Chapter 8: The Timber Resource
C. The National Forest Management Act
4. Revision of the Forest Service Planning Regulations

Add the following new section after notes on p. 738

c. The 2012 Regulations

On Apr. 9, 2012 the Obama Administration published its much-anticipated LRMP rule. The Forest Service will begin planning under the new regulations on May 9, 2012. At the time of promulgation, 68 out of 127 LRMPs were overdue for revision, so the agency has a massive planning task ahead. The Forest Service touts many advantages of the new rule relative to the 1982 framework, including planning efficiency (saving time and money), compatibility with adaptive management, and an emphasis on ecological restoration. The most important element of the new rule is the revival of the 1982 species viability mandate, though in a somewhat modified form. Consider this excerpt from the new rule in light of the notes and questions that follow.

Department of Agriculture Forest Service
36 CFR Part 219
National Forest System Land Management Planning
77 Fed. Reg. 21162 (Apr. 9, 2012)

B PART 219—PLANNING

Subpart A—National Forest System Land Management Planning

§ 219.1 Purpose and applicability.
* * *
(c) The purpose of this part is to guide the collaborative and science-based development, amendment, and revision of land management plans that promote the ecological integrity of national forests and grasslands and other administrative units of the NFS. Plans will guide management of NFS lands so that they are ecologically sustainable and contribute to social and economic sustainability; consist of ecosystems and watersheds with ecological integrity and diverse plant and animal communities; and have the capacity to provide people and communities with ecosystem services and multiple uses that provide a range of social, economic, and ecological benefits for the present and into the future. These benefits include clean air and water; habitat for fish, wildlife, and plant communities; and opportunities for recreational, spiritual, educational, and cultural benefits.
§ 219.3 Role of science in planning.
The responsible official shall use the best available scientific information to inform the planning process required by this subpart. In doing so, the responsible official shall determine what information is the most accurate, reliable, and relevant to the issues being considered. The responsible official shall document how the best available scientific information was used to inform the assessment, the plan decision, and the monitoring program as required in §§ 219.6(a)(3) and 219.14(a)(4). Such documentation must: Identify what information was determined to be the best available scientific information, explain the basis for that determination, and explain how the information was applied to the issues considered.

§ 219.7 New plan development or plan revision.

(e) Plan components. Plan components guide future project and activity decisionmaking. The plan must indicate whether specific plan components apply to the entire plan area, to specific management areas or geographic areas, or to other areas as identified in the plan.

(1) Required plan components. Every plan must include the following plan components:

(i) Desired conditions. A desired condition is a description of specific social, economic, and/or ecological characteristics of the plan area, or a portion of the plan area, toward which management of the land and resources should be directed. Desired conditions must be described in terms that are specific enough to allow progress toward their achievement to be determined, but do not include completion dates.

(ii) Objectives. An objective is a concise, measurable, and time-specific statement of a desired rate of progress toward a desired condition or conditions. Objectives should be based on reasonably foreseeable budgets.

(iii) Standards. A standard is a mandatory constraint on project and activity decisionmaking, established to help achieve or maintain the desired condition or conditions, to avoid or mitigate undesirable effects, or to meet applicable legal requirements.

(iv) Guidelines. A guideline is a constraint on project and activity decisionmaking that allows for departure from its terms, so long as the purpose of the guideline is met. (§ 219.15(d)(3)). Guidelines are established to help achieve or maintain a desired condition or conditions, to avoid or mitigate undesirable effects, or to meet applicable legal requirements.

(v) Suitability of lands. Specific lands within a plan area will be identified as suitable for various multiple uses or activities based on the desired conditions applicable to those lands. The plan will also identify lands within the plan area as not suitable for uses that are not compatible with desired conditions for those lands. The suitability of lands need not be identified for every use or activity. Suitability identifications may be made after consideration of historic uses and of issues that have arisen in the planning process. Every plan must identify those lands that are not suitable for timber production (§ 219.11).
(3) Requirements for the set of plan components. The set of plan components must meet the requirements set forth in this part for sustainability (§ 219.8), plant and animal diversity (§ 219.9), multiple use (§ 219.10), and timber (§ 219.11).

(f) Other content in the plan.
(1) Other required content in the plan. Every plan must:
(i) Identify watershed(s) that are a priority for maintenance or restoration; (ii) Describe the plan area’s distinctive roles and contributions within the broader landscape; (iii) Include the monitoring program required by § 219.12; and (iv) Contain information reflecting proposed and possible actions that may occur on the plan area during the life of the plan, including: the planned timber sale program; timber harvesting levels; and the proportion of probable methods of forest vegetation management practices expected to be used (16 U.S.C. 1604(e)(2) and (f)(2)). Such information is not a commitment to take any action and is not a “proposal” as defined by the Council on Environmental Quality regulations for implementing NEPA (40 CFR 1508.23, 42 U.S.C. 4322(2)(C)).
(2) Optional content in the plan. A plan may include additional content, such as potential management approaches or strategies and partnership opportunities or coordination activities.

§ 219.8 Sustainability.
The plan must provide for social, economic, and ecological sustainability within Forest Service authority and consistent with the inherent capability of the plan area, as follows:

(a) Ecological sustainability.
(1) Ecosystem Integrity. The plan must include plan components, including standards or guidelines, to maintain or restore the ecological integrity of terrestrial and aquatic ecosystems and watersheds in the plan area, including plan components to maintain or restore structure, function, composition, and connectivity, taking into account:
(i) Interdependence of terrestrial and aquatic ecosystems in the plan area.
(ii) Contributions of the plan area to ecological conditions within the broader landscape influenced by the plan area.
(iii) Conditions in the broader landscape that may influence the sustainability of resources and ecosystems within the plan area.
(iv) System drivers, including dominant ecological processes, disturbance regimes, and stressors, such as natural succession, wildland fire, invasive species, and climate change; and the ability of terrestrial and aquatic ecosystems on the plan area to adapt to change.
(v) Wildland fire and opportunities to restore fire adapted ecosystems.
(vi) Opportunities for landscape scale restoration.
(2) Air, soil, and water. The plan must include plan components, including standards or guidelines, to maintain or restore:
(i) Air quality.
(ii) Soils and soil productivity, including guidance to reduce soil erosion and sedimentation.
(iii) Water quality.
(iv) Water resources in the plan area, including lakes, streams, and wetlands; ground water; public water supplies; sole source aquifers; source water protection areas; and other sources of drinking water (including guidance to prevent or mitigate detrimental changes in quantity, quality, and availability).

(3) Riparian areas.
(i) The plan must include plan components, including standards or guidelines, to maintain or restore the ecological integrity of riparian areas in the plan area, including plan components to maintain or restore structure, function, composition, and connectivity, taking into account:
(A) Water temperature and chemical composition; (B) Blockages (uncharacteristic and characteristic) of water courses; (C) Deposits of sediment; (D) Aquatic and terrestrial habitats; (E) Ecological connectivity; (F) Restoration needs; and (G) Floodplain values and risk of flood loss.

(ii) Plans must establish width(s) for riparian management zones around all lakes, perennial and intermittent streams, and open water wetlands, within which the plan components required by paragraph (a)(3)(i) of this section will apply, giving special attention to land and vegetation for approximately 100 feet from the edges of all perennial streams and lakes.
(A) Riparian management zone width(s) may vary based on ecological or geomorphic factors or type of water body; and will apply unless replaced by a site-specific delineation of the riparian area. (B) Plan components must ensure that no management practices causing detrimental changes in water temperature or chemical composition, blockages of water courses, or deposits of sediment that seriously and adversely affect water conditions or fish habitat shall be permitted within the riparian management zones or the site-specific delineated riparian areas.

(4) Best management practices for water quality. The Chief shall establish requirements for national best management practices for water quality in the Forest Service Directive System. Plan components must ensure implementation of these practices.

(b) Social and economic sustainability. The plan must include plan components, including standards or guidelines, to guide the plan area’s contribution to social and economic sustainability, taking into account:
(1) Social, cultural, and economic conditions relevant to the area influenced by the plan;
(2) Sustainable recreation; including recreation settings, opportunities, and access; and scenic character;
(3) Multiple uses that contribute to local, regional, and national economies in a sustainable manner;
(4) Ecosystem services;
(5) Cultural and historic resources and uses; and
(6) Opportunities to connect people with nature.

§ 219.9 Diversity of plant and animal communities.
This section adopts a complementary ecosystem and species-specific approach to maintaining the diversity of plant and animal communities and the persistence of native species in the plan area. Compliance with the ecosystem requirements of paragraph (a) is intended to provide the
ecological conditions to both maintain the diversity of plant and animal communities and support the persistence of most native species in the plan area. Compliance with the requirements of paragraph (b) is intended to provide for additional ecological conditions not otherwise provided by compliance with paragraph (a) for individual species as set forth in paragraph (b). The plan must provide for the diversity of plant and animal communities, within Forest Service authority and consistent with the inherent capability of the plan area, as follows:

(a) Ecosystem plan components.
(1) Ecosystem integrity. As required by § 219.8(a), the plan must include plan components, including standards or guidelines, to maintain or restore the ecological integrity of terrestrial and aquatic ecosystems and watersheds in the plan area, including plan components to maintain or restore their structure, function, composition, and connectivity.
(2) Ecosystem diversity. The plan must include plan components, including standards or guidelines, to maintain or restore the diversity of ecosystems and habitat types throughout the plan area. In doing so, the plan must include plan components to maintain or restore:
   (i) Key characteristics associated with terrestrial and aquatic ecosystem types; (ii) Rare aquatic and terrestrial plant and animal communities; and (iii) The diversity of native tree species similar to that existing in the plan area.

(b) Additional, species-specific plan components.
(1) The responsible official shall determine whether or not the plan components required by paragraph (a) of this section provide the ecological conditions necessary to: contribute to the recovery of federally listed threatened and endangered species, conserve proposed and candidate species, and maintain a viable population of each species of conservation concern within the plan area. If the responsible official determines that the plan components required in paragraph (a) are insufficient to provide such ecological conditions, then additional, species-specific plan components, including standards or guidelines, must be included in the plan to provide such ecological conditions in the plan area.
(2) If the responsible official determines that it is beyond the authority of the Forest Service or not within the inherent capability of the plan area to maintain or restore the ecological conditions to maintain a viable population of a species of conservation concern in the plan area, then the responsible official shall:
   (i) Document the basis for that determination (§ 219.14(a)); and (ii) Include plan components, including standards or guidelines, to maintain or restore ecological conditions within the plan area to contribute to maintaining a viable population of the species within its range. In providing such plan components, the responsible official shall coordinate to the extent practicable with other Federal, State, Tribal, and private land managers having management authority over lands relevant to that population.

(c) Species of conservation concern.
For purposes of this subpart, a species of conservation concern is a species, other than federally recognized threatened, endangered, proposed, or candidate species, that is known to occur in the plan area and for which the regional forester has determined that the best available scientific
information indicates substantial concern about the species’ capability to persist over the long-term in the plan area.

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§ 219.19 Definitions.
Definitions of the special terms used in this subpart are set out as follows.

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Connectivity. Ecological conditions that exist at several spatial and temporal scales that provide landscape linkages that permit the exchange of flow, sediments, and nutrients; the daily and seasonal movements of animals within home ranges; the dispersal and genetic interchange between populations; and the long distance range shifts of species, such as in response to climate change.

Conservation. The protection, preservation, management, or restoration of natural environments, ecological communities, and species.

Conserve. For purposes of § 219.9, to protect, preserve, manage, or restore natural environments and ecological communities to potentially avoid federally listing of proposed and candidate species.

* * *

Disturbance. Any relatively discrete event in time that disrupts ecosystem, watershed, community, or species population structure and/or function and changes resources, substrate availability, or the physical environment.

Disturbance regime. A description of the characteristic types of disturbance on a given landscape; the frequency, severity, and size distribution of these characteristic disturbance types; and their interactions.

Ecological conditions. The biological and physical environment that can affect the diversity of plant and animal communities, the persistence of native species, and the productive capacity of ecological systems. Ecological conditions include habitat and other influences on species and the environment. Examples of ecological conditions include the abundance and distribution of aquatic and terrestrial habitats, connectivity, roads and other structural developments, human uses, and invasive species.

Ecological integrity. The quality or condition of an ecosystem when its dominant ecological characteristics (for example, composition, structure, function, connectivity, and species composition and diversity) occur within the natural range of variation and can withstand and recover from most perturbations imposed by natural environmental dynamics or human influence.

* * *
**Ecosystem.** A spatially explicit, relatively homogeneous unit of the Earth that includes all interacting organisms and elements of the abiotic environment within its boundaries. An ecosystem is commonly described in terms of its:

1. **Composition.** The biological elements within the different levels of biological organization, from genes and species to communities and ecosystems.
2. **Structure.** The organization and physical arrangement of biological elements such as, snags and down woody debris, vertical and horizontal distribution of vegetation, stream habitat complexity, landscape pattern, and connectivity.
3. **Function.** Ecological processes that sustain composition and structure, such as energy flow, nutrient cycling and retention, soil development and retention, predation and herbivory, and natural disturbances such as wind, fire, and floods.
4. **Connectivity.** (see connectivity above).

**Ecosystem diversity.** The variety and relative extent of ecosystems.

**Ecosystem services.** Benefits people obtain from ecosystems, including:

1. **Provisioning services,** such as clean air and fresh water, energy, fuel, forage, fiber, and minerals;
2. **Regulating services,** such as long term storage of carbon; climate regulation; water filtration, purification, and storage; soil stabilization; flood control; and disease regulation;
3. **Supporting services,** such as pollination, seed dispersal, soil formation, and nutrient cycling; and
4. **Cultural services,** such as educational, aesthetic, spiritual and cultural heritage values, recreational experiences and tourism opportunities.

* * *

**Focal species.** A small subset of species whose status permits inference to the integrity of the larger ecological system to which it belongs and provides meaningful information regarding the effectiveness of the plan in maintaining or restoring the ecological conditions to maintain the diversity of plant and animal communities in the plan area. Focal species would be commonly selected on the basis of their functional role in ecosystems.

* * *

**Inherent capability of the plan area.** The ecological capacity or ecological potential of an area characterized by the interrelationship of its physical elements, its climatic regime, and natural disturbances.

* * *

**Landscape.** A defined area irrespective of ownership or other artificial boundaries, such as a spatial mosaic of terrestrial and aquatic ecosystems, landforms, and plant communities, repeated in similar form throughout such a defined area.

**Maintain.** In reference to an ecological condition: To keep in existence or continuance of the desired ecological condition in terms of its desired composition, structure, and processes. Depending upon the circumstance, ecological conditions may be maintained by active or passive management or both.
Native species. An organism that was historically or is present in a particular ecosystem as a result of natural migratory or evolutionary processes; and not as a result of an accidental or deliberate introduction into that ecosystem. An organism’s presence and evolution (adaptation) in an area are determined by climate, soil, and other biotic and abiotic factors.

Productivity. The capacity of NFS lands and their ecological systems to provide the various renewable resources in certain amounts in perpetuity. For the purposes of this subpart, productivity is an ecological term, not an economic term.

Restoration. The process of assisting the recovery of an ecosystem that has been degraded, damaged, or destroyed. Ecological restoration focuses on reestablishing the composition, structure, pattern, and ecological processes necessary to facilitate terrestrial and aquatic ecosystems sustainability, resilience, and health under current and future conditions.

Stressors. For the purposes of this subpart: Factors that may directly or indirectly degrade or impair ecosystem composition, structure or ecological process in a manner that may impair its ecological integrity, such as an invasive species, loss of connectivity, or the disruption of a natural disturbance regime.

Sustainability. The capability to meet the needs of the present generation without compromising the ability of future generations to meet their needs. For purposes of this part, “ecological sustainability” refers to the capability of ecosystems to maintain ecological integrity; “economic sustainability” refers to the capability of society to produce and consume or otherwise benefit from goods and services including contributions to jobs and market and nonmarket benefits; and “social sustainability” refers to the capability of society to support the network of relationships, traditions, culture, and activities that connect people to the land and to one another, and support vibrant communities.

Viable population. A population of a species that continues to persist over the long term with sufficient distribution to be resilient and adaptable to stressors and likely future environments.

NOTES AND QUESTIONS

1. The 2012 rule departs from both the Bush rules in requiring EISs for new plans and plan revisions. (36 C.F.R. § 219.5(a)(2)(i), not excerpted above.) Are the “objectives” required in the new LRMPs pursuant to § 219.7(e) final agency actions under the APA? Compare the 2012 definition of “objectives” to the one employed in the 2005 rule (casebook p. 476) that implemented the environmental management system approach. Is the establishment of hard and fast objectives consistent with adaptive management? How often do you expect the Forest Service will need to revise objectives in light of monitoring and unanticipated budget
cuts? In 2005, the LRMP preamble stated that “environmental effects of projects and activities cannot be meaningfully evaluated without knowledge of the specific timing and location.” (Casebook p. 478.) What benefit does the Forest Service get from preparing EISs with LRMPs rather than waiting until individual project authorization?

2. The 2012 rule restores the Clinton rule’s priority of ecological sustainability. Is this consistent with Congress’ instructions in the 1960 MUSYA and 1976 NFMA? The courts will need to answer this question in response to the inevitable challenges to the rule. The NFMA explicitly retains the multiple-use mandate, directing the agency to "provide for multiple use and sustained yield of the products and services obtained [from the national forests] in accordance with the Multiple-Use Sustained Yield Act of 1960." 16 U.S.C. § 1604(e)(1). Critics argue that the NFMA “requires a diversity of species within the context of multiple use” and that the new regulations “turn that upside down. They make multiple uses subservient to a diversity of species.” FS Planning Rule Keeps All-Species Protection Standard, Public Land News, Apr. 6, 2012 (quoting the Vice President of the American Forest Resource Council). What would Gifford Pinchot make of the Forest Service’s definition of “conservation” in § 219.19?

On the other hand, MUSY itself is premised on a notion of sustainability and the NFMA states as a matter of policy that Forest Service management should "meet the requirements of our people in perpetuity." 16 U.S.C. § 1600(7). Further, the national forests must be managed according to many other statutes, including NEPA, the Clean Water Act, the Clean Air Act, and the ESA, all of which can be described as consistent with sustainability. As a matter of policy, should the national forests be managed according to ecological sustainability with a heavy emphasis on biodiversity, especially species diversity? Do the 2012 regulations make the national forests a “dominant use” system, where all actions must be compatible with ecological baseline standards? On compatibility tests and dominant use, see discussion in chapter 10 on the national wildlife refuges.

3. In Sierra Club v. Marita, supra p. 713, the court ruled that existing law does not require the Forest Service to manage the National Forests in accordance with the science of conservation biology. The 2012 regulations call for LRMPs that manage national forests to attain “ecological” or “ecosystem” integrity. §§ 219.1(c); 219.8(a); & 219.9(a). Consider how heavily the 2012 regulatory definition of “ecological integrity” borrows from the concept the Marita plaintiffs promoted. Does the Marita reasoning mean that the Forest Service exceeded its authority by relying so heavily on conservation biology? Or are these matters left to the discretion of the Forest Service under the Chevron principle?

4. The 2012 rule seeks to produce LRMPs that “promote the ecological integrity” of national forests. § 219.1(c). Note that § 219.9 defines “ecological integrity” in terms of “the natural range of variation” of ecological elements and the resilience of ecosystems to recover from perturbations. Also, note the preference for “native species” defined in § 219.19 in terms of historic occurrences. In light of climate change, how suitable is the promotion of “ecological integrity” or a preference for “native species”? 
5. On the other hand, § 219.8(a) explicitly includes climate change as a system driver that ecosystem integrity should consider. One consequence of climate change is exacerbation of fire frequency and intensity, primarily due to the drying of forests. The rule directs the agency to consider the potential impacts of climate change and “opportunities to restore fire adapted ecosystems.” This is an adaptation to climate change widely embraced in the scientific and management literature. Most logging in the national forests will likely continue to be directed toward restoring low intensity fire regimes or salvaging timber from high intensity fires. More generally, the 2012 rule builds resilience, a much promoted feature of climate change adaptation, into the definition of both “restoration” and “viable population.” But, does the rule force the Forest Service to accomplish restoration or maintenance of viable populations?

