Lolo National Forest Wilderness Process

Step 1: Inventory of lands that may be suitable for recommendation to include in National Wilderness Preservation System

Per Forest Service Handbook 1909.12, Chapter 70, Sect 70.6, the Responsible Official shall identify and create an inventory of all lands that may be suitable for inclusion in the National Wilderness Preservation System. The inventory begins with considering existing, relevant information about designated areas (inventoried roadless areas and designated wilderness), transportation infrastructure (such as national forest system road operational maintenance levels), and past or pending wilderness recommendation proposals. Building on this foundation, the interdisciplinary team applies the criteria for including lands in the inventory from Forest Service Handbook 1909.12 Chapter 70 Section 71.2, as described below. The Responsible Official shall also review information provided through public participation as part of the wilderness recommendation process or during the assessment, including areas proposed for consideration as recommended wilderness through a previous planning process, collaborative effort, or in pending legislation.

While reviewing the criteria for lands to include in the inventory, the Responsible Official may include additional areas identified as part of that review that do not meet the criteria to carry forward to the evaluation step. Inclusion in the inventory is not a designation that conveys or requires a particular kind of management.

The final inventory will take into consideration public input and will be approved by the Responsible Official before proceeding to Step 2: Evaluation. Lands included in the inventory must be documented, identified on a map(s), and further evaluated as described in Step 2: Evaluation.

1.1 Criteria for developing the preliminary inventory

1.1.1 Improvements

Pursuant to the Wilderness Act, the inventory includes areas “where the earth and its community of life are untrammeled by man, where man himself is a visitor who does not remain. An area of wilderness is further defined to mean… an area of undeveloped Federal land retaining its primeval character and influence, without permanent improvements or human habitation, which is protected and managed so as to preserve its natural conditions and which (1) generally appears to have been affected primarily by the forces of nature, with the imprint of man’s work substantially unnoticeable; (2) has outstanding opportunities for solitude or a primitive and unconfined type of recreation; …” (16 U.S.C. 1131c; FSH 1909.12 Ch 70 Sec 71.22). The complete list of spatial data and information used to apply the road and other improvement criteria is found in Appendix A – Data Sources and Criteria Application.

Forest Road Improvements

Roads influence an area’s ability to provide outstanding opportunities for solitude and primitive, unconfined recreation. They can also impact the area’s ‘untrammeled’ character, thus precluding an area’s suitability for the Wilderness Preservation System.

In review of existing forest road information, the inventory will include:

- Areas with operational maintenance level 1 forest roads or areas with roads that will be reclassified as maintenance level 1 through previous decision documents.
- Areas with operational maintenance level 2 forest roads (or higher developed roads that will be reclassified to level 2) where these roads have not been improved and maintained by mechanical means for regular continued use, have not cumulatively degraded wilderness character or preclude future preservation of the area as wilderness, and have not been identified for continued public access and use through previous decision documents or travel planning decisions supported by NEPA analysis.
- Areas with any routes that are decommissioned, unauthorized, or temporary, or forest roads planned for decommissioning or found as likely unneeded in a previous decision document.
- Areas with forest roads previously proposed by the Forest Service for consideration as recommended wilderness during previous forest planning process; areas with forest roads that the Responsible Official merits for inclusion in the inventory that were proposed for consideration through public involvement during the assessment, public or intergovernmental participation opportunity.
- Areas with historical wagon routes, historical mining routes, or other settlement era transportation features considered part of the historical and cultural landscape of the area.

The inventory will exclude:

- Areas with forest roads where management access and public use is not prohibited. This typically includes operational maintenance level 3, 4, and 5 forest roads and those open to public motorized use on the Motor Vehicle Use Map.
- Areas with operational maintenance level 2 roads, or roads that will be reclassified as level 2 road per previous decisions, that have been improved and are maintained through mechanical means, cumulatively degrade wilderness character, or preclude future preservation of the area as wilderness; or are needed for continued access or public use through previous decision documents.
- Areas with permanently authorized roads validated by a federal court or the Department of the Interior for which a valid easement or interest has been properly recorded.

Using the most recent, updated national forest system roads data, motor vehicle use map data (roads and trails), and other jurisdiction roads found on the forests, we buffered all roads and trails that support motorized use, public access, or authorized private access (permit or easement) by 33 feet. Maintenance Level 1 forest roads, decommissioned roads, temporary roads, and unauthorized roads were not excluded from the preliminary inventory. Maintenance Level 2, 3, 4, and 5 roads, as well as major public roads outside of National Forest jurisdiction were excluded from the inventory.

Other Improvements

In addition to forest road improvements, other improvements influence an area's suitability for inclusion in the National Wilderness Preservation System. If substantially noticeable these activities affect the primitive, undeveloped character of the landscape.

In consideration of other improvements, the inventory will include:

- Airstrips and heliports.

- Areas where vegetation treatments, previous logging, and associated road construction activities are not substantially noticeable (see Appendix B – Determining substantially noticeable vegetation treatments for the Wilderness Inventory on page 15 for additional criteria information).
- Areas where mining activities are not substantially noticeable.
- Grazing areas and range allotments with only minor structural and nonstructural improvements that are not substantially noticeable.
- Watershed treatment areas that are not substantially noticeable and where minor treatments have been accomplished manually.
- Areas with minor, easily removable recreation improvements, such as temporary occupancy locations for hunting or outfitter camps.
- Areas with permanently installed vertical structures, such as electronic installations that support television, radio, telephone, or cellular communications, provided their impacts, maintenance and access needs are minimal.
- Ground-return telephone lines, electric lines, and powerlines where the associated right-of-way has not been cleared.
- Areas with historical and cultural structures, dwellings, and other relics of past occupation.
- Lands adjacent to development or activities that impact opportunities for solitude. The fact that non-wilderness activities or uses can be seen or heard from within any portion of the area, must not, of itself, preclude inclusion in the inventory. It is appropriate to extend boundaries to the edges of development for purposes of inclusion in the inventory.

While the preliminary inventory includes these improvements, the extent of their impact on wilderness characteristics will be documented during Step 2: Evaluation to inform the suitability of these lands for inclusion in the National Wilderness Preservation system. This evaluation, as well as public input, will inform the development of the proposed plan and various alternatives to analyze during Step 3: Analysis.

The inventory will exclude:

- Developed recreation sites.
- Powerlines with cleared rights-of-way, pipelines, and other permanently installed linear right-of-way structures.

For the purposes of developing this preliminary inventory, point data representing areas to be excluded were buffered by 200 feet. This was applied to developed recreation sites (development scales 3, 4, and 5), communication sites, and water supply or utility infrastructure locations. Historical sites maintained as developed recreation sites or cabin rentals were excluded features. Similar to road improvements, linear features such as utility corridors, waterlines, and pipelines were buffered by 33 feet and excluded from the preliminary inventory.

1.1.2 Size

According to the Wilderness Act, a wilderness area “has at least 5,000 acres of land or is of sufficient size as to make practicable its preservation and use in an unimpaired condition”. Areas included in the inventory must be federal lands and must meet the size criteria (16 U.S.C. 1131c; FSH 1909.12 Ch 70 Sec 71.21):

- The area contains 5,000 acres or more; or,

- The area contains less than 5,000 acres but is of sufficient size as to make practicable its preservation and use in an unimpaired condition, including but not limited to areas contiguous to an existing wilderness, primitive areas, administratively recommended wilderness, or wilderness inventory of other Federal ownership.

To apply the size criteria, we integrated spatial data boundaries of designated wilderness, previously proposed wilderness, and inventoried roadless areas designated under the 2001 Roadless Area Conservation Rule. This allowed us to identify areas that may be adjacent to designated and proposed areas.

After applying the road and other improvement criteria to national forest system lands within the Lolo National Forest administrative boundary, we excluded areas less than 5,000 acres unless adjacent to designated wilderness or proposed wilderness or within inventoried roadless areas. Additionally, the inventory includes all inventoried roadless areas designated under the 2001 Roadless Area Conservation Rule regardless of road or other improvements found within them. The extent of any improvements' impact on wilderness characteristics will be documented during Step 2: Evaluation.

1.2 Preliminary Inventory

This preliminary inventory was produced in March 2023. Four of the polygons included in the inventory are designated wilderness areas covering 14,856 acres. Designated wilderness will not be evaluated during this recommendation process. Six polygons represent 223,915 acres of previously proposed wilderness as included in the 1986 Lolo National Forest Land and Resource Management Plan. Previously proposed wilderness areas from the 1986 Lolo National Forest Land Management Plan will be included in the evaluation to ensure consistent documentation of wilderness characteristics as required by the 2012 Planning Rule. There are 75 additional polygons covering 1,157,133 acres of national forest system land that would be evaluated for wilderness characteristics in Step 2: Evaluation of the Wilderness Recommendation Process. As available, information from the previous evaluations will be reviewed and integrated into the updated evaluation template used for all inventoried polygons included in the final inventory.

Table 1. Summary of areas included in the preliminary inventory

Inventory Polygon/Area Type	Number of polygons	Acres
Total Designated	4	147,856
Total Proposed in 1986 Plan	6	223,915
Additional polygons to evaluate	75	1,157,133
Total National Forest System lands included in the Inventory	85	1,528,904

Each inventoried polygon included in the inventory was assigned a unique number to identify it through the wilderness recommendation process. These are organized first by designated or previously proposed wilderness. Polygons adjacent to these areas were numbered with a similar convention to identify that they are contiguous with areas currently managed as part of the National Wilderness Preservation System or previously proposed for recommendation. The following pages summarize the preliminary inventory polygons, their respective numbers, and names, as well as acreages. A complete list of the areas can be found in Appendix C – Summary table of all inventoried polygons.

Selway-Bitterroot Wilderness Area, including designated and proposed wilderness

Adjacent to the designated Selway-Bitterroot Wilderness Area, the 1986 Plan proposed an additional 3,706 acres to include in the National Wilderness Preservation system. The initial inventory includes about 14,620 acres of additional national forest system lands adjacent to the previously proposed area. This polygon, SB-01, includes the Lolo Creek Inventoried Roadless Area, as designated under the 2001 Roadless Area Conservation Rule, as well as lands that extend from the inventoried roadless area to road improvements excluded from the inventory.

Table 2. Summary of inventory polygons adjacent to the Selway-Bitterroot Wilderness Area and previously proposed addition

Inventory Polygon ID Number	Polygon Name	Total
SB-W-01	Selway-Bitterroot (Designated)	9,831.3
SB-PW-05	Selway-Bitterroot Addition (Proposed)	3,702.5
SB-01	Lolo Creek	14,619.7
-	Total	28,153.5

Bob Marshall Wilderness Complex, including designated and proposed wilderness

The Scapegoat Wilderness area is managed as part of the Bob Marshall Wilderness Complex in coordination with the Flathead and Helena-Lewis and Clark National Forests. The 1986 Plan proposed two additional areas to be included in the Bob Marshall Wilderness Area, totaling about 70,995 acres. Another contiