

National Forest System Land Management Planning final rule
77 Fed. Reg. 21162 (Apr. 9, 2012).
36 CFR Part 219

(For your reference, page numbers from the rule are in parentheses).

§ 219.19 Definitions.

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

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. (at 21270)

Response to the Issue of Watershed Protection

Under Modified Alternative A, information relevant to watersheds, aquatic ecosystems, and water resources will be identified and evaluated during the assessment phase. Plans will be required to identify priority watersheds for maintenance or restoration. Plan components are required for the maintenance and restoration of the ecological integrity of aquatic ecosystems and watersheds, water quality, and water resources in the plan area, including lakes, streams, wetlands, and sources of drinking water.

Plan components are also required for the maintenance and restoration of the ecological integrity of riparian areas, including structure, function, composition, and connectivity; taking into account a number of factors; and plan components must establish widths for riparian management zones. Because riparian resources across NFS units are very diverse, Modified Alternative A retains the 1982 rule requirements to give special attention to land and vegetation within approximately 100 feet of all perennial streams and lakes and prevent management practices that have serious or adverse impacts, but does not require a single national width for riparian management zones. Riparian areas may be forested or open, they are connected with all types of streams, lakes and wetlands, and they vary widely in existing condition and types of use. Modified Alternative A allows for the requirements to be tailored to specific conditions on the plan area. The set of requirements included in Modified Alternative A for riparian areas is more implementable and less costly than the requirements in Alternative D, and will lead to a more effective and appropriate set of plan components across a diverse system.

Under Modified Alternative A, responsible officials must ensure that projects and activities in riparian areas are consistent with plan requirements for maintaining or restoring riparian areas, do not seriously or adversely affect water resources, are suitable uses, and are compatible with desired conditions for those lands. The consistency requirement places the decision about what types of projects or activities may or may not be allowed and what management direction will

guide these activities at the plan level. The Department concludes that this is the appropriate level at which to make these decisions. (at 21174)

Section 219.8—Response to Comments

6. Paragraph (a)(3) adds specific requirements to the proposed rule to maintain or restore riparian areas. It provides that plan components must maintain or restore the ecological integrity of riparian areas, including “structure, function, composition and connectivity,” to make clear that the plan must provide direction for proactive management of riparian areas. Paragraph (a)(3) also sets out a list of elements relevant to riparian areas that must be considered when developing plan components to maintain or restore ecological integrity, and it changes the proposed rule’s requirement for a “default width” for riparian areas to a requirement for a riparian management zone. These changes respond to public comment to provide more clear and specific direction for riparian areas. In addition, at paragraph (a)(3), the Department added a requirement to give special attention to the area 100 feet from the edges of perennial streams and lakes; and a requirement that 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 zones or the site-specific delineated riparian areas. These requirements are carried forward from the 1982 rule. These additional requirements were added because public comments suggested the proposed rule was too vague or too open to interpretation with regard to minimum requirements. (at 21208)

Comment: Management activities in riparian areas. Some respondents felt the riparian area guidance in the proposed rule represented a weakening of protection from the 1982 rule and wanted to see stronger national standards. They felt some management activities, like grazing and off-highway vehicle (OHV) use, should be prohibited or limited in riparian areas as they can be harmful to riparian area health. Others felt management activities in riparian areas should be left to only restoration efforts. Some respondents felt the riparian management requirements in the proposed rule were vague or too open to interpretation. Others felt the proposed rule may preclude active management within riparian areas.

Response: Section 219.8 has been revised in the final rule to address these concerns. The final rule requires the responsible official to give special attention to land and vegetation for approximately 100 feet from the edges of all perennial streams and lakes and further requires that 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. The Department expects projects and activities, including restoration projects, will occur in riparian areas. Plans may allow for projects and activities in riparian areas that may have short term or localized adverse impacts in order to achieve or contribute to a plan’s desired conditions or objectives, so long as they do not seriously and adversely affect water conditions or fish habitat.

These requirements are similar to the requirements of the 1982 rule. They are in addition to the final rule requirements in § 219.8(a)(3) that plans 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, and composition. The changes to the proposed rule make clear that plans must provide for the ecological integrity of riparian areas in the plan area, and must include a set of plan components, including standards or guidelines, to do so. The responsible official must also take into account water temperature and chemical composition, blockages of water courses, deposits of sediment, aquatic and terrestrial habitats, ecological connectivity, restoration needs, and floodplain values and risk of flood loss when developing these plan components. These requirements are in addition to the requirements in § 219.8(a)(2) to include plan components to maintain or restore water quality and water resources, and the requirement in § 219.7(f) to identify priority watersheds for restoration or maintenance.

