundations of Evidence-based Policymaking Act, Public Law 115 – 435.
- O. Information Quality Act, Public Law 106–554.
- P. Mineral Leasing Act of 1920, as amended, 30 U.S.C. § 181 et seq.
- Q. Outer Continental Shelf Lands Act, 43 U.S.C. §1331 et seq.
- R. National Landscape Conservation Systems (NLCS, Organic Act), 16 U.S.C. § 7201 et seq.
- S. National Park Service (NPS) Organic Act of 1916 and General Authorities Act of 1970, 54 U.S.C. §100101.
- T. Uniform Relocation Assistance and Real Property Acquisition Policies Act, as amended, 42 U.S.C. 4601 et seq.

3.4 Definitions.

- A. Adaptive management - Adaptive management is a decision-making

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process that emphasizes learning by doing and incorporates adjustments in response to new evidence and changes in context. Adaptive management is analogous to evidence-building (see definition below) on a project basis, rather than program or policy basis.

B. Additionality - Additionality means that the benefits of a mitigation measure improve upon the baseline conditions of the impacted resources in a manner that is demonstrably new and would not have occurred without the mitigation measure.

C. Durability - Durability is the assurance that mitigation measures are fully effective in addressing an adverse impact for the duration of that impact or longer.

D. Evidence-building - Evidence-building is the process of defining desired outcomes for programs, carrying out the programs, and evaluating evidence (i.e., data, statistics, and other ways of knowing) about successes and challenges relative to the outcomes to learn and adapt. Evidence-building is analogous to adaptive management but is focused on the program and policy level.

E. Habitat equivalency analysis - Habitat equivalency analysis is a method used to determine how much restoration is required to offset adverse impacts, typically focused on at the local level and including time required for ecological functions to be recovered.

F. Heterogeneity - Heterogeneity means variation in resources in space and time. In the context of landscape-level mitigation, it means the tapestry of variation in natural and cultural resources that may be adversely impacted or compensated.

G. High-Quality Information - For the purposes of this chapter, high-quality information is information that promotes reasoned, fact-based agency decisions. Specifically, if the information is relied upon or disseminated by Department Bureaus or Offices, the information must meet the standards for objectivity, utility, and integrity set forth in the Department's Information Quality Guidelines or be exempt from meeting those standards under one of the exemptions set forth in the Guidelines.

H. Indigenous Knowledge (IK) - The following are generally agreed upon universal concepts that are often used to describe Indigenous Knowledge. IK is a body of observations, oral and written knowledge, innovations, technologies, practices, and beliefs developed by Indigenous Peoples through interaction and experience with the environment. It is applied to phenomena across biological, physical, social, cultural, and spiritual systems. IK can be developed over millennia, continues to develop, and includes understanding based on evidence acquired through direct contact with the environment and long-term experiences, as well as extensive observations, lessons, and skills passed from generation to generation. IK is developed, held, and stewarded by Indigenous Peoples and is often intrinsic within Indigenous legal traditions, including customary law or traditional governance structures and decision-making processes. Other terms such as Traditional Knowledge(s), Traditional Ecological Knowledge,

Genetic Resources associated with Traditional Knowledge, Traditional Cultural Expression, Tribal Ecological Knowledge, Native Science, Indigenous Applied Science, Indigenous Science, and others, are sometimes used to describe this knowledge system. This chapter uses the term IK throughout.

I. Indigenous Peoples – Indigenous Peoples refers to people of Native American, Alaska Native, Native Hawaiian, Pacific Islander (e.g., American Samoans, Chamorros and Carolinians of Guam and the Northern Mariana Islands, and others), and Caribbean Islander (e.g., Taíno and others) descent, and others whose ancestors have occupied what is now known as the United States and its territories since time immemorial, including members of Tribal Nations.

J. Landscape - For the purpose of this chapter, a landscape is a spatially heterogeneous mosaic of interwoven and interacting natural and human systems, terrestrial and aquatic (including marine), typically characterized by a set of common management concerns and not specific or single geographic extent.

K. Landscape equivalency analysis - Landscape equivalency analysis is a landscape-level extension of standard habitat equivalency analysis that explicitly integrates local and regional ecological dynamics in offset calculations.

L. Landscape-level mitigation - Landscape-level mitigation means an approach to mitigation that takes landscape-level processes and considerations into account in planning, implementation, monitoring, and adaptive management of actions.

M. Landscape-level processes and considerations - Landscape-level processes and considerations are the set of issues or characteristics that arise or operate across landscapes, and rarely, if ever, can be characterized at local or global levels.

N. Managed resources - For this chapter of the Departmental Manual, managed resources are defined as the natural and cultural resources over which the Department or its Bureaus or Offices have jurisdictional authority and an obligation to protect, conserve, or manage for current and future generations. Such authorities may be direct or may be authorities to enter into agreements with other entities to manage in a coordinated fashion at landscape levels.

O. Metapopulation, metacommunity, metaecosystem - A metapopulation, metacommunity, or metaecosystem are a set of populations, communities, or ecosystems

(respectively) distributed as a set of relatively discrete patches on a landscape, connected by dispersal of individuals and energy and material flows among the patches.

P. Mitigation - Mitigation is any measure(s) taken to make the effect of an action less severe, dangerous, or damaging to a resource or process.

Q. Mitigation hierarchy - The mitigation hierarchy specifies the preferred order of approaches to mitigation for most cases: to avoid, minimize, or compensate for the adverse impacts of an action. The hierarchy may be deviated from in limited circumstances.

R. Mitigation translocation - Mitigation translocation is the movement of individuals or amount of a natural or cultural resource in the face of an impending harmful action. The immediacy of the action differentiates it from translocations that are part of standing conservation plans for the resource(s).

S. Natural Capital Accounting - Natural capital accounting and associated environmental-economic statistics are organized data that enable measurement of the quantity and value of natural assets, connecting their services to the economy and human wellbeing, and tracking changes in these values through time.

3.5 Policy. It is the policy of the Department to take a landscape-level approach when mitigating the adverse impacts to managed resources from actions carried out, permitted, reviewed, or funded by the Department or its Bureaus or Offices, to the extent that authorities allow or require. This policy is intended to help the Department advance its mission and improve or maintain the status of managed resources through its variety of programs and approaches, including mitigation. To ensure progress toward the conservation goals of affected managed resources, Departmental Bureaus and Offices will develop, use and document landscape-level monitoring, adaptive management, decision-making, and evidence-building.

3.6 Principles. The following principles of landscape-level mitigation planning, implementation, and monitoring shall, to the maximum extent practicable, be used when implementing the policy in Section 3.5:

A. Coordination. Individual mitigation measures should be proposed, reviewed, approved (if suitable), carried out, and monitored in coordination with other actions impacting managed resources. This should include:

(1) Evaluating and integrating individual mitigation measures with landscape-level resource conservation and development plans.

(2) Ensuring coordination across Departmental Bureaus and Offices and coordination with other federal agencies, states, Tribes, Indigenous communities, local governments, and non-governmental parties including landowners working in the landscape(s) of interest.

(3) Considering the full suite of mechanisms for advancing conservation outcomes, such as restoration, area-based protections or conservation, the protection of ecosystem services through agreement or acquisition, and other actions.

(4) Using programmatic approaches to planning and regulatory compliance, as appropriate. This principle does not require that individual mitigation measures be approved in any instance by relevant landscape-level coordinating bodies, but that analysis of site-specific mitigation measures are actively and explicitly linked to landscape-level efforts.

B. Connectivity. Individual mitigation measures should be explicitly evaluated for the effects of the action and any mitigation on connectivity at the landscape level. This may include:

(1) The presence, arrangement, and protection of habitat corridors, aerial or aquatic dispersal pathways, or other factors that support or impede connectivity at both the impact site and the mitigation site.

(2) How the adverse impact and mitigation measures may affect metapopulation, metacommunity, or metaecosystem dynamics.

C. Heterogeneity. Individual mitigation measures should include explicit evaluation of whether the action and mitigation measures substantially increase, decrease, or otherwise modify the heterogeneity of the impacted resources at the landscape level. This should include evaluating changes in the distribution of heterogeneity.

D. Timing. Evaluating the potential effects should include considering the role of timing of the action or mitigation measures at the landscape level. This may include:

(1) Time required for the resource or process to be created or recovered, such that mitigation conducted in advance of the anticipated impacts of the action will generally be preferred as a means to avoid temporary loss of the resource or process;

(2) Timing related to regular natural cycles of the affected resources, such as seasonal patterns of life history or resource accessibility; and

(3) The potential costs or benefits of delaying individual mitigation measures to pool financial resources across the landscape for greater benefits to the resources.

E. Landscape-level application of local mitigation concepts. Several concepts related to the policy and practice of mitigation have been developed at local scales yet have landscape-level implications that should be actively evaluated and documented. These include:

(1) Mitigation hierarchy. Evaluation and selection of individual mitigation measures should generally follow the mitigation hierarchy for landscape-level processes and considerations. Specific circumstances may exist that warrant an alternative from the avoid-minimize-compensate sequence.

(2) Equivalency analysis. Landscape equivalency analysis or a similar approach should be used, when available, to integrate the spatial context of local actions with regional processes as part of other resource or habitat equivalency analysis.

(3) Durability. The durability of the mitigation measures as they relate to the landscape-level distribution and functions of resources should be assured.

(4) Additionality. Individual mitigation measures should be additional within the context of the applicable landscape, consistent with the definition of additionality in this chapter.

(5) Substitutability. Evaluation and selection of individual mitigation measures should consider the substitutability of the affected resource at the landscape level and give stronger preference to avoiding and minimizing adverse impacts to those managed resources or landscape characteristics that are not easily substituted.

(6) Mitigation translocation. Mitigation translocation may be used to reduce the adverse impacts to managed resources but should be done through existing landscape-level translocation plans and monitored for effectiveness for managed resources.

(7) Research and education. Research or education that are directly linked to reducing threats or provide a quantifiable benefit to the impacted managed resources may be included in a suite of mitigation measures implemented.

(8) Approach. Evaluation of individual mitigation measures should include different approaches to achieving desired outcomes at the landscape level. This may involve considering approaches other than kind-for-kind compensation, provided the approach results in the desired outcome for the managed resource at the landscape level.

F. Sources of knowledge. The best available knowledge and evidence, consistent with High Quality Information standards, must be used to increase the likelihood of effective landscape-level mitigation. This may include:

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(1) Using the best available scientific and commercial data, methods, and results to inform mitigation decisions at the landscape level.

(2) Respecting and equitably promoting use of IK in decision making, research, and implementation.

(3) Learning and evidence about effective mitigation approaches, within and across landscapes, as part of evidence-building and adaptive management.

G. Environmental justice. Consistent with 525 DM 1, the effect of adverse impacts and mitigation measures should be evaluated to avoid disproportionately high and adverse human health or environmental effects on Tribal, Indigenous, or low-income or minority populations.

H. Economic consequences. The landscape-level economic consequences of mitigation measures or policies should be considered. This may include the effects to mitigation markets, the broader economy of the landscape, such as effects on recreation or resource use, or other relevant topics.

I. Adaptive management and evidence-building. Planning and implementation of individual mitigation measures should include provisions for contributing to landscape-level adaptive management and evidence-building.

3.7 Implementation. To ensure effective, efficient, and equitable implementation of the policy in Section 3.5 and the principles in Section 3.6, the Department and its Bureaus and Offices will develop new or amend relevant existing policies, guidance, practices, and tools to address:

A. Networks for coordination. The Department and its Bureaus and Offices should support, promote, and engage in actions that build and nurture relationships, partnerships, coalitions, or other arrangements that advance landscape-level mitigation. This may include convening groups, supporting them financially, providing support for staff to engage with them, or other means. Such support may include working through or coordinating with the Landscape-Level Working Group, as established in 604 DM 1, as relevant or necessary.

B. Technological solutions for coordination. Technologies for communicating and coordinating conservation-oriented actions should be developed or aligned to be used to improve coordination for implementing mitigation at the landscape level. These should include capacities to facilitate documenting and sharing spatially explicit information about past, present, and planned future development, mitigation, restoration, and other activities related to landscape-level planning and implementation. They should also include readily accessible information

about the status and trends of managed resources at the landscape level to inform mitigation decisions.

C. Land use planning. Consistent with 604 DM 1 and other relevant policies, the Department's Bureaus and Offices will ensure land use planning involves landscape-level considerations for planning, implementing, and monitoring the effectiveness of mitigation. This will include requirements to implement effective mitigation of actions authorized, funded, or carried out by the Department or its Bureaus and Offices, within the scope of the authorities of the Bureau or Office.

D. Guidance. The Department, through the Landscape-Level Working Group and Bureaus and Offices that authorize, fund, carry out, or coordinate mitigation of adverse impacts to managed resources, should develop necessary regulations, policies, or guidance tailored to their authorities and practices and within the scope of this chapter. Outputs may include new or revised regulations, additional stepdown guidance, handbooks, trainings, or other resources that help practitioners consistently and effectively carry out mitigation across landscapes.

E. Partnerships. The Department should explore public-public and public-private partnerships that support landscape-level mitigation outcomes. These may include novel mechanisms for increasing investment in and effectiveness of mitigation, restoration, or other conservation-oriented actions that function together to improve outcomes for managed resources.

F. Funding and capacity. The Department, Bureaus, and Offices should work with their respective budget offices and, as appropriate, the budget offices of other federal agencies, to identify funding and capacity needs to implement effective, efficient, and equitable mitigation at the landscape level.

G. Economic analyses. The Department, Bureaus, and Offices should work with economists to quantify and qualify the landscape-level economic effects of mitigation options and decisions. This may include advances in natural capital accounting and its relation to mitigation; equivalency analysis and landscape equivalency analysis; the economics of mitigation markets as related to the objectives of this policy; the effects on landscape-level economic processes such as the recreation economy, or other topics as evidence suggests is relevant.

H. Monitoring, adaptive management, and evidence-building. The Department and its Bureaus and Offices will ensure effective, efficient, and equitable outcomes of mitigation measures at the landscape level through appropriate monitoring, use of results in adaptive management decisions, and landscape-level evidence-building and documentation.

3.8 Responsibilities.

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A. Assistant Secretary – Policy, Management and Budget.

(1) Oversee the Department’s compliance with this policy, and provide staff support to monitor this policy’s implementation and coordinate budgets and practices supporting this policy.

B. Program Assistant Secretaries.

(1) Confirm that their Bureaus and Offices comply with this chapter.

C. Heads of Bureaus and Offices.

(1) Report to their respective Program Assistant Secretaries on the implementation of this chapter.

(2) Designate a Bureau representative to the Landscape-Level Working Group, Committee on Landscape-Level Mitigation (see E. (1), below), for advancing the goals of this chapter and overseeing program implementation.

D. The Office of Policy Analysis (PPA).

(1) Serve as the lead office for revising this policy when warranted by changes in technical information, federal statutes, regulations, Department policy, or other conditions. Any Bureau or Office may propose changes by contacting PPA.

(2) Solicit and consider the views of interested Departmental Bureaus and Offices when considering changes to this policy. In recommending revisions to this chapter, Bureaus and Offices will provide PPA with appropriate supporting information.

(3) When requested, provide technical assistance and guidance to Departmental Bureaus and Offices in understanding and implementing this policy.

E. Landscape-Level Working Group. Consistent with the scope and duties of the Landscape-Level Working Group described in 604 DM 1:

(1) When establishing the charter for the Working Group, include a Standing Committee on Landscape-Level Mitigation (“Committee”) to:

(a) Coordinate and advise the Working Group on landscape-level mitigation issues.

(b) Work collaboratively across Bureaus and Offices and with the Department to identify, use, and institutionalize policies and practices to implement this chapter.

(c) Review and coordinate the development of new, or amendment of existing, Bureau or Office regulations, policies, guidance, processes, and plans to confirm consistency with this chapter.

(d) Develop rigorous, clear, and consistent guidance, suitable for field staff to implement this chapter.

(2) Facilitate communication between the Committee, other subunits of the Working Group, and Departmental Bureaus and Offices about developments in landscape-level mitigation science, knowledge, or practice.

(3) Through the Committee, the Working Group should cultivate a landscape-level mitigation community of practice that facilitates learning and communications.

(4) Ensure that the Committee's interests are represented to Departmental coordinating bodies for landscape-level adaptive management and evidence-building.

(5) Through the Committee, develop recommendations for Bureaus and Offices for conditions required for approving or denying mitigation authorizations in decision documents when impacts to resources and their landscape-level values, services, and functions are not acceptable under this policy.

3.9 Legal Effect. This policy is intended to improve the internal management of the Department. It does not create any right or benefit, substantive or procedural, enforceable at law or in equity by any person against the United States, its agencies, its officers or employees, or any other person. It does not alter or affect any existing duty or authority of individual Bureaus or Offices.