6. The new diversity provision, § 219.9, provides for a “complementary ecosystem and species-specific approach” to meet the statutory mandate of the NFMA. 16 U.S.C. § 1604(g)(3)(B). The species-specific portion of the rule retains the basic framework of the 1982 LRMP rule and requires a viable population “to persist over the long term with sufficient distribution to be resilient and adaptable to stressors and likely future environments.” §219.19. How can the Service implement this requirement in light of the uncertainties associated with climate change?

The most important difference between the old viability requirement and the 2012 rule is that the new standard to “maintain a viable population of each species of conservation concern” applies only when “the responsible agency official” determining that the ecosystem plan components are not sufficient. § 219.9(b). The old viability standard applied more broadly to “all existing native vertebrate species” (1982 version of § 219.19). The new standard applies only to species the regional forester designates because information “indicates substantial concern about the species’ capability to persist over the long-term.” §219.9(c). It is hard to imagine that courts will be any less deferential to Forest Service judgments about which species are of conservation concern than they were to judgments about which species should be selected to serve as “management indicator species” under the 1982 rules. Is there any loss of agency accountability with the change?

In the ever-increasing number of circumstances where the national forest cannot maintain viability on its own, the new rule specifically requires the LRMP to “contribute to maintaining a viable population of the species within its range.” § 219.9(b)(2)(ii). The draft had conditioned this mandate “to the extent practicable,” but the final rule dropped the clause. This will require the Forest Service to get considerably more involved in coordinated conservation actions with other agencies, organizations, and land owners. The new rule promotes this collaboration by requiring the LRMP to consider the ecological role of the national forest within the broader landscape. §§ 219.7(f)(1) & 219.8(a)(1).

Will plaintiffs find any traction in these provisions to overturn plans and projects that impair biological diversity? Is the cash-strapped Forest Service over-extending itself in committing to regional, landscape goals?

7. Professor Holly Doremus has charged that “[c]onservation-oriented scientist-advocates have sometimes exaggerated the role of scientific data in their calls for resource
protection,” and cites as an example the role of the two Committees of Scientists that advised the Forest Service in both the late 1970s and again in the late 1990s. Holly Doremus, Science Plays Defense: Natural Resource Management in the Bush Administration, 32 Ecology L.Q. 249, 259-60 (2005). Is the task of defining the meaning of “diversity” in the NFMA through regulation principally a scientific determination? Diversity is a term used by scientists, but its meaning varies depending on its application. The NFMA’s vagueness in the meaning of “diversity” in 1976 allowed subsequent developments in conservation biology to receive attention through rulemaking. Would it have been better for Congress to have specified in detail the understanding of diversity in 1976, before conservation biology got off the ground as a field? Moreover, does the prominent role that the 2012 rule gives to science (§ 219.3) fall into the trap of cloaking policy choices in the garb of science? Or, will the newly required § 219.3 determinations help to unmask the policy choices underlying LRMPs?

8. The 2011 draft LRMP rule required the Service to “take into account” the best available scientific information. The final rule, § 219.3, states that the agency “shall use the best available scientific information.” Does the new wording change the task of courts reviewing LRMP decisions? How should courts review Forest Service determinations that information is “the most accurate, reliable, and relevant” and “the best available scientific information”? Does this standard give carte blanche to the expert agency, or is the new rule “an open invitation to the courts to get involved in deciding” the content of “best science”? FS Planning Rule Keeps All-Species Protection Standard, Public Land News, Apr. 6, 2012 (quoting a board member of the National Association of Forest Service Retirees).