The Department believes that these requirements provide strong direction for proactive management (active and passive) of water resources beyond what was required in the 1982 rule, while allowing the responsible official to use the best available scientific information, public input, and information about local conditions to inform development of plan components in response to these requirements. (at 21209–21210)

Section 219.9—Diversity of Plant and Animal Communities

This section of the final rule fulfills the diversity requirement of the NFMA, which directs the Forest Service to “provide for diversity of plant and animal communities based on the suitability and capability of the specific land area in order to meet multiple-use objectives, and within the multiple-use objectives of a land management plan adopted pursuant to this section [of this Act], provide, where appropriate, to the degree practicable, for steps to be taken to preserve the diversity of tree species similar to that existing in the region controlled by the plan” (16 U.S.C. 1604(g)(3)(B)).

The final rule adopts a complementary ecosystem and species specific approach to provide for the diversity of plant and animal communities and the long-term persistence of native species in the plan area. Known as a coarse-filter/fine-filter approach, this is a well-developed concept in the scientific literature and has broad support from the scientific community and many members of the public. This requirement retains the strong species conservation intent of the 1982 rule but with a strategic focus on those species that are vulnerable paired with a focus on overall ecosystem integrity and diversity. The final rule requires the use of the best available scientific information to inform the development of the plan components including the plan components for diversity. It also recognizes limits to agency authority and the inherent capability of the plan area.

The Department’s intent in providing the requirements in this section is to provide for diversity of plant and animal communities, and provide ecological conditions to keep common native species common, contribute to the recovery of threatened and endangered species, conserve

candidate and proposed species, and maintain viable populations of species of conservation concern within the plan area.

The premise behind the coarse-filter approach is that native species evolved and adapted within the limits established by natural landforms, vegetation, and disturbance patterns prior to extensive human alteration. Maintaining or restoring ecological conditions similar to those under which native species have evolved therefore offers the best assurance against losses of biological diversity and maintains habitats for the vast majority of species in an area, subject to factors outside of the Agency's control, such as climate change. The final rule recognizes the importance of maintaining the biological diversity of each national forest and grassland, and the integrity of the compositional, structural, and functional components comprising the ecosystems on each NFS unit.

The coarse-filter requirements of the rule are set out as requirements to develop plan components designed to maintain or restore ecological conditions for ecosystem integrity and ecosystem diversity in the plan area. Based upon the current science of conservation biology, by working toward the goals of ecosystem integrity and ecosystem diversity with connected habitats that can absorb disturbance, the Department expects that over time, management would maintain and restore ecological conditions which provide for diversity of plant and animal communities and support the abundance, distribution, and long-term persistence of native species. These ecological conditions should be sufficient to sustain viable populations of native plant and animal species considered to be common or secure within the plan area. These coarse-filter requirements are also expected to support the persistence of many species currently considered imperiled or vulnerable across their ranges or within the plan area.

For example, by maintaining or restoring the composition, structure, processes, and ecological connectivity of longleaf pine forests, national forests in the Southeast provide ecological conditions that contribute to the recovery of the red-cockaded woodpecker (an endangered species) and conservation of the gopher tortoise (a threatened species), in addition to supporting common species that depend on the longleaf pine ecosystem.

Similarly, maintaining or restoring shortgrass prairies on national grasslands in the Great Plains contributes to the conservation of blacktailed prairie dogs (regional forester sensitive species (RFSS) of the Rocky Mountain Region), mountain plovers (proposed threatened), and burrowing owls (RFSS), in addition to supporting common species that depend on the shortgrass prairie ecosystem. Maintaining or restoring watershed, riparian, and aquatic conditions in the national forests in the Northeast contributes to the conservation of the eastern brook trout (RFSS), in addition to supporting common species that depend on functioning riparian areas and aquatic ecosystems in the area.

The final rule would further require additional, species-specific plan components, as a "fine-filter," to provide for additional specific habitat needs or other ecological conditions of certain categories of species, when the responsible official determines those needs are not met through the coarse-filter. The species for which the rule requires fine-filter plan components,

when necessary, are federally listed threatened and endangered (T&E) species, proposed and candidate species, and species of conservation concern. If the responsible official determines that compliance with the coarse-filter approach is insufficient to provide the ecological conditions necessary to contribute to the recovery of federally listed threatened and endangered species, conserve species that are proposed or candidates to Federal listing, or maintain within the plan area a viable population of a species of conservation concern, then additional species-specific plan components that would do so are required, within Agency authority and the inherent capability of the land.

