



Cibola National Forest Mountain Ranger Districts Plan Revision



Inventory and Evaluation Process of Lands that may be Suitable for Inclusion in the National Wilderness Preservation System

DRAFT
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Introduction

The Cibola National Forest is in the required¹ process of revising the forest plan for the four mountain ranger districts (RDs): Mt. Taylor, Magdalena, Mountainair, and Sandia. Part of the revision process includes identifying and evaluating lands that may be suitable for inclusion in the National Wilderness Preservation System (NWPS) and determining whether to recommend to the Chief of the Forest Service any such lands for wilderness designation. A description of this process can be found in the 2012 Forest Service Planning Rule and Chapter 70 of the Forest Service Land Management Planning Handbook 1909.12. This process includes the following four steps:

1. Identify and inventory all lands that may be suitable for inclusion in the National Wilderness Preservation System
2. Evaluate the wilderness characteristics of each area based on a given set of criteria
3. The forest supervisor will determine which areas to further analyze in the National Environmental Policy Act (NEPA) process
4. The forest supervisor will decide which areas, if any, to recommend for inclusion in the National Wilderness Preservation System (NWPS).

Lands evaluated and analyzed through this process and the resulting NEPA analysis are only preliminary administrative recommendations; Congress has reserved the authority to make final decisions on wilderness designation.

This report summarizes the process to date that the Cibola National Forest has completed.

Phase 1 Inventory of Lands that may be Suitable for Inclusion in the NWPS

The Cibola National Forest interdisciplinary team (please see Appendix D for a list of members) began identifying and inventorying lands that may be suitable for inclusion in the NWPS using the size, adjacency, and road improvements criteria outlined in the Forest Service Handbook.² The directives used to complete Phase 1 Inventory were the draft directives, dated December 19, 2013.

During the Cibola National Forest's initial inventory, a set of criteria was used, which is described below.

Phase 1 Process and Criteria

- 1. The team applied initial screening, which included the following:**
 - Private and state inholdings were not included in the inventory.
 - Military withdrawal lands (on the Sandia Ranger District) and the Langmuir Research Site (Magdalena Ranger District) were not included in the inventory.³
 - The 1985 Cibola National Forest Plan Utility Corridors were excluded from the inventory areas, as well as other known cleared rights of way and pipelines.

¹ National Forest Management Act of 1976

² See FSH 1909.12 Chapter 70, 71.21 and 71.22a

³ Langmuir Research Site was not included in Phase 1 inventory, but was added after public comments for the Phase 2 Inventory.

- Level 2 through Level 5 roads⁴ shown on the inventory map were buffered by 30 meters (98.4 feet) on either side of the road centerline, and these areas were removed from the inventory.
2. **The areas resulting from the initial screening listed above were then further subdivided, based on the intrusion of roads into areas, to leave as few areas with internal road spurs as practical.**
 3. **Acres of final areas were then updated, and coded as follows:**
 - **Criterion #1: An area greater than 5,000 acres.**
 - **Criterion #2: An area adjacent to existing Wilderness regardless of size.** Existing wilderness includes not only existing Congressionally designated wilderness areas, but also administratively recommended wilderness areas and wilderness inventories on other federal lands (such as wilderness study areas on Bureau of Land Management Land).
 - **Criterion #3: A stand-alone area (not adjacent to existing Wilderness) that is less than 5,000 acres but of sufficient size to make practicable its preservation and use in an unimpaired condition and can be effectively managed as a separate unit of NWPS**

The Cibola National Forest included on the draft inventory maps those areas involved in projects such as Magdalena RD Travel Management; Military Training Exercises Area; Zuni Mountain Bike Trail System (Mt. Taylor RD); or other projects that are undergoing or soon to be undergoing a NEPA analysis. Lands involved in these projects may be removed from further consideration during the evaluation phase, depending on a decision regarding these projects. Maps will be updated as project decisions are signed.

The Cibola National Forest hosted a series of collaborative workshops in September 2014 (see Appendix E). These workshops focused on the initial identification and inventory of lands that may be suitable for inclusion in the NWPS.

Phase 1 Public Collaboration

The public provided comments on the Phase 1 inventory results through an online collaborative mapping tool, hard copy comment forms, e-mail, and postal mail from September 9, 2014 through November 21, 2014. The Forest received a total of 1,107 comments during the comment period.

The following is a summary of the number of comments received by format:

- 37 comment letters or forms were received by postal mail.
- 265 comments were submitted into the Collaborative Mapping Tool by users.
- 805 comment letters were received by e-mail; 731 of the letters were form letters from members of one of several non-governmental organizations.

There were 50 comments addressing specific Phase 1 inventory areas entered into the Collaborative Mapping Tool geodatabase by Cibola National Forest staff on behalf of individuals who had emailed or postal mailed letter. These are included in the total number of comments received.

⁴ Level 2 through Level 5 roads refers to the range of Forest Service road classifications. Level 2 roads can be accessed using high clearance/4-WD (Level 2) and Level 5 roads are typically paved and can be accessed using standard passenger vehicles.

Phase 1 Results

The resulting areas and acres, after applying the criteria for Phase 1 Inventory, are summarized by District in Table 1. Some overall results include the following:

- No stand-alone areas less than 5,000 acres were included because they were not of a sufficient size as to make practical its preservation and use in an unimpaired condition (from Criterion #3).
- Some areas less than 5,000 acres in size were included because they are adjacent to an existing wilderness or recommended wilderness study area⁵ (from Criterion #2).

Table 1. Phase 1 inventory results presented in the September 2014 public workshops.

District	Number Areas	Acres (approximate)
34 Stand-alone Areas Greater than 5,000 Acres		
Mt. Taylor	12	113,429
Magdalena	20	253,190
Mountainair	2	15,176
Sandia	0	0
Total	34	381,795
26 Areas Adjacent to Existing Wilderness or Recommended Wilderness Study Areas		
Mt. Taylor	0	0
Magdalena	8	96,074
Mountainair	8	19,852
Sandia	10	4,740
Total	26	120,666
Phase 1 Inventory TOTAL	60 areas	502,461 acres

Phase 2 Inventory of Lands that may be Suitable for Inclusion in the NWPS

Phase 2 Process and Criteria

In Phase 2, the Cibola National Forest interdisciplinary team (see Appendix D) further revised the inventory areas using the following:

- 1. For each ranger district, public comments submitted during Phase 1 were used to refine the areas.**
- 2. Criteria #1, #2, and #3 from Phase 1 were used.**
- 3. Additional Criterion #4: Substantially noticeable improvements.** In addition to the Phase 1 criteria, the team developed a definition for 'substantially noticeable' from the Forest Service Handbook—the "other improvements" criterion⁶. This criterion requires the inclusion of those areas in the inventory where improvements are not substantially noticeable.

⁵ Wilderness study areas are management areas on Bureau of Land Management federal lands.

⁶ Other improvements refers to improvements other than roads, and includes airstrips and heliports, vegetation treatments, timber harvest areas, permanently installed vertical structures, areas of mining activity, range improvement areas, recreation improvements, ground-return telephone, electric, and power lines, watershed treatment areas, lands adjacent to development or

Please see Appendix A for a detailed description of how the definition of ‘substantially noticeable’ was developed, and how that criterion was applied to areas in Phase 2.

Each area was also reviewed with public comments on the inventory. Comments pertaining to the evaluation phase were retained and carried forward for consideration in the next phase of the process. These comments are available in a detailed spreadsheet by area upon request. Refer to Appendix B for a summary.

Phase 2 Results

In April 2015, findings from the district interdisciplinary meetings were summarized and presented to the Cibola National Forest Plan Revision Steering Committee for consideration.

Results are documented in a summary, with findings and conclusions from the interdisciplinary team meetings (Appendix B). The steering committee reviewed results for each inventory area and made the following decisions:

- **Area stayed on the inventory with no modifications;**
- **Area was modified after considering substantially noticeable improvements;**
- **Area was excluded from the inventory.** In order to be excluded from the Phase 2 inventory, the area no longer met Criterion #1: an area greater than 5,000 acres (for stand-alone areas) after substantially noticeable improvements were excluded.
- **The steering committee also reviewed findings on requested additions made by the public, and decided on adding requested areas to existing inventory areas or adding entirely new areas to the inventory.**

Steering committee conclusions on Phase 2 inventory areas are summarized below. A more detailed summary is also available in Appendix B.

Phase 2 Results

The resulting areas and acres, after applying the criteria for Phase 2 Inventory, are summarized in Table 2. This table also shows a comparison of results between Phase 1 and Phase 2. Some overall results include the following:

- **13 stand-alone areas, greater than 5,000 acres, were removed from the inventory.** Once substantially noticeable improvements were excluded from these areas, they no longer met Criterion #1 (the size criteria outlined in Chapter 70 directives) and the steering committee did not feel they met Criterion #3 (were of sufficient size as to make practicable their preservation and use in an unimpaired condition).
 - Mt. Taylor Ranger District: (5) of these areas were removed.
 - Magdalena Ranger District: (7) of these areas were removed.
 - Mountainair Ranger District: (1) area was removed.
- **4 additional areas identified by the public were considered, including additions which met Criterion #2, by being adjacent to existing wilderness, primitive area, administratively recommended wilderness or wilderness inventory of other Federal ownership. Three of these areas were added to the inventory.**

activities that impact opportunities for solitude, structures, dwellings, and other relics of past occupation, and areas with improvements that have been proposed by Forest Service for consideration as recommend wilderness through previous planning efforts. See FSH 1909.12 Chapter 70, 71.22b, pgs. 9-10.

- Mt. Taylor Ranger District: (1) area (D2_ADJ1) was requested for addition by the public, but found to not be adjacent to Bureau of Land Management wilderness study areas, as can be seen on Phase 2 inventory maps.
 - Magdalena Ranger District: (3) areas adjacent to Bureau of Land Management wilderness study areas were added (D3_ADJ9, D3_ADJ10, and D3_LANG), as requested by public comment. Please see Phase 2 inventory maps.
- **Forest-wide, 384,503 acres remain for consideration in Phase 2, or 77% of the Phase 1 total acreage.**
 - **Other areas stayed on the inventory with either no modifications from Phase 1 or with some modifications.** Modifications include, but are not limited to, consideration of areas with substantially noticeable improvements or including additions identified by the public. Areas which stayed on the inventory either meet Criterion #1 (size criteria) or Criterion #2 (are adjacent to existing wilderness, primitive area, administratively recommended wilderness or wilderness inventory of other Federal ownership).

Table 2. Comparison of Phase 1 and Phase 2 Inventory Results.

District	PHASE 1: Number of Areas	PHASE 1: Acres*	PHASE 2: Number of Areas	PHASE 2: Acres*
Stand-alone Areas – greater than 5,000 acres				
Mount Taylor	12	113,429	5**	30,648
Magdalena	20	253,190	15	198,528
Mountainair	2	15,176	1	7,549
Sandia	0	0	0	0
Total	34	381,795	21	236,725
Areas Adjacent to Existing Wilderness or Recommended Wilderness Study Areas				
Mount Taylor	0	0	2**	33,237
Magdalena	8***	96,074	23***	94,946
Mountainair	8	19,852	8	15,072
Sandia	10	4,740	10	4,523
Total	26	120,666	43	147,778
TOTAL	60	502,461	64	384,503

- *All acres are approximate.
- ** Two areas on the Mount Taylor Ranger District were mapped as stand-alone areas in Phase 1, but were determined to be adjacent to Bureau of Land Management wilderness study areas during Phase 2. Therefore, in Phase 2, these acres were moved from the stand-alone section (top of table) to adjacent section (bottom of table).
- *** During Phase 2, one large area (D3_ADJ8) adjacent to the Apache Kid Wilderness Area was split into multiple areas, which accounts for the increase in the number of areas from Phase 1 to Phase 2.

Table 3. Percent of Acres Remaining in Phase 2

District	PHASE 1 Acres Total	PHASE 2 Acres Total	Percent of Acres Remaining
Mt. Taylor	113,429	63,885	56%
Magdalena	349,264	293,474	84%
Mountainair	35,028	22,621	65%
Sandia	4,740	4,523	95%

District	PHASE 1 Acres Total	PHASE 2 Acres Total	Percent of Acres Remaining
Total	502,461	384,503	77%

Next Steps: Evaluation

The next step in the plan revision process for inventorying and evaluating lands that may be suitable for inclusion in the National Wilderness Preservation System is to evaluate each area on the inventory map for wilderness characteristics. Evaluation of wilderness characteristics is done using five criteria set forth in the Wilderness Act of 1964 and required in the Forest Service Handbook final directives FSH 1909.12, Chapter 70, Section 72.1. A summary of these five criteria is as follows:

1. Evaluate the degree to which the area generally appears to be affected primarily by the forces of nature, with the imprints of man's work substantially unnoticeable (apparent naturalness).
2. Evaluate the degree to which the area has outstanding opportunities for solitude or for a primitive and unconfined type of recreation. The word "or" means that an area only has to possess one or the other. The area does not have to possess outstanding opportunities for both elements, nor does it need to have outstanding opportunities on every acre.
3. Evaluate how an area of less than 5,000 acres is of sufficient size to make its preservation and use in an unimpaired condition practicable.
4. Evaluate the degree to which an area may contain ecological, geological, or other features of scientific, educational, scenic, or historical value. These values are not required in an area to be present, but their presence should be identified and evaluated where they exist.
5. Evaluate the degree to which the area may be managed to preserve its wilderness characteristics.

The Cibola National Forest plan revision interdisciplinary team developed draft questions and measures to address each of these five criteria, and to provide a consistent way to evaluate each area in the inventory for wilderness characteristics in a comparable manner. These are outlined in the Evaluation Criteria, available as Appendix C.

Over the next several months, the Cibola National Forest interdisciplinary team members, cooperating agency landscape teams, and interested members of the public will be evaluating each area of the inventory for these criteria at a minimum, because these criteria are required to be addressed by the 2012 Planning Rule final directives. Supporting information that is identified during the evaluation phase will be used to evaluate and assess the area as a whole.

Next Steps- Analysis and Possible Recommendation

Following the evaluation phase, the Forest Supervisor will decide, based on evaluation and public input, which areas, or portions thereof, will be considered in draft forest plan and alternatives which should be released in the winter of 2015 for further public comment. Comments will be used to make adjustments and prepare a draft environmental impact statement. This will tentatively be available for review in the summer of 2016. A draft record of decision and final environmental impact statement will occur in fall 2016 with the opportunity for objections.

Once the forest plan is finalized (spring/summer of 2017), the final environmental impact statement is released, and a record of decision is signed, the Cibola National Forest Supervisor may recommend

suitable lands for National Wilderness Preservation System designation to the Chief of the U.S. Forest Service, if the record of decision contains suitable lands. Such recommendation may then be forwarded to the Secretary of Agriculture, and ultimately to Congress, for their consideration and possible designation. Congress has reserved the authority to make final decisions on wilderness designation. Please see Appendix F for a detailed description of the process from evaluation through recommendation in Forest Service Land Management Planning Handbook 1909.12, Chapter 70.

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Appendix A. Substantially Noticeable Definition Matrix

Defining “Substantially Noticeable”

The term “substantially noticeable” is not directly defined in the Forest Service Handbook 1909.12, Chapter 70 for inventory and evaluation of lands that may be suitable for inclusion in the NWPS⁷. In November and December 2014, the Cibola National Forest interdisciplinary team developed a definition of ‘substantially noticeable’ for the specific improvements listed in the Forest Service Handbook⁸. The use of the term “improvements” in this context is taken from the Forest Service Handbook, and means the evidence of past human activities in the area as a whole.

An interdisciplinary team of resource specialists drafted a matrix for the definitions of “substantially noticeable.” This Substantially Noticeable Definition Matrix is based on the type of materials used to construct or develop the improvement, connected aspects associated with utilizing the improvement, and how evident the improvement and associated features are on the landscape. Principles for scenery management were considered by the interdisciplinary team to create the Substantially Noticeable Definition Matrix. These principles consider the degree to which the landscape appears unaltered by human activities (deviations from the natural character may be present, but if present they repeat the form, line, color, texture, and pattern common to the surrounding landscape, so completely that they are not evident).

Some structures such as log cabins, split rail (post and log) fences, or orchards are considered positive cultural elements when looking at landscape character. Windmills, made with natural appearing materials or colors, are often also considered a positive cultural element in scenery management. This complements FSH 1909.12 Chapter 70, 71.22b, which states historic structures, dwellings, and other relics of past occupation, when they are considered part of the historic and cultural landscape of the area, may be included in the inventory of lands that may be suitable for inclusion the NWPS.

Range Improvements from a Scenery Management Perspective⁹

Ranching is a part of our cultural heritage, and range structures have become accepted as necessary parts of characteristic landscapes. Range structures can be grouped into three categories: fences, corrals and related structures, and water developments.

Fences

Fences would be more evident if a fence line crosses vegetative openings, is located part way up a slope and viewed against a landform, silhouetted against the sky, or constructed solely of unnatural, reflective materials. Soil disturbance and clearing of vegetation for fence construction and maintenance may cause undesirable deviations in color and texture due to exposed soils. When fences are located within forested vegetation for partial or total screening from most vantage points, they are less evident.

⁷ FSH 1909.12 Chapter 70, 71.22b

⁸ FSH 1909.12 Chapter 70, 71.22b

⁹ U. S. Department of Agriculture, Forest Service. 1977. National Forest Landscape Management, Volume 2, Chapter 3 - Range (Agriculture Handbook 484)

Corrals and Related Structures

This category includes all structures used to handle or work livestock. These types of structures would be more evident if they are constructed of unnatural, reflective materials with little or no vegetative screening. When structures are constructed with natural materials, painted natural colors, or located where existing landforms and vegetation provide for partial or total screening from most vantage points, they are less evident.

Water Developments

This category includes reservoirs, spring or seep developments, wells, trick tanks, storage tanks, pumps, pipelines (diameter of greater than 6 inches), and drinking troughs. These types of developments would be more evident if they are constructed of unnatural, reflective materials with little or no vegetative screening. Soil disturbance and clearing of vegetation for construction may cause undesirable deviations in color and texture due to exposed soils. When developments are constructed with natural materials, painted natural colors, or located where existing landforms and vegetation provide for partial or total screening from most vantage points, they are less evident. If as much of the structure as possible is placed at or below ground level, the structure is also less evident.

Assumptions Developed When Applying the Substantially Noticeable Definition Matrix

Linear Features

For linear improvements, such as fences or water pipelines, the determination for whether the improvement is substantially noticeable is not based on a person walking parallel to the feature with a continuous view of the improvement. Rather, the determination is based on a person potentially seeing the feature from different vantage points while traveling cross country in the area.

Structures

Structures, dwellings, and other relics of past occupation, when they are considered part of the historic and cultural landscape of the area, may be included in the inventory of lands that may be suitable for inclusion into the NWPS.¹⁰

Designated System Roads

Roads are considered in this inventory phase in combination with other improvements listed in the Substantially Noticeable Definition Matrix and those identified by the public (e.g. stock tanks, wells, etc.). Other routes including unauthorized routes that provide access to an improvement may be excluded from the inventory area if the improvement is determined to be substantially noticeable, using the Substantially Noticeable Definition Matrix. “Cherry stemming”¹¹ of these routes and the improvement may be used to exclude an area. If a route extends beyond an identified improvement, it is no longer associated with that improvement; it would not be excluded, but would be further considered in the evaluation phase.

¹⁰ FSH 1909.12 Chapter 70, 71.22b #11

¹¹ The term “cherry stemmed” road refers to a road removed from the inventory using the 30 meter (98.4 feet) (road buffer screening from the Phase 1 Inventory process.

All unauthorized routes were not mapped as part of either inventory phase. Those routes will be considered in the evaluation phase as part of the apparent naturalness and degree to which the area may be managed to preserve its wilderness characteristics.

Improvements Similar to Those Found in Existing Designated Wilderness

Substantially noticeable improvements occurring in existing wilderness on the Cibola National Forest (designated in 1978 or 1980) do not influence the consideration of whether the same or similar improvement is substantially noticeable or not substantially noticeable using the final directives of FSH 1909.12 Chapter 70. The final FSH 1909.12 Chapter 70 directives and the Substantially Noticeable Definition Matrix will be used to determine if improvements are substantially noticeable. The fact that the same type of improvement may occur in designated wilderness will not influence whether an improvement within an inventory area is substantially noticeable or not substantially noticeable.

Finalization of Forest Service Handbook Directives during Phase 2 Inventory

Final Forest Service Handbook directives (1909.12 Chapter 70) were released on January 30, 2015. The draft directives were used by the Cibola National Forest up to that point, and then the final directives were used starting January 30th. One notable difference between the draft and final directives is that the draft directives included historic mining and mining activity, but the final directives do not differentiate between the two. Mining activity is the language used in the final directives. The Substantially Noticeable Definition Matrix includes both historic mining and mining activity, and was not changed since historic mining would be considered with mining activity. Therefore, the Substantially Noticeable Definition Matrix is still consistent with the improvements listed in the final directives.

Applying the Substantially Noticeable Definition Matrix

The interdisciplinary team applied the Substantially Noticeable Definition Matrix during Ranger District interdisciplinary meetings held between January and March of 2015. The team reviewed each inventory area using the Substantially Noticeable Definition Matrix, corporate infrastructure data in Forest Service geodatabases, aerial photography, and public comments¹², including data and photos submitted by the public. For those improvements for which there is no corporate record, local knowledge was applied if available.

The following improvements types were considered:

- vegetation treatment improvements
- timber harvest improvements
- range improvements
- historic mining improvements
- mining activity improvements
- watershed treatment improvements
- other improvements identified by the public or Forest Service personnel including but not limited to: utility rights-of-way, recreation improvements, environmental monitoring sites, and so forth.

¹² Note: Information collected that was not specific to improvements was noted for consideration in later phases of this process.

The interdisciplinary team reviewed the above improvements using the Substantially Noticeable Definition Matrix. Using the Substantially Noticeable Definition Matrix, the team determined whether these improvements were substantially noticeable or not substantially noticeable. The Substantially Noticeable Definition Matrix aided in determining whether or not the areas with substantially noticeable improvements were included or excluded in the Phase 2 inventory results. These determinations and rationale were documented (see Appendix B: Detailed Phase 2 Results). The team also applied the Substantially Noticeable Definition Matrix to any improvements within areas requested as additions to the inventory by the public during the Phase 1 comment period. These results were documented in the same manner.

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Substantially Noticeable Definition Matrix Table

The following table includes the other improvements listed in FSH 1909.12 Chapter 70 and a matrix of improvements which are substantially noticeable. The team used the following data sources when reviewing all improvement types listed in the matrix table: 2011 and 2014 NAIP aerial imagery (National Agricultural Imagery Program), local or field based knowledge of Forest Service personnel, collaborative mapping tool public comments and written public comments, data layers and GPS information submitted with public comments, photographs submitted with public comments, and FOIA response data.

Table 4. Substantially Noticeable Definition Matrix Table

Improvement Types FSH 1909.12 Chapter 70 71.22b – Other Improvements	Substantially Noticeable (exclude affected area)	Data Protocol for Substantially Noticeable
<p><u>Vegetation treatments</u></p>	<p>Treatments create deviations in form, line, color, texture and pattern in the surrounding natural landscape. The natural landscape appears altered by vegetation treatment improvements. Changes in canopy cover and forms introduced by treatment unit shape are evident and contrast with the surrounding natural landscape. Edges of treatment units are linear or abrupt. Concentrations of treatments may create an unnatural pattern across the landscape.</p> <p>Examples include:</p> <ul style="list-style-type: none"> • high (greater than 1 foot) stumps or numerous stumps • high amounts of slash, slash piles • visible decks, landings, skid trails, access roads associated with vegetation treatment improvements • edges of treated area are evident, abrupt, not feathered or strongly defined • change in canopy cover is evident • even spacing of trees due to vegetation treatment is evident 	<p><u>Data Sources:</u></p> <p>General Technical Report 310 – Restoring Composition and Structure in Southwestern Frequent-Fire Forests</p> <p>Forest Activities Tracking System (FACTS) codes and spatial data</p> <p>Vegetation History data layers for Mt. Taylor Ranger District</p> <p>Firewood cutting or other subsistence activities locations</p> <p>Spatial data for fuels reduction if not in FACTS database</p> <p>Range Vegetation Treatments: Range plowed and seeded areas, pushes, chaining, etc.</p> <p>Aerial photography review and field based knowledge of the ground conditions was the determining factor, not the FACTS activity code</p> <p>Step 1. Coarse filter. Overlay vegetation treatment spatial data</p> <p>Step 2. Review aerial photography and recent photographs</p> <p>Step 3a. Map area affected by vegetation treatment and associated improvements</p> <p>Step 3b. Review public comments to inform or validate mapped improvements and build corporate knowledge</p> <p>Step 4. Consider distribution, frequency and context of substantially noticeable improvements</p> <p>Step 5: If a substantially noticeable determination cannot be made with data sources mentioned, complete field verification to make a substantially noticeable determination for that site specific improvement</p>

Improvement Types FSH 1909.12 Chapter 70 71.22b – Other Improvements	Substantially Noticeable (exclude affected area)	Data Protocol for Substantially Noticeable
<p><u>Timber harvest areas.</u></p>	<p>Treatments create deviations in form, line, color, texture and pattern in the surrounding natural landscape. The natural landscape appears altered by vegetation treatment improvements. Changes in canopy cover and forms introduced by treatment unit shape are evident and contrast with the surrounding natural landscape. Edges of treatment units are linear or abrupt. Concentrations of treatments may create an unnatural pattern across the landscape.</p> <p>Examples include:</p> <ul style="list-style-type: none"> • high (greater than 1 foot) stumps or numerous stumps • high amounts of slash, slash piles • skyline corridors • visible decks, landings, skid trails, access roads associated with vegetation treatment improvements • edges of treated area are evident, abrupt, not feathered or strongly defined • change in canopy cover is evident • even spacing of trees due to timber harvest is evident 	<p><u>Data Sources:</u></p> <p>General Technical Report 310 – Restoring Composition and Structure in Southwestern Frequent-Fire Forests</p> <p>Timber harvest records:</p> <ul style="list-style-type: none"> • Forest Activities Tracking System (FACTS) codes and spatial data • Hard copy timber atlas available at Mount Taylor and Magdalena District Offices. No timber atlases could be found for the Mountainair and Sandia Ranger Districts • Vegetation History data layers for Mt. Taylor Ranger District • Approved firewood cutting areas <p>Aerial photography review and field based knowledge of the ground conditions was the determining factor, not the activity code</p> <p>Step 1. Coarse filter. Overlay timber harvest spatial data</p> <p>Step 2. Review aerial photography and recent photographs</p> <p>Step 3a. Map area affected by timber harvest and associated improvements</p> <p>Step 3b. Review public comments to inform or validate mapped improvements and build corporate knowledge</p> <p>Step 4. Consider distribution, frequency and context of substantially noticeable improvements</p> <p>Step 5: If a substantially noticeable determination cannot be made with data sources mentioned, complete field verification to make a substantially noticeable determination for that site specific improvement</p>

<p>Improvement Types FSH 1909.12 Chapter 70 71.22b – Other Improvements</p>	<p>Substantially Noticeable (exclude affected area)</p>	<p>Data Protocol for Substantially Noticeable</p>
<p><u>Range improvement areas</u></p>	<p>Structural and non-structural improvements contrast with the form, line, color and texture of the surrounding landscape. Structural improvements begin to dominate the setting.</p> <p>Examples include:</p> <ul style="list-style-type: none"> • Improvements which are reflective, made from non-natural materials, or painted colors that conflict with the surrounding landscape. • Linear improvements which are sited to run perpendicular to the natural terrain or on ridge tops • Improvements are located where landforms or vegetation provides little or no visual screening from most vantage points • Examples of structural improvements that may be substantially noticeable include: galvanized tanks, galvanized fences or windmills, galvanized corrals, solar panels, wildlife drinkers. • Ground disturbing improvements which expose soils, causing undesirable deviations in color and texture due to exposed soils. • Mechanized or motorized structural improvements • Water pipelines located above ground which are greater than 6 inches in diameter and a color which stands out against the landscape (i.e., white) and/or run perpendicular to the slope with little or no visual screening from most vantage points. • Concentrations of range improvements may create an unnatural pattern across the landscape. <p>Whether these structural improvements are substantially noticeable will depend on slope and surrounding vegetation which can affect visibility of the feature and the concentration of features present.</p>	<p><u>Data Sources:</u></p> <p>Grazing allotments and improvements maps</p> <p>Constructed features spatial data (including wildlife improvements): fences, pipelines, stock tanks, drinkers, etc.</p> <p>Magdalena Ranger District Range Improvements data layers</p> <p>Wildlife improvements spatial data available for Magdalena Ranger District (HSP point features)</p> <p>Spatial data for wildlife improvements and springs: 1) Wildlife impoundments 2) Water wells or water impoundments 3) spring locations 4) Locations of pumps, water improvement infrastructure, or water line</p> <p>Step 1. Coarse filter. Overlay range spatial data Step 2. Review aerial photography and recent photographs Step 3a. Map area affected by range improvements Step 3b. Review public comments to inform or validate mapped improvements and build corporate knowledge Step 4. Consider distribution, frequency and context of substantially noticeable improvements. Consider cumulative effect of many small improvements. Step 5: If a substantially noticeable determination cannot be made with data sources mentioned, complete field verification to make a substantially noticeable determination for that site specific improvement</p> <p><u>Footnotes:</u></p> <p>Structural improvements (fences, water troughs and so forth)</p> <p>Non-structural improvements (chaining, burning, spraying, potholing and so forth)</p>

Improvement Types FSH 1909.12 Chapter 70 71.22b – Other Improvements	Substantially Noticeable (exclude affected area)	Data Protocol for Substantially Noticeable
<p>Areas of historic mining</p>	<p>Areas of historic mining where improvements create deviations in form, line, color, texture and pattern in the surrounding natural landscape and are not considered part of the historical and cultural landscape of the area. The natural landscape appears altered by historic mining impacts.</p> <p>Changes in canopy cover due to vegetative clearing and landforms altered by extraction are evident and contrast with the surrounding natural landscape. Edges of vegetation clearing are linear or abrupt. Ground disturbing improvements which expose and compact soils, causing undesirable deviations in color and texture due to exposed soils. Compacted soils which re-vegetate more slowly causing color deviations to persist. Concentrations of treatments may create an unnatural pattern across the landscape.</p> <p>Improvements are not partially or completely screened by topography or vegetation from most vantage points.</p> <p>Examples include:</p> <ul style="list-style-type: none"> • evident ground disturbance exposing soils at a scale larger than prospect holes, prospect pits, shafts, diggings, or adits • Head frames made of unnatural materials and large enough to dominate the setting • landform altering extraction which has not re-vegetated • tailings or slump piles • plastic or metal pipes on the ground • structures, unless they are part of the historical or cultural landscape. 	<p><u>Data Sources:</u></p> <p>Spatial data: mining claim locations, both active and inactive:</p> <ul style="list-style-type: none"> • active and inactive mine claims available from Bureau of Land Management (www.blm.gov/lr2000) • Abandoned and Inventoried Mines (AML-12 and AML-13 data layers), mining activity data inventory • Any known sites of chemical contaminations. Most locations were not within an inventory area. <p>Historic mining district locations</p> <p>Step 1. Coarse filter. Overlay spatial data Step 2. Review aerial photography and recent photographs Step 3a. Map area affected historic mining Step 3b. Review public comments to inform or validate mapped improvements and build corporate knowledge Step 4. Consider distribution, frequency and context of substantially noticeable improvements Step 5: If a substantially noticeable determination cannot be made with data sources mentioned, complete field verification to make a substantially noticeable determination for that site specific improvement</p> <p>Footnotes: Abandoned mine – no active operator Active claim – current interest, but an activity may not be occurring Inactive claim – not under mining claim. Concentrations indicate mineral potential Historic mining part of the historical and cultural landscape of the area - Historic mining district, heritage cultural sites.</p>

Improvement Types FSH 1909.12 Chapter 70 71.22b – Other Improvements	Substantially Noticeable (exclude affected area)	Data Protocol for Substantially Noticeable
Areas of <u>mining activity</u>	<p>Areas of mining activity where improvements create deviations in form, line, color, texture and pattern in the surrounding natural landscape. The natural landscape appears altered by mining activity impacts.</p> <p>Changes in canopy cover due to vegetative clearing and landforms altered by extraction are evident and contrast with the surrounding natural landscape. Edges of vegetation clearing are linear or abrupt. Ground disturbing improvements which expose and compact soils, causing undesirable deviations in color and texture due to exposed soils. Compacted soils which re-vegetate more slowly causing color deviations to persist. Concentrations of treatments may create an unnatural pattern across the landscape.</p> <p>Improvements are not partially or completely screened by topography or vegetation from most vantage points.</p> <p>Examples include:</p> <ul style="list-style-type: none"> • Evident ground disturbance exposing soils at a scale larger than prospect holes, prospect pits, shafts, diggings, or adits • Head frames made of unnatural materials and large enough to dominate the setting • landform altering extraction which has not re-vegetated • tailings or slump piles • borrow pits • plastic or metal pipes on the ground 	<p>Data source:</p> <p>Spatial data: mining claim locations, both active and inactive:</p> <ul style="list-style-type: none"> • active and inactive mine claims available from Bureau of Land Management (www.blm.gov/lr2000) • Abandoned and Inventoried Mines (AML-12 and AML-13 data layers), mining activity data inventory • Any known sites of chemical contaminations. Most locations were not within an inventory area. <p>Step 1. Coarse filter. Overlay spatial data Step 2. Review aerial photography and recent photographs within 5 years Step 3a. Map area affected mining activity Step 3b. Review public comments to inform or validate mapped improvements and build corporate knowledge Step 4. Consider distribution, frequency and context of substantially noticeable improvements Step 5: If a substantially noticeable determination cannot be made with data sources mentioned, complete field verification to make a substantially noticeable determination for that site specific improvement</p>

Improvement Types FSH 1909.12 Chapter 70 71.22b – Other Improvements	Substantially Noticeable (exclude affected area)	Data Protocol for Substantially Noticeable
<p><u>Watershed treatment areas</u></p>	<p>Watershed treatment areas where improvements create deviations in form, line, color, texture and pattern in the surrounding natural landscape. The natural landscape appears altered by improvements.</p> <p>Changes in canopy cover due to vegetative clearing associated with improvements and landforms altered by improvements are evident and contrast with the surrounding natural landscape. Ground disturbing improvements which expose and compact soils, causing undesirable deviations in color and texture due to exposed soils. Compacted soils which re-vegetate more slowly causing color deviations to persist.</p> <p>Examples include:</p> <ul style="list-style-type: none"> • Improvements made of non-natural materials • Terraced areas such as what is in Bernalillo Research Natural Area. • Post-fire treatments (i.e., filter dams) to control flooding, which are permanent and made of non-natural materials. <p>Consider on the ground appearance rather than aerial view appearance for channel structures. Although one can see improvements from an aerial view, one rarely notices the improvement on the ground unless next to it.</p>	<p>Data source: Spatial data: National Hydrography Dataset (NHD) water points and waterbodies Watershed improvements identified by specialists using local field knowledge</p> <p>Step 1. Coarse filter. Overlay spatial data Step 2. Review aerial photography and recent photographs Step 3a. Map area affected by watershed treatments Step 3b. Review public comments to inform or validate mapped improvements and build corporate knowledge Step 4. Consider distribution, frequency and context of substantially noticeable improvements Step 5: If a substantially noticeable determination cannot be made with data sources mentioned, complete field verification to make a substantially noticeable determination for that site specific improvement</p> <p>Footnote: Watershed treatment areas (such as contouring, diking, channeling)</p>

Improvement Types FSH 1909.12 Chapter 70 71.22b – Other Improvements	Substantially Noticeable (exclude affected area)	Data Protocol for Substantially Noticeable
<p><u>Other Improvements</u></p>	<p>Other improvements which create deviations in form, line, color, texture and pattern in the surrounding natural landscape. The natural landscape appears altered by improvements.</p> <p>Changes in canopy cover due to vegetative clearing associated with improvements and landforms altered by improvements are evident and contrast with the surrounding natural landscape. Ground disturbing improvements which expose and compact soils, causing undesirable deviations in color and texture due to exposed soils. Compacted soils which re-vegetate more slowly causing color deviations to persist.</p>	<p>Recreation improvements: open or decommissioned. As a general rule, developed sites should not be included. Areas with minor, easily removable recreation developments may be included in the inventory. (FSH 1909.12 Chapter 70, 71.22b #7). The team used substantially noticeable definition for Range Improvements for this type of improvement.</p> <p>INFRA database for: National Forest System roads, decommissioned roads, bridges. Unauthorized roads or routes were not mapped as part of either inventory Phase (FSH 1909.12 Chapter 70, 71.22a and see page 8)</p> <p>INFRA database for Designated Trails: Motorized and non-motorized trails were not excluded from either inventory Phase.</p> <p>Constructed Features: Environmental monitoring site locations for air, water, rangeland or soil, including weather stations. The team used substantially noticeable definition for Range Improvements or Mining Activity for this type of improvement.</p> <p>Constructed Features: communication towers Considered as directed in FSH 1909.12 Chapter 70, 71.22b #4. Most were excluded in Phase I due to proximity to roads. In Phase II the team used substantially noticeable definition for Range Improvements or Mining Activity for this type of improvement.</p> <p>Utility rights of way: identified with constructed features, aerial imagery, and rights-of-way information on file. Considered as described on page 1. Any identified in Phase II used the same considerations.</p>

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Appendix B. Detailed Phase 2 Results

The interdisciplinary team conducted a detailed review of each inventory area with public comments and the Substantially Noticeable Definition Matrix. The improvements listed in the FSH 1909.12 Chapter 70, 71.22b were reviewed and results documented. The interdisciplinary team presented results to the Steering Committee. The tables below summarize the conclusions for each inventory area.

Table 5. Mt. Taylor Ranger District, Detailed Phase 2 Results.

Inventory ID / Location	Phase 1 Acres	Phase 2 Results	Phase 2 Acres
D2_5K1 Zuni Mountain Division, Mt. Taylor RD	5,065	Exclude from inventory. Once substantially noticeable timber harvest and range improvements were excluded, the area was less than 5,000 acres and is not of sufficient size as to make practicable its preservation and use in an unimpaired condition. Reduced to 4,481 acres.	N/A
D2_5K2 Zuni Mountain Division, Mt. Taylor RD	5,494	Include in inventory. Modified. Substantially noticeable vegetation treatment, timber harvest, and range improvements were excluded. Size criteria are met (5,000 acres or more). Field verification needed: <u>Range Improvements:</u> Fence line across northern portion of area (North boundary fence) runs perpendicular to terrain, runs across open pinyon-juniper, not evident on aerial photography, field verify when accessible. <u>Other Improvements:</u> Railroad Routes identified by public-Field verify to see if they are part of cultural and historical landscape or if it is part of historic logging. Identified homestead site with structure remnants and orchard remnants. Field verify to see if it is part of cultural and historical landscape.	5,378
D2_5K3 Zuni Mountain Division, Mt. Taylor RD	6,266	Include in inventory. Modified. Substantially noticeable timber harvest and range improvements were excluded. Size criteria are met (5,000 acres or more). Field verification needed: <u>Timber Improvements:</u> Vegetation History data layer shows vegetation improvement near Ramah tank as a small commercial sale for saw timber dated 1981. On aerial photography, the change in forest canopy is evident and edges of harvest unit is evident on aerial photography. It may have evident stumps and should be field verified when accessible.	5,634
D2_5K4 Zuni Mountain Division, Mt. Taylor RD	6,446	Exclude from inventory. Once substantially noticeable timber harvest and range improvements were excluded, the area was less than 5,000 acres and is not of sufficient size as to make practicable its preservation and use in an unimpaired condition. Reduced to 4,458 acres.	N/A

Inventory ID / Location	Phase 1 Acres	Phase 2 Results	Phase 2 Acres
D2_5K5 Zuni Mountain Division, Mt. Taylor RD	6,118	<p>Include in inventory. Modified.</p> <p>Substantially noticeable vegetation treatment, timber harvest, range and watershed improvements were excluded. Size criteria are met (5,000 acres or more).</p> <p>Field verification needed: <u>Timber Improvements:</u> 1) Northern and eastern portion of area identified in corporate database as shelterwood removal cut 1987, unit edge is topographic break, harvest on top of mesa, two evident age classes when looking across landscape. Field verify portion along northern area boundary-Bluewater and Tusas Mesa timber sale to determine if stumps are evident across sale. 2) Along northern and western portion of area, partially within area identified in corporate database as Overstory removal cut 1990, shelterwood removal cut 1987, are stumps evident across sale? Field verify portion along northern area boundary-Bluewater and Tusas Mesa timber sale to determine if stumps are evident across sale. <u>Other improvements:</u> Railroad Routes identified by public-Field verify to see if they are part of cultural and historical landscape or if it is part of historic logging. Woodcutting area identified by public that falls within timber harvest area identified for field verification.</p>	5,128
D2_5K6 Zuni Mountain Division, Mt. Taylor RD	12,194	<p>Include in inventory. Modified.</p> <p>Substantially noticeable vegetation treatment, timber harvest, and range improvements were excluded. Size criteria are met (5,000 acres or more).</p> <p>Field verification needed: <u>Vegetation Treatment Improvements:</u> Plantation along northern edge, proposed as part of Ojo Redondo sale. <u>Timber Improvements:</u> 1) Northern portion of area identified as 1986 Ojo Redondo timber sale-between roads 50R and 50RC. Unit edges not evident on aerial photography. Field verify for stumps and/or slash. 2) Timber atlas identified Heath Timber Sale 1959-1960-around section 33 and 34, between Road 50R and 2028. Assume high stumps, due to different contracting specifications, which may be still present due to climate. Locations of these effects are not specifically known. The area has regenerated, unit edges not evident on aerial photography, but slash may still be present. Field verify for stumps and/or slash. <u>Range Improvements:</u> Yellow spring-spring well development. Field verify to see if it has drinker, fenced enclosure around spring or holding pen. <u>Other Improvements:</u> Manmade structure identified by public. Location same as Yellow Spring identified with range for field verification.</p>	6,392
D2_5K7 Mount Taylor Division, Mt. Taylor RD	5,131	<p>Exclude from inventory.</p> <p>Once substantially noticeable timber harvest improvements were excluded, the area was less than 5,000 acres and is not of sufficient size as to make practicable its preservation and use in an unimpaired condition. Reduced to 4,742 acres.</p>	N/A

Inventory ID / Location	Phase 1 Acres	Phase 2 Results	Phase 2 Acres
D2_5K8 Mt. Taylor Division, Mt. Taylor RD	9,904	<p>Include in inventory. Modified.</p> <p>Substantially noticeable timber harvest, range, and mining improvements were excluded. Size criteria are met (5,000 acres or more).</p> <p>Field verification needed: <u>Timber Improvements:</u> Product areas for Canovitas Latillas. Needs follow up and location. <u>Mining Improvements:</u> Section 28 and 29. Ground disturbance and exposed soils evident on aerial photography. Color difference is evident, access routes associated are evident, gas wells. Identified for field verification. T12N R7W Sec. 29.</p>	8,116
D2_5K9 Mt. Taylor Division, Mt. Taylor RD	7,319	<p>Exclude from inventory.</p> <p>Once substantially noticeable range improvements were excluded, the area was less than 5,000 acres and is not of sufficient size as to make practicable its preservation and use in an unimpaired condition. Reduced to 3,981 acres.</p>	N/A
D2_ADJ2 (was D2_5K10) Mt. Taylor Division, Mt. Taylor RD	20,251	<p>Include in inventory. Modified.</p> <p>Substantially noticeable range improvements were excluded. Size criteria are met (5,000 acres or more or if less than 5,000 acres, contiguous to Bureau of Land Management, Ignacio Chavez Wilderness Study Area).</p> <p>Field verification needed: <u>Timber Improvements:</u> Indios Timber Sale in southern portion of area identified in corporate database as Single tree selection cut 1973. Unit edges blend with surrounding vegetation on aerial photography. All of Indios Timber sale in this area needs to be field verified to check for stumps, slash and whether the timber harvest area is substantially noticeable on the area as a whole. <u>Range Improvements:</u> El Dado Spring-spring well development that needs field verification. Appears to have vegetative and topographic screening on aerial photography.</p>	13,732
D2_5K11 Mt. Taylor Division, Mt. Taylor RD	9,687	<p>Exclude from inventory.</p> <p>Once substantially noticeable range improvements were excluded, the area was less than 5,000 acres and is not of sufficient size as to make practicable its preservation and use in an unimpaired condition. Reduced to 2,455 acres.</p>	N/A
D2_ADJ3 (was D2_5K12) Mt. Taylor Division, Mt. Taylor RD	19,553	<p>Include in inventory. Modified.</p> <p>Substantially noticeable range improvements were excluded. Size criteria are met (5,000 acres or more or if less than 5,000 acres, contiguous to Bureau of Land Management, Chamisa Wilderness Study Area)</p> <p>Field verification needed: <u>Timber Improvements:</u> Field verification for illegal cutting in T15N R4W Sec. 20. <u>Range Improvements:</u> Field verify fence in T15N R4W Sec. 28 and determine if substantially noticeable.</p>	19,505

Inventory ID / Location	Phase 1 Acres	Phase 2 Results	Phase 2 Acres
D2_ADJ1 Mt. Taylor Division, Mt. Taylor RD		Not added to inventory. Public comment requested the area be added to the inventory. After review of the area, it was determined that it is not adjacent to Bureau of Land Management, Chamisa Wilderness Study Area or Ignacio Chavez Wilderness Study Area	N/A

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Table 6. Magdalena Ranger District, Detailed Phase 2 Results

Inventory ID / Location	Phase 1 Acres	Phase 2 Results	Phase 2 Acres
D3_5K1 Magdalena Mountains, Magdalena RD	14,410	Include in inventory. Modified. Substantially noticeable vegetation treatment, range, and mining improvements were excluded. Size criteria are met (5,000 acres or more).	14,338
D3_5K2 Magdalena Mountains, Magdalena RD	5,166	Exclude from inventory. Once substantially noticeable range improvements were excluded, the area was less than 5,000 acres and is not of sufficient size as to make practicable its preservation and use in an unimpaired condition. Area is not contiguous to Langmuir Research Site. Reduced to 4,742 acres.	N/A
D3_5K3 Magdalena Mountains, Magdalena RD	7,116	Include in inventory. Modified. Substantially noticeable range and mining improvements were excluded. Size criteria are met (5,000 acres or more).	7,060
D3_5K4 Bear Mountains, Magdalena RD	6,414	Exclude from inventory. Once substantially noticeable vegetation treatment, range, and mining improvements were excluded, the area was less than 5,000 acres and is not of sufficient size as to make practicable its preservation and use in an unimpaired condition. Reduced to 2,017 acres.	N/A
D3_5K5 Bear Mountains, Magdalena RD	6,630	Include in inventory. Modified. Substantially noticeable vegetation treatment and range improvements were excluded. Size criteria are met (5,000 acres or more).	6,131
D3_5K6 Bear Mountains, Magdalena RD	18,703	Include in inventory. Modified. Substantially noticeable vegetation treatment and range improvements were excluded. Size criteria are met (5,000 acres or more).	8,070
D3_5K7 Bear Mountains, Magdalena RD	23,159	Include in inventory. Modified. Substantially noticeable range improvements were excluded. Size criteria are met (5,000 acres or more). Divided into two areas.	5,945 and 5,236
D3_5K8 Bear Mountains, Magdalena RD	7,551	Exclude from inventory. Once substantially noticeable vegetation treatment and range improvements were excluded, the area was less than 5,000 acres and is not of sufficient size as to make practicable its preservation and use in an unimpaired condition. Reduced to 3,509 acres.	N/A
D3_5K9 Bear Mountains, Magdalena RD	6,743	Exclude from inventory. Once substantially noticeable vegetation treatment and range improvements were excluded, the area was less than 5,000 acres and is not of sufficient size as to make practicable its preservation and use in an unimpaired condition. Reduced to 4,214 acres.	N/A

Inventory ID / Location	Phase 1 Acres	Phase 2 Results	Phase 2 Acres
D3_5K10 Datil Mountains, Magdalena RD	17,399	Include in inventory. Modified. Substantially noticeable range improvements were excluded. Size criteria are met (5,000 acres or more).	13,785
D3_5K11 Datil Mountains, Magdalena RD	42,928	Include in inventory. Modified. Substantially noticeable range and watershed improvements were excluded. Additions requested by the public were included. Size criteria are met (5,000 acres or more).	35,849
D3_5K12 Datil Mountains, Magdalena RD	10,607	Include in inventory. Modified. Substantially noticeable vegetation treatment and range improvements were excluded. Size criteria are met (5,000 acres or more). Field verification needed: Timber Improvements: Large, high stumps from historic logging may occur in Hay Canyon, between D3_5K12 and D3_5K13. This timber sale is not in the corporate database so the extent is uncertain. Possible section 12. Should be field verified.	9,867
D3_5K13 Datil Mountains, Magdalena RD	8,795	Include in inventory. Modified. Substantially noticeable range and mining improvements were excluded. Size criteria are met (5,000 acres or more). Field verification needed: Timber Improvements: Large, high stumps from historic logging may occur in Hay Canyon, between D3_5K12 and D3_5K13. This timber sale is not in the corporate database so the extent is uncertain. Possible section 12. Should be field verified.	8,725
D3_5K14 Datil Mountains, Magdalena RD	5,947	Include in inventory. Modified. Substantially noticeable range improvements were excluded. Size criteria are met (5,000 acres or more).	5,824
D3_5K15 Datil Mountains, Magdalena RD	13,266	Include in inventory. Modified. Substantially noticeable range improvements were excluded. Additions requested by the public were included. Size criteria are met (5,000 acres or more).	15,393
D3_5K16 San Mateo Mountains, Magdalena RD	20,272	Include in inventory. Modified. Substantially noticeable timber harvest and range improvements were excluded. Additions requested by the public were included. Size criteria are met (5,000 acres or more).	21,681
D3_5K17	7,654	Merged with D3_ADJ8.	N/A
D3_5K18 San Mateo Mountains, Magdalena RD	5,948	Exclude from inventory. Once substantially noticeable range improvements were excluded, the area was less than 5,000 acres and is not of sufficient size as to make practicable its preservation and use in an unimpaired condition. Reduced to 2,765 acres.	N/A

Inventory ID / Location	Phase 1 Acres	Phase 2 Results	Phase 2 Acres
D3_5K19 San Mateo Mountains, Magdalena RD	18,503	Include in inventory. Modified. Substantially noticeable range and mining improvements were excluded. Size criteria are met (5,000 acres or more).	6,941
D3_5K20 San Mateo Mountains, Magdalena RD	5,982	Exclude from inventory. Once substantially noticeable range improvements were excluded, the area was less than 5,000 acres and is not of sufficient size as to make practicable its preservation and use in an unimpaired condition. Reduced to 3,732 acres.	N/A
D3_ADJ1 San Mateo Mountains, Magdalena RD	1,400	Include in inventory. Modified. Substantially noticeable vegetation treatment and range improvements were excluded. Size criteria are met (if less than 5,000 acres, contiguous to existing wilderness).	1,359
D3_ADJ2 San Mateo Mountains, Magdalena RD	42	Include in inventory with no modifications. No substantially noticeable improvements identified. Size criteria are met (if less than 5,000 acres, contiguous to existing wilderness).	42
D3_ADJ3 San Mateo Mountains, Magdalena RD	394	Include in inventory. Modified. Substantially noticeable vegetation treatment improvements were excluded. Size criteria are met (if less than 5,000 acres, contiguous to existing wilderness).	355
D3_ADJ4 San Mateo Mountains, Magdalena RD	774	Include in inventory. Modified. Substantially noticeable range improvements were excluded and adjacent areas without improvements were added. Size criteria are met (if less than 5,000 acres, contiguous to existing wilderness).	1,138
D3_ADJ5 San Mateo Mountains, Magdalena RD	152	Include in inventory. Modified. Substantially noticeable range improvements were excluded. Size criteria are met (if less than 5,000 acres, contiguous to existing wilderness).	148
D3_ADJ6 San Mateo Mountains, Magdalena RD	114	Include in inventory with no modifications. No substantially noticeable improvements identified. Size criteria are met (if less than 5,000 acres, contiguous to existing wilderness).	114
D3_ADJ7 San Mateo Mountains, Magdalena RD	9,000	Include in inventory. Modified. Substantially noticeable range improvements were excluded. Additions requested by the public were included. Size criteria are met (5,000 acres or more or (if less than 5,000 acres, contiguous to existing wilderness)).	10,093
D3_ADJ8 San Mateo Mountains, Magdalena RD	84,198	Include in inventory. Modified. Substantially noticeable vegetation treatment, range, and mining improvements were excluded. Additions requested by the public were included. Size criteria are met (5,000 acres or more or if less than 5,000 acres, contiguous to existing wilderness).	78,127

Inventory ID / Location	Phase 1 Acres	Phase 2 Results	Phase 2 Acres
D3_Lang Magdalena Mountains, Magdalena RD		Add to inventory. Langmuir Research site plus areas contiguous to Langmuir Research site that meet inventory criteria. Substantially range and mining improvements were excluded.	33,685
D3_ADJ9 Bear Mountains, Magdalena RD		Add to inventory. Public comment requested the area be added to the inventory. Inventory and size criteria are met (if less than 5,000 acres, contiguous to Bureau of Land Management, Sierra Ladrones Wilderness Study Area)	898
D3_ADJ10 Bear Mountains, Magdalena RD		Add to inventory. Public comment requested the area be added to the inventory. Inventory and size criteria are met (if less than 5,000 acres, contiguous to Bureau of Land Management, Sierra Ladrones Wilderness Study Area)	640

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Table 7. Mountainair Ranger District, Detailed Phase 2 Results

Inventory ID / Location	Phase 1 Acres	Phase 2 Results	Phase 2 Acres
D4_5K1 Gallinas Division, Mountainair RD	5,052	Exclude from inventory. Powerline right-of-way bisects inventory area. Once the right-of-way was excluded, the area was less than 5,000 acres and is not of sufficient size as to make practicable its preservation and use in an unimpaired condition. Reduced to 3,282 acres.	N/A
D4_5K2 Gallinas Division, Mountainair RD	10,124	Include in inventory. Modified. Substantially noticeable timber harvest, range, and mining improvements were excluded. Size criteria are met (5,000 acres or more).	7,549
D4_ADJ1 Manzano Mountains, Mountainair RD	364	Include in inventory with no modifications. No substantially noticeable improvements identified. Size criteria are met (if less than 5,000 acres, contiguous to existing wilderness).	364
D4_ADJ2 Manzano Mountains, Mountainair RD	354	Include in inventory. Modified. Recreation improvements missed in Phase 1 inventory were excluded. Size criteria are met (if less than 5,000 acres, contiguous to existing wilderness).	354
D4_ADJ3 Manzano Mountains, Mountainair RD	472	Include in inventory. Modified. Recreation improvements missed in Phase 1 inventory were excluded. Size criteria are met (if less than 5,000 acres, contiguous to existing wilderness)..	325
D4_ADJ4 Manzano Mountains, Mountainair RD	7,388	Include in inventory. Modified. Powerline right-of-way was identified and excluded. Area no long contiguous to existing wilderness was also excluded. For remaining area, size criteria are met (5,000 acres or more or if less than 5,000 acres, contiguous to existing wilderness).	5,734
D4_ADJ5 Manzano Mountains, Mountainair RD	9,874	Include in inventory. Modified. Substantially noticeable range improvements were excluded. Recreation improvements missed in Phase 1 inventory were excluded. Size criteria are met (5,000 acres or more or if less than 5,000 acres, contiguous to existing wilderness).	7,121
D4_ADJ6 Manzano Mountains, Mountainair RD	792	Include in inventory. Modified. Substantially noticeable range improvements were excluded. Size criteria are met (if less than 5,000 acres, contiguous to existing wilderness).	567
D4_ADJ7 Manzano Mountains, Mountainair RD	358	Include in inventory. Modified. Recreation improvements missed in Phase 1 inventory were excluded. Size criteria are met (if less than 5,000 acres, contiguous to existing wilderness).	357

Inventory ID / Location	Phase 1 Acres	Phase 2 Results	Phase 2 Acres
D4_ADJ8 Manzano Mountains, Mountainair RD	251	Include in inventory. Modified. Substantially noticeable range improvements were excluded. Size criteria are met (if less than 5,000 acres, contiguous to existing wilderness).	251

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Table 8. Sandia Ranger District, Detailed Phase 2 Results

Inventory ID / Location	Phase 1 Acres	Phase2 Results	Phase 2 Acres
D5_ADJ1 Sandia RD	230	Include in inventory. Modified. Substantially noticeable range, mining, and watershed improvements were excluded. Southern end of inventory area is part Sandia Land Exchange and was excluded. Size criteria are met (if less than 5,000 acres, contiguous to existing wilderness).	47
D5_ADJ2 Sandia RD	278	Include in inventory. Modified. A road, with an easement, missed in Phase 1 inventory was excluded. Size criteria are met (if less than 5,000 acres, contiguous to existing wilderness).	271
D5_ADJ3 Sandia RD	95	Include in inventory with no modifications. No substantially noticeable improvements identified. Size criteria are met (if less than 5,000 acres, contiguous to existing wilderness).	95
D5_ADJ4 Sandia RD	1,693	Include in inventory. Modified. Substantially noticeable vegetation treatment improvement was excluded. Size criteria are met (if less than 5,000 acres, contiguous to existing wilderness).	1,671
D5_ADJ5 Sandia RD	1,231	Include in inventory. Modified. Substantially noticeable vegetation treatment improvement was excluded. Size criteria are met (if less than 5,000 acres, contiguous to existing wilderness).	1,217
D5_ADJ6 Sandia RD	727	Include in inventory. Modified. Addition made to area since no right-of-way information was found for route in northern portion of area	736
D5_ADJ7 Sandia RD	5	Include in inventory with no modifications. No substantially noticeable improvements identified. Size criteria are met (if less than 5,000 acres, contiguous to existing wilderness).	5
D5_ADJ8 Sandia RD	69	Include in inventory with no modifications. No substantially noticeable improvements identified. Size criteria are met (if less than 5,000 acres, contiguous to existing wilderness).	69
D5_ADJ9 Sandia RD	333	Include in inventory with no modifications. No substantially noticeable improvements identified. Size criteria are met (if less than 5,000 acres, contiguous to existing wilderness).	333
D5_ADJ10 Sandia RD	80	Include in inventory with no modifications. No substantially noticeable improvements identified. Size criteria are met (if less than 5,000 acres, contiguous to existing wilderness).	80

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Appendix C. Evaluation Criteria Definition Matrix and Comment Form.

The Cibola National Forest plan revision interdisciplinary team developed draft questions and measures to address each of the five wilderness characteristic criteria listed in FSH 1909.12, Chapter 70-Wilderness. These are to be used to evaluate the Phase 2 Inventory areas for wilderness characteristics, and are outlined below.

Please use this form to comment on individual areas from the Phase 2 Inventory maps and Appendix B. Please use one form for each individual identification area, and note its identification number and location. If your comment is not addressed in the “considerations” column of each criterion, please include additional information in the “other” narrative section.

Inventory Identification Number/Location:

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Criterion 1- Apparent naturalness: The degree to which an area generally appears to be affected primarily by the forces of nature, with the imprints of man’s work substantially unnoticeable.

Question 1a. What is the composition of plant and animal communities? The purpose of this question is to determine if plant and animal communities appear substantially unnatural.

Considerations	Narrative
How are concentrations of invasive plants and/or animals distributed across the land?	
Other (Include any additional information related to the question above)	

Question 1b. What is the extent to which the area appears to reflect ecological conditions that would normally be associated with the area without human intervention?

Considerations	Narrative
Extent that current vegetation species composition and structure has changed from historical conditions (pre-EuroAmerican settlement). ¹³	
Vegetation restoration treatments (e.g. thinning) or timber harvest areas and distribution across the land (broadly dispersed vs. concentrated). This also includes associated railroad beds, skid trails, and logging decks of timber harvest areas.	
Does the forest appear natural (consider elements, including but not limited to, vegetation, wildlife, soil, air, etc.)?	
Other (Include any additional information related to the question above)	

¹³ Species composition is the number and proportion of species present. Structure refers to the size, density, and arrangement of plants.

Question 1c. What is the extent to which improvements¹⁴ included in the area represent a departure from apparent naturalness?

Considerations	Narrative
Appearance of airstrips, heliports, and/or landing zones. Include size of area and description of disturbance (soils, vegetation).	
Appearance and density of maintenance level 1 roads ¹⁵ measured by road length per sq. mile, and spatial distribution (broadly interspersed vs. concentrated), occurrence of stream crossings, and proximity to streams channels.	
Appearance and density of unauthorized routes (includes decommissioned, temporary, and user created routes per sq. mile) and distribution (broadly dispersed vs. concentrated, occurrence of stream crossings, and proximity to streams channels.	
Miles of fencing or pipeline per square mile.	
Appearance of areas of mining activity that were not eliminated in the Phase 2 inventory. ¹⁶ Include size of area and description of disturbance (soils, vegetation)	
Appearance of range or wildlife improvements that were not eliminated in the Phase 2 inventory. Include size of area and description of disturbance (soils, vegetation).	
Appearance of watershed treatment areas (such as contouring, diking, channeling) that were not eliminated in the Phase 2 inventory. Include size of area and description of disturbance (soils, vegetation).	

¹⁴ The use of the term "improvements" in this context is taken from the Forest Service Handbook, and means the evidence of past human activities in the area as a whole.

¹⁵ For a glossary of road terminology, please see the *Cibola National Forest Mountain Ranger Districts Assessment Report, Vol. II*, page 258.

¹⁶ See Appendix A for Substantially Noticeable criteria used in Phase 2 inventory, and Appendix B for results from the Phase 2 Inventory.

Extent to which the improvements cause the appearance to depart from apparent naturalness to the area as a whole (Consider improvements listed above as well as water tanks, aviation crash locations, wreckage sites, locations of cemeteries or gravesites, bombing or ordinance locations, and viewshed analysis for proposed developments)	
Other (Include any additional information related to the question above)	

Criterion 2- Outstanding opportunities for solitude or a primitive and unconfined type of recreation: the degree to which the area has outstanding opportunities for solitude or for a primitive and unconfined type of recreation.

Note: The word “or” means that an area only has to possess one or the other. The area does not have to possess outstanding opportunities for both elements, nor does it need to have outstanding opportunities on every acre.

Question 2a. Consider impacts that are pervasive and influence a visitor’s opportunity for solitude within the evaluated area.

Note: Factors to consider may include topography, presence of screening, distance from impacts, degree of permanent intrusions, and pervasive sights and sounds from outside the area.

Considerations	Narrative
Describe the general topography of the area in context of sight, sound, and screening. Can a traveler see or hear evidence of civilization from within the area? Is the area quiet and free from motorized noise?	
Proximity to area of recreation developments and high use areas, private lands and associated infrastructure, non- Forest Service roads, and/or activities that impact opportunities for solitude. Consider effects of the area’s adjacent, cherry-stemmed roads. ¹⁷	
Other (Include any additional information related to the question above)	

¹⁷ The term “cherry stemmed” road refers to a road removed from the inventory using the 30 meter (98.4 feet) road buffer screening from the Phase 1 Inventory process.

Question 2b. Consider the opportunity to engage in primitive-type or unconfined recreation activities that lead to a visitor’s ability to feel a part of nature.

Note: Examples of primitive-type recreation activities include observing wildlife, hiking, backpacking, horseback riding, fishing, hunting, floating, kayaking, cross-country skiing, camping, and enjoying nature. This question also relates to miles of fence information from Criterion 1, Question 1c, due to the potential for miles of fence to restrict unconfined recreation opportunities.

Considerations	Narrative
Describe the types of primitive recreation activities in the area.	
Percent of area with a primitive recreation opportunity spectrum class. ¹⁸	
Other (Include any additional information related to the question above)	

Criterion 3- Stand-alone area of less than 5,000 acres that is not adjacent to existing wilderness or administratively recommended wilderness: evaluate how an area less than 5,000 acres is of sufficient size to make its preservation and use in an unimpaired condition practicable.

There are no stand-alone areas less than 5,000 acres on either the initial inventory or Phase 2 inventory maps. Those who offer such areas for evaluation please identify and describe how it is of sufficient size to make its preservation or use in an unimpaired condition practicable.

Criterion 4- Unique and outstanding qualities: the degree to which the area may contain ecological, geological, or other features of scientific, educational, scenic, or historical value.

Note: These values are not required to be present in an area for the area to be recommended for inclusion in the National Wilderness Preservation System, but their presence should be identified and evaluated where they exist.

¹⁸ The Forest Service’s Recreation Opportunity Spectrum (ROS) provides a framework which allows administration to manage and users to enjoy a variety of recreation environments. ROS is not a land classification system; it is a management objective, a way of describing and providing a variety of recreation opportunities. A “primitive” ROS class is one typically associated with a largely unmodified environment, a very high probability of solitude, self-reliance, little evidence of people, and no motorized use is permitted. The ROS Inventory Existing Condition maps have been completed for the Forest, and the existing condition of primitive ROS classes is being used as a measure. These maps are only existing condition, and are subject to change based on desired recreation opportunity spectrum classes developed during the interdisciplinary process of Forest Plan Revision. Please refer to the Recreation Opportunity Spectrum Handbook and Primer for more information: http://www.fs.fed.us/cdt/carrying_capacity/rosfieldguide/ros_primer_and_field_guide.htm

Question 4a. Does the area contain rare plant or animal communities or rare ecosystems?

Note: Rare in this context is defined as local or regional.

Considerations	Narrative
Average modeled species richness value from New Mexico Crucial Habitat Assessment Tool.	
Presence of threatened or endangered species and/or designated or proposed critical habitat (from National Heritage database and other data sets as available).	
Other (Include any additional information related to the question above)	

Question 4b. Are there any outstanding landscape features such as waterfalls, mountains, viewpoints, waterbodies, or geologic features?

Considerations	Narrative
Description of any unique geologic features in the area.	
Presence of outstanding scenic features within the area or percent of area with distinctive scenic attractiveness class. ¹⁹	

¹⁹ The Forest Service's Scenery Management System (SMS) provides the framework to effectively inventory, assess, and manage scenic resources. Scenic Attractiveness is a component of the SMS inventory, and is the primary indicator of the intrinsic scenic beauty based on commonly held perceptions of preferred scenery and landscape features. The three scenic attractiveness classes are: Class A-distinctive; Class B-typical; Class C-indistinctive. To determine these classes, the landscape elements of landform, vegetation, rocks, cultural features and water features are mapped using General Terrestrial Ecosystem Survey (GTES) information for the Forest, with District personnel input on areas of the Forest that were not picked up at the GTES scale. The Scenic Attractiveness map is based largely on existing landscape features. Refer to the Forest Service Scenery Management Handbook for more information: http://www.fs.fed.us/cdt/carrying_capacity/landscape_aesthetics_handbook_701_no_append.pdf

Other (include any additional information related to the question above)

Question 4c. Are there historic and cultural resource sites in the area?

Considerations

Narrative

Presence of structures, dwellings, and other relics of past occupation when they are considered part of the historical and cultural landscape of the area. Also consider potential historical railroad beds/berms associated with timber harvest areas from Criterion 1, Question 1b.

Other (Include any additional information related to the question above)

Note: (Confidentiality requirements with respect to cultural resource sites must be respected (25 U.S.C 3056)).

Question 4d. Are there any research natural areas?

Considerations

Narrative

Percent of area that is part of a research natural area.

Other (Include any additional information related to the question above)

Question 4e. Are there any high quality water resources or important watershed features?

Considerations	Narrative
Miles within the area of eligible Wild and Scenic Rivers	
Miles within the area of Outstanding Natural Resource Waters	
Other (Include any additional information related to the question above)	

Criterion 5- Management: the degree to which the area may be managed to preserve its wilderness characteristics.**Question 5a. Can the area be managed to preserve its wilderness characteristics?**

Considerations	Narrative
Shape and configuration of the area.	
Presence and extent of legally established rights or uses within the area.	
Presence and extent of any specific Federal or State laws that may be relevant to availability of the area for wilderness or the ability to manage the area to protect wilderness characteristics.	
Presence and extent of non-Federal land in the area	
Describe management of adjacent lands.	
Describe presence and extent of cultural and traditional uses of the area (e.g. shrines, ceremonial use, etc.)	
Presence and extent of wildland urban interface in the area. Include acres if possible.	

Describe any other management activities or restrictions within in the area (e.g. upcoming management decisions).	
Describe existence and extent of motorized uses within the area (trails, routes, special activities).	
Presence and extent of special use permits and authorizations within the area.	
Presence and extent of “cherry stemmed ²⁰ ” roads or other linear features.	
Other (Include any additional information related to the question above)	

²⁰ The term “cherry stemmed” road refers to a road removed from the inventory using the 30 meter (98.4 feet) road buffer screening from the Phase I Inventory process.

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Appendix D. Team and Team Members

The following table presents all persons associated with the project during Phase 1 and Phase 2 inventory process. Team members may be part of several teams listed.

Table 9. Team Members

Name	Affiliation & Title
Steering Committee for Forest Plan Revision	
Elaine Kohrman	Cibola National Forest, Forest Supervisor
Dennis Aldridge	Magdalena Ranger District, District Ranger
Karen Lessard	Mountainair Ranger District, District Ranger
Cid Morgan	Sandia Ranger District, District Ranger
Robert Heiar and Tony Pacheco	Mt. Taylor Ranger District, Acting District Rangers
Cynthia Benedict	Cibola National Forest, Tribal Relations Program Manager
Ian Fox	Cibola National Forest, Timber Management Officer
Cheryl Prewitt	Cibola National Forest, Forest NEPA Coordinator
Ruth Doyle	Cibola National Forest, Recreation, Engineering, Archaeology, Lands. & Minerals Staff Officer
Inventory Team	
Champe Green	Cibola National Forest, Forest Planner
Daniel LeVrier	Cibola National Forest, Geographer (GIS, Natural Resources)
Nicole Hill	Forest Service Landscape Architect (Enterprise Program)
Ruth Doyle	Cibola National Forest, Recreation, Engineering, Archaeology, Lands. & Minerals Staff Officer
Rob Arlowe	Cibola National Forest, Resource Information Program Manager
Susan Millsap	Cibola National Forest Natural Resource Planning and Budget Staff Officer (Phase 1 Team Member)
Jessica Dunn	Cibola National Forest, Acting Recreation, Scenery, and Designated Areas Specialist (Phase 2 Team Member)
District Interdisciplinary Teams	
Anthony Martinez	Mountainair Ranger District, Fire Management Officer
Alan Warren	Mountainair Ranger District, Range Staff
Aaron Johnson	Cibola National Forest, Forester,
Tony Garcia	Sandia Ranger District, Volunteer Partnerships Coordinator
Zach Parsons	Sandia Ranger District, Acting Forest Biologist
Kerry Wood	Sandia Ranger District, Wilderness/Trails Program Manager
Emily Mertzweiller	Magdalena Ranger District, District Forester
Justin Herbert	Magdalena Ranger District, Rangeland Specialist
Manuel Martinez	Magdalena Ranger District, District Fire Management Officer
Suzanne Derosier	Magdalena Ranger District, Wildlife Biologist
Kenton Martin	Magdalena Ranger District, Rangeland Management Specialist
Herbert Ray	Magdalena Ranger District, Recreation Technician
Tina Cason	Magdalena Ranger District, Range Staff
Jeanne Dawson	Mt. Taylor Ranger District, Timber Management Assistant

Arnold Wilson	Mt. Taylor Ranger District, Forester
Consuelo Zamora	Mt. Taylor Ranger District, Wildlife Biologist
Orlando Cortez	Mt. Taylor Ranger District, Rangeland Management Specialist
Eddie Baca	Mt. Taylor Ranger District, Assistant Fire Management Officer
Extended Team	
Kyung Koh	Region 3, Regional Office, National Resource Specialist
Michelle Aldridge	Region 3, Regional Office, Regional Planning Specialist
Bjorn Fredrickson	Region 3, Regional Office, former Acting Wilderness, Wild & Scenic Rivers, and Cave Program Lead
Donald Serrano	Cibola National Forest, Range Program Manager
Livia Crowley	Cibola National Forest, Hydrologist
Bev DeGruyter	Cibola National Forest, Wildlife Program Manager
Diane Tafoya	Cibola and Kaibab National Forest, Zone Geologist
Shawn Martin	Cibola National Forest, Silviculturist
Responsible Official	
Elaine Kohrman	Cibola National Forest, Forest Supervisor

Appendix E. Meeting Schedule and Timeline

Table 10. Meeting schedule and timeline for the Phase 1 and Phase 2 inventory process.

Task	Date Completed by	Responsible
Inventory Team begins internal inventory of lands that may be suitable	September 2013	
Wilderness Inventory Collaborative Workshops using second draft proposed FSH directives Chapter 70	September 9-18, 2014	
Comment period begins	September 9, 2014	
Process public input on initial wilderness inventory maps and develop a Phase 2 map	December 2014-June 2015	Members of Inventory Team, District interdisciplinary team, Steering Committee
Draft Definition Matrix	November 20, 2014	Nicole Hill
Developing a Strategy for Defining Substantially Noticeable Meeting	November 21, 2014	Members of Inventory Team and Extended Team
Comment period ends	November 21, 2014	
November 21 meeting notes and updated draft Definition Matrix	November 24, 2014	Nicole Hill
Finalize meeting notes and updated draft Definition Matrix for District use in reviewing comments	December 5, 2014	Nicole Hill and Champe Green
Meeting to conduct dry run using matrix and live GIS. Further refinements to draft Definition Matrix	December 17, 2014	Members of Inventory Team and Extended Team
Comments sorted by district and area and distributed to Inventory Team and District interdisciplinary teams	December 18, 2014	Rob Arlowe
Districts review comments	January 12, 2015	District interdisciplinary team
Meeting to review inventory areas with draft definition matrix for Phase 2. Mountainair and Sandia RDs	January 13-15, 2015	Members of Inventory Team and District interdisciplinary team
Meeting to review inventory areas with draft definition matrix for Phase 2. Magdalena RD	January 28-29, 2015	Members of Inventory Team and District interdisciplinary team
Final FSH directives for Chapter 70 released and effective.	January 30, 2015	
Meeting to review inventory areas with draft definition matrix for Phase 2. Mt Taylor RD.	February 4-5, 2015	Members of Inventory Team and District interdisciplinary team
Meeting to review inventory areas with draft definition matrix for Phase 2. Magdalena RD	February 25, 2015	Members of Inventory Team and District interdisciplinary team
Meeting to review inventory areas with draft definition matrix for Phase 2. Magdalena RD	March 3, 2015	Members of Inventory Team and District interdisciplinary team
Meeting to review inventory areas with draft definition matrix for Phase 2. Data released for FOIA. Mt. Taylor RD	March 5-6, 2015	Members of Inventory Team and District interdisciplinary team
Data preparation for Steering Committee Meeting. Data released for FOIA reviewed for other Ranger Districts	April 2015	Inventory Team
Steering Committee review of results and findings	April 29-30, 2015	Members of Inventory Team and Steering Committee
Modifications to map based on steering committee review	May-June 2015	Members of Inventory Team and Steering Committee

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Appendix F. Excerpt from FSH Handbook 1909.12- Land Management Planning Handbook, Chapter 70- Wilderness, pgs. 10-15

FSH 1909.12 – LAND MANAGEMENT PLANNING HANDBOOK

WO AMENDMENT 1909.12-2015-1

EFFECTIVE DATE: 01/30/2015

DURATION: This amendment is effective until superseded or removed.

Excerpt, pgs. 10-15

71.3 – Inventory Documentation

The Responsible Official shall ensure the Interdisciplinary Team documents the process used to identify and inventory areas. The purpose is to present a transparent description of how the inventory process was conducted and the results of the inventory.

The Responsible Official should release the inventory documentation and the map(s) described below to the public before conducting the evaluation. The Responsible Official shall also include the documentation required by this section in the applicable NEPA documents.

The Interdisciplinary Team shall record all lands included in the inventory on a map of the planning area. In addition, the Team shall identify on the same map (or a series of maps), at a minimum, the following lands:

1. Existing designated wilderness and primitive areas.
2. Congressionally designated wilderness study areas, and any wilderness proposals pending before Congress. Indicate relevant statutory dates, if any.
3. Areas identified in the Forest Service Roadless Area Conservation Final Environmental Impact Statement (Volume 2, November 2000), or in a Forest Service State-specific roadless rule, or identified as undeveloped or for primitive nonmotorized management in the current land management plan.
4. National Forest System lands statutorily designated for management for nonwilderness purposes. Indicate effective dates, if any.
5. Other areas that the Responsible Official determines would be useful to show on the map to facilitate effective and transparent public participation and input on this topic.

72 – EVALUATION

The primary function of the evaluation step is to evaluate, pursuant to criteria set forth in the Wilderness Act of 1964, the wilderness characteristics of the lands included in the inventory. All lands included in the inventory must be evaluated. The Responsible Official may divide or consolidate lands identified in the inventory into grouped areas for the purpose of evaluation, and may vary the scope of the evaluation based on the specific characteristics of each area or portions thereof.

The Responsible Official should provide opportunities for public and governmental participation when evaluating lands identified in the inventory (sec. 70.61 of this Handbook). The Responsible Official should communicate the evaluation process to the public, and shall be able to clearly and

efficiently describe and document the wilderness character associated with each area at the end of the evaluation step.

The Responsible Official is not required to carry all lands evaluated forward for further NEPA analysis as potential recommendations for inclusion in the National Wilderness Preservation System (secs. 73 and 74 of this Handbook).

72.1 – Evaluation of Wilderness Characteristics

The Interdisciplinary Team shall evaluate areas, which must include all lands identified in the inventory (sec. 71 of this Handbook), to determine potential suitability for inclusion in the National Wilderness Preservation System using criteria included in the Wilderness Act of 1964, section 2(c), as follows:

1. Evaluate the degree to which the area generally appears to be affected primarily by the forces of nature, with the imprints of man's work substantially unnoticeable (apparent naturalness). Consider such factors as:
 - a. The composition of plant and animal communities. The purpose of this factor is to determine if plant and animal communities appear substantially unnatural (for example, past management activities have created a plantation style forest with trees of a uniform species, age, and planted in rows);
 - b. The extent to which the area appears to reflect ecological conditions that would normally be associated with the area without human intervention; and
 - c. The extent to which improvements included in the area (sec. 71.22 of this Handbook) represent a departure from apparent naturalness.
2. Evaluate the degree to which the area has outstanding opportunities for solitude or for a primitive and unconfined type of recreation. The word "or" means that an area only has to possess one or the other. The area does not have to possess outstanding opportunities for both elements, nor does it need to have outstanding opportunities on every acre.
 - a. Consider impacts that are pervasive and influence a visitor's opportunity for solitude within the evaluated area. Factors to consider may include topography, presence of screening, distance from impacts, degree of permanent intrusions, and pervasive sights and sounds from outside the area.
 - b. Consider the opportunity to engage in primitive-type or unconfined recreation activities that lead to a visitor's ability to feel a part of nature. Examples of primitive-type recreation activities include observing wildlife, hiking, backpacking, horseback riding, fishing, hunting, floating, kayaking, cross-country skiing, camping, and enjoying nature.
3. Evaluate how an area less than 5,000 acres is of sufficient size to make its preservation and use in an unimpaired condition practicable.
4. Evaluate the degree to which the area may contain ecological, geological, or other features of scientific, educational, scenic, or historical value. These values are not required to be present in an area for the area to be recommended for inclusion in the National Wilderness Preservation System, but their presence should be identified and evaluated where they exist. Such features or values may include:
 - a. Rare plant or animal communities or rare ecosystems. Rare can be determined locally, regionally, nationally, or within the system of protected designations.

- b. Outstanding landscape features such as waterfalls, mountains, viewpoints, waterbodies, or geologic features.
- c. Historic and cultural resource sites. (Confidentiality requirements with respect to cultural resource sites must be respected (25 U.S.C 3056)).
- d. Research natural areas.
- e. High quality water resources or important watershed features.

5. Evaluate the degree to which the area may be managed to preserve its wilderness characteristics. Consider such factors as:

- a. Shape and configuration of the area;
- b. Legally established rights or uses within the area;
- c. Specific Federal or State laws that may be relevant to availability of the area for wilderness or the ability to manage the area to protect wilderness characteristics;
- d. The presence and amount of non-Federal land in the area; and
- e. Management of adjacent lands.

72.2 – Documentation for Evaluated Areas

The Responsible Official shall ensure that the Interdisciplinary Team documents the evaluation and include this documentation, along with map(s) required by section 71.4 of this Handbook, in an appendix to the applicable NEPA document. The intent is to ensure that the process for inventory and evaluation is transparent and accessible to the public for input and feedback. This documentation will also be available for participation opportunities during the plan revision or development process.

73 – ANALYSIS

Based on the evaluation and input from public participation opportunities, the Responsible Official shall identify which specific areas, or portions thereof, from the evaluation to carry forward as recommended wilderness in one or more alternatives in the plan EIS (36 CFR 219, FSM 1920, and FSH 1909.15).

Not all lands included in the inventory and subsequent evaluations are required to be carried forward in an alternative.

For each evaluated area or portions thereof that are not included in an alternative in the applicable NEPA analysis, the Responsible Official shall document the reason for excluding it from further analysis.

For each area included in one or more alternative, the Responsible Official shall identify the:

1. Name of the area and number of acres in the area to be considered for recommendation.
2. Location and a summarized description of a recommended boundary for each area. To identify a clearly defined boundary for each area, evaluate how the location of the boundary will support management of the area for wilderness and other adjacent uses. Where possible, boundaries should be easy to identify and to locate on the ground. Potential boundaries may be identified as follows, listed in descending order of desirability:
 - a. Use of natural features that are locatable both on the map and on the ground. Examples include, but are not limited to perennial streams, well-defined ridges, mountain peaks, and well-defined natural lake shorelines. If a stream is used, note

whether the thread (centerline of a stream) or either bank (to mean high water line) has been used as the boundary.

b. Use of human-made features that are locatable on the map and on the ground. Examples include, but are not limited to roads, trails, dams, powerlines, pipelines, and bridges. Where a human-made feature is used, note whether the feature itself forms

the boundary or whether the boundary has been set back from the feature, and by what distance. Setbacks should be used only where necessary for future maintenance of the human-made feature.

c. Use of previously surveyed lines or legally determined lines such as section and township lines, section subdivision lines, metes and bounds property lines, county or State boundaries, or National Park or Indian Reservation boundaries.

d. Use of a straight line from one locatable point to another. These points should normally be high points in the landscape as they must be visible to be effective.

e. Use of a series of bearings and distances between locatable points as in a metes and bounds survey. Use this technique when other methods are not available or practicable.

3. A brief description of the general geography, topography, and vegetation of the recommended area.

4. A brief description of the current uses and management of the area.

5. A description of the area's wilderness characteristics and the ability to protect and manage the area so as to preserve its wilderness characteristics.

6. A brief summary of the factors considered and the process used in evaluating the area and developing the alternative(s).

7. A brief summary of the ecological and social characteristics that would provide the basis for the area's suitability for inclusion in the National Wilderness Preservation System.

74 – RECOMMENDATION

The Responsible Official shall document a decision on whether to recommend specific areas for inclusion in the National Wilderness Preservation System or as a Wilderness Study Area east of the hundredth meridian, based on the analysis disclosed in the applicable NEPA document and input received during public participation opportunities (sec. 70.61). This decision must be included in the final decision document for the plan. The final decision document must identify the wilderness recommendation proposal as a "preliminary administrative recommendation" and qualify it by stating:

This recommendation is a preliminary administrative recommendation that will receive further review and possible modification by the Chief of the Forest Service, the Secretary of Agriculture, and the President of the United States. The Congress has reserved the authority to make final decisions on wilderness designation. Plan implementation is not dependent upon subsequent action related recommendations for wilderness designation.

The decision must include a summary of the information required in steps 1 through 7 in section 73 of this Handbook for each area recommended for inclusion in the National Wilderness Preservation System or as a Wilderness Study Area. Furthermore, the decision document must affirm that the plan includes plan components that provide for managing areas recommended for wilderness designation to protect and maintain the ecological and social characteristics that provide the basis for each area's suitability for wilderness recommendation (36 CFR 219.10 (b) (iv) and chapter 20 of this Handbook). For lands in the inventory and evaluation that were not recommended for inclusion in the National Wilderness Preservation System or as a Wilderness Study Area, the decision document must briefly identify or describe what management direction is provided in the plan for those lands. Once a final decision has been made and documented, the Responsible Official, through the Regional Forester, shall notify the Chief of preliminary administrative recommendations for wilderness designation following the direction in FSM 1923.11.

74.1 – Management of Recommended Areas

When developing plan components for recommended wilderness areas, the Responsible Official has discretion to implement a range of management options. All plan components applicable to a recommended area must protect and maintain the social and ecological characteristics that provide the basis for wilderness recommendation. In addition, the plan may include one or more plan components for a recommended wilderness area that:

1. Enhance the ecological and social characteristics that provide the basis for wilderness designations;
2. Continue existing uses, only if such uses do not prevent the protection and maintenance of the social and ecological characteristics that provide the basis for wilderness designation;
3. Alter existing uses, subject to valid existing rights; or
4. Eliminate existing uses, except those uses subject to valid existing rights.

The Responsible Official should strive to maintain consistency with the provisions of 16 USC 1133(d) and the content of FSM 1923.03(3) when developing plan components for the management of recommended wilderness areas.