Species-specific plan components provide the fine-filter complement to the coarse-filter approach. For example, while coarse-filter requirements to restore longleaf pine ecosystems may provide most of the necessary ecological conditions for the endangered red-cockaded woodpecker, additional fine-filter species-specific plan components may also be needed, for example, a plan standard to protect all known redcockaded woodpecker cavity trees during prescribed burning activities. Examples for other species might include requiring proper size and placement of culverts to allow for aquatic organism passage on all streams capable of supporting eastern brook trout, or requiring closure devices on all cave and mine entrances to prevent the spread of white-nose syndrome to bat populations in the plan area.

Unlike the 1982 rule, the final rule explicitly acknowledges that there are limits to Agency authority and the inherent capability of the land. With respect to species of conservation concern (SCC), the responsible official may determine that those limits prevent maintenance or restoration of the ecological conditions necessary to maintain a viable population of a species of conservation concern within the boundaries of the plan area. The responsible official must then include plan components to maintain or restore ecological conditions within the plan area to contribute to maintaining a viable population of that species within its range. In doing so, the responsible official would be required to coordinate to the extent practicable with other land managers.

Examples of factors outside the control of the Agency could include: A species needing an area larger than the unit to maintain a viable population; non-NFS land management impacts to species that spend significant parts of their lifecycle off NFS lands; activities outside the plan area (for example, increasing fragmentation of habitat or non- and point source pollution often impact species and their habitats, both on and off NFS lands); failure of a species to occupy suitable habitat; and climate change and related stressors, which could impact many species and may make it impossible to maintain current ecological conditions. Other stressors, such as invasive species, insects, disease, catastrophic wildfire, floods, droughts, and changes in precipitation, among others, may also affect species and habitat in ways that the Agency cannot completely control or mitigate for.

In section 219.19, the Department defines native species as “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.” By defining species as “was historically or is present in a particular ecosystem,” the Department is not suggesting that historically native species that are no longer present must be reintroduced. The Department is recognizing that if such species were to return or to be reintroduced to the area, they would still be considered native.

In addition to developing, amending, and revising plans under the diversity requirements of this section, the final rule includes requirements for ecological sustainability in § 219.8, and in § 219.10 for providing for multiple uses including wildlife and fish, considering ecosystem services, fish and wildlife species, habitat and habitat connectivity, and habitat conditions for wildlife, fish, and plants commonly enjoyed and used by the public when developing plan components for integrated resource management. Requirements in the assessment and monitoring phases are also linked to and support the requirements of this section. (at 21212–21213)

Comment: Distribution of species or habitat. Some respondents raised concerns that the definition of a viable population and the requirements for species of conservation concern do not include the requirement that these species or habitats be “well-distributed” as is required in the 1982 rule and they feel that this omission results in a lessening of protection for species between the 1982 rule and this final planning rule.

Response: NFMA does not require that species or habitats be well distributed within the plan area. The 1982 rule stated at § 219.19 that: “Fish and wildlife habitat shall be managed to maintain viable populations of existing native and desired non-native vertebrate species in the planning area. For planning purposes, a viable population shall be regarded as one which has the estimated numbers and distribution of reproductive individuals to insure its continued existence is well distributed in the planning area. In order to insure that viable populations will be maintained, habitat must be provided to support, at least, a minimum number of reproductive individuals and that habitat must be well distributed so that those individuals can interact with others in the planning area.”

This final rule includes requirements to restore or maintain ecological conditions to support viable populations of species of conservation concern. It requires that the responsible official determine whether or not the plan components required by paragraph (a) “provide the ecological conditions necessary to * * * 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” (§ 219.9(b)(1)). The rule defines a viable population as: “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” (§ 219.19) (emphasis added).

The intent behind both the 1982 provisions and the final rule provisions is the same: To provide habitat to maintain viable populations. However, there are a number of reasons for the

Department's decision not to include the term "well-distributed" in the final rule and instead used the phrase "with sufficient distribution to be resilient and adaptable." The term is not defined in the 1982 rule, has been inconsistently interpreted in plans, and has been applied in many different ways.

Importantly, the term "well distributed" on its own is not clearly biological: Many people have interpreted the term in a geographical context as opposed to a biological context. This geographic interpretation has proven problematic at times, because the plan area is not an ecological boundary; it is an administrative boundary that may overlap completely or only partially with a species' natural ecological range. In addition, for some species, those areas of overlap may be changing in response to changing conditions.

Since 1982, we have learned more about what is important for a species to persist on the landscape, with an evolving understanding of important ecological concepts like resilience, connectivity, and adaptability, and of stressors such as climate change. For these reasons, instead of relying on the term "well-distributed," the Department chose instead to include a more ecologically-based definition of a viable population, "with sufficient distribution to be resilient and adaptable to stressors and likely future environments" such that the population "continues to persist over the long term."

Combined with the requirement in section 219.3 to use the best available scientific information to inform the plan, this definition is intended to focus the development of plan components on providing ecological conditions where they will be most useful and important to the species, which may or may not lead to habitat that is evenly or "well" distributed across the plan area for every species. For some species, that may mean having the appropriate ecological conditions throughout the plan area. For others, it may mean focusing on a small portion of the plan area. For others, it may mean working to restore or provide ecological conditions for a species whose range is migrating in response to changing conditions. For still others, it may mean providing a corridor or corridors to connect habitat.

The change from "well distributed" to "sufficient distribution to be resilient and adaptable" is intended to clarify that we are using "distribution" in an ecological context to support species' long term persistence and to help increase consistency in implementation. The Department recognizes that the long-term security of species improves as distribution increases and habitat and other ecological conditions are maintained or improved. Whether distribution is "sufficient" will be evaluated in the context of what a population needs for resilience and adaptability such that it can continue to persist over the long term, considering the species' natural history, the ability of individuals to interact, historical distribution and potential future distribution, and recognizing that habitat and species distribution will be dynamic over time. The responsible official will use the best available scientific information to inform this evaluation. In making this evaluation, it is the Department's expectation that for the purposes of this subpart, the individuals of a species of conservation concern that exist in the plan area will be considered to be members of one population of that species. The responsible official would consider the distribution of individuals or groups that would support a viable population

of that species in the plan area. Additional guidance will be included in the directives, which will be available for public notice and comment.

It is important to recognize that the requirements of § 219.9(b)(1) and the definition of viable population support and are part of a broader set of requirements in the final rule that are important for species conservation, including the requirements in §§ 219.8 and 219.9 to maintain or restore ecological integrity, including connectivity of ecosystems in the plan area; and the requirement in § 219.9(a) to provide a diversity of ecosystem types throughout the plan area.

Combined, the requirements in the final rule are expected to provide the conditions that support the persistence of native species in the plan area and maintain the diversity of plant and animal communities. For these reasons, the Department believes that the set of requirements in the final rule is not a lessening of protection from the 1982 rule, and represents a science-based approach to species conservation. (at 21217–21218)

Comment: Monitoring of habitat conditions. Respondents felt that monitoring habitat conditions only, specifically related to vegetation composition and structure, will not adequately address the reasons why species may or may not occupy those habitats; and that there may be other stressors unrelated to habitat that make suitable habitat conditions unsuitable for occupation by a particular species.

Response: The final rule requires monitoring the status of select ecological conditions. The concept of ecological conditions as defined in the proposed rule and the final rule includes more than vegetation composition and structure: it is designed to encompass those factors as well as others, including stressors that are relevant to species and ecological integrity.

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. (at 21234)

Comment: Monitoring effects of management procedures. A respondent felt the 1982 provisions for requiring documentation of the measured prescriptions and effects of management procedures (practices) are superior to the monitoring requirements of the proposed rule. The respondent felt the proposed provisions would fail to ensure that actions do not jeopardize biodiversity.

Response: The Department requires monitoring questions and indicators to monitor eight topics including the status of ecological conditions. Ecological conditions include vegetation composition and structure, abundance and distribution of aquatic and terrestrial habitats, connectivity, roads and other structural developments, human uses, and invasive species. Questions and indicators associated with the required topics in § 219.12(a)(5) of the final rule can be used to evaluate effects of management procedures (practices) based on the outcomes observed in ecological conditions. The Department concludes that these monitoring

requirements support the substantive requirements for ecological integrity and ecosystem and species diversity in the final rule. (at 21234)

Section 219.19—Definitions

This section sets out and defines the special terms used in the final subpart A. Changes to this section were made in response to public comments. The Department added definitions for: best management practices, candidate species, conserve, disturbance regime, ecological integrity, inherent capability of the plan area, integrated resource management, maintain, management system, native species, persistence, proposed species, recreation opportunity, restore, recovery, riparian management zone, scenic character, and stressors for clarity and to define new terms.

The Department removed definitions for: Health(y), landscape character, potential wilderness areas, and resilience, because the terms are not used in the final rule. The Department moved a modified definition of species of conservation concern from § 219.19 to § 219.9. The Department removed the definition of system drivers, because the term is defined in the rule in § 219.6 as disturbance regimes, dominant ecological processes, and stressors— including wildland fire, invasive species, and climate change.

The Department modified the definitions for: assessment, collaboration, connectivity, conservation, designated areas, ecological conditions, ecosystem, focal species, landscape, multiple use, recreation setting, restoration, riparian areas, sole source aquifer, sustainability, and sustainable recreation to improve clarity.

The Department modified the definition of “ecosystem” to further explain and describe the key characteristics related to ecosystem composition, structure, function, and connectivity so the relationship between monitoring questions and indicators are clearly related to the ecological conditions of §§ 219.8 and 219.9. (at 21244)

Comment: Definition of connectivity. Some respondents felt the definition should remove the word “separate” so that it includes connectivity both within and between national forests at multiple scales, reflecting the disparate needs of different species with different capacities for mobility. A respondent said the term is not appropriate because it might trigger counterproductive litigation.

Response: Connectivity is an important part of the concept of ecological integrity. The Department therefore retained the term in the final rule, and modified it in response to public comments. The Department modified the definition of connectivity, removing the words that would limit the concept to “separate national forest or grassland areas.” The final rule definition is worded to apply to several scales and to identify the types of the biophysical aspects of ecological functions that the term encompasses. (at 21245)

Comment: Definition of stressor. A respondent felt the Agency should define the term stressor.

Response: The Department defines the term stressor in the final rule as a factor 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 invasive species, loss of connectivity, or the disruption of a natural disturbance regime. (at 21246)

§ 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. (at 21264–21265)

§ 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. (at 21265)

§ 219.10 Multiple use.

While meeting the requirements of §§ 219.8 and 219.9, the plan must provide for ecosystem services and multiple uses, including outdoor recreation, range, timber, watershed, wildlife, and fish, within Forest Service authority and the inherent capability of the plan area as follows:

(a) Integrated resource management for multiple use. The plan must include plan components, including standards or guidelines, for integrated resource management to provide for ecosystem services and multiple uses in the plan area. When developing plan components for integrated resource management, to the extent relevant to the plan area and the public participation process and the requirements of §§ 219.7, 219.8, 219.9, and 219.11, the responsible official shall consider: (1) Aesthetic values, air quality, cultural and heritage resources, ecosystem services, fish and wildlife species, forage, geologic features, grazing and rangelands, habitat and habitat connectivity, recreation settings and opportunities, riparian areas, scenery, soil, surface and subsurface water quality, timber, trails, vegetation, viewsheds, wilderness, and other relevant resources and uses. (2) Renewable and nonrenewable energy and mineral resources. (3) Appropriate placement and sustainable management of infrastructure, such as recreational facilities and transportation and utility corridors. (4) Opportunities to coordinate with neighboring landowners to link open spaces and take into account joint management objectives where feasible and appropriate. (5) Habitat conditions, subject to the requirements of § 219.9, for wildlife, fish, and plants commonly enjoyed and used by the public; for hunting, fishing, trapping, gathering, observing, subsistence, and other activities (in collaboration with federally recognized Tribes, Alaska Native Corporations, other Federal agencies, and State and local governments). (6) Land status and ownership, use, and access patterns relevant to the plan area. (7) Reasonably foreseeable risks to ecological, social,

and economic sustainability. (8) 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 the terrestrial and aquatic ecosystems on the plan area to adapt to change (§ 219.8); (9) Public water supplies and associated water quality. (10) Opportunities to connect people with nature.

(b) Requirements for plan components for a new plan or plan revision. (1) The plan must include plan components, including standards or guidelines, to provide for: (i) Sustainable recreation; including recreation settings, opportunities, and access; and scenic character. Recreation opportunities may include nonmotorized, motorized, developed, and dispersed recreation on land, water, and in the air. (ii) Protection of cultural and historic resources. (iii) Management of areas of tribal importance. (iv) Protection of congressionally designated wilderness areas as well as management of areas recommended for wilderness designation to protect and maintain the ecological and social characteristics that provide the basis for their suitability for wilderness designation. (v) Protection of designated wild and scenic rivers as well as management of rivers found eligible or determined suitable for the National Wild and Scenic River system to protect the values that provide the basis for their suitability for inclusion in the system. (vi) Appropriate management of other designated areas or recommended designated areas in the plan area, including research natural areas. (2) Other plan components for integrated resource management to provide for multiple use as necessary. (at 21265–21266)

§ 219.19 Definitions.

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

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.

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. (at 21270)

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. (at 21270–21271)

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).

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.

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.

Restore. To renew by the process of restoration (see restoration).

Risk. A combination of the likelihood that a negative outcome will occur and the severity of the subsequent negative consequences.

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.

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. (at 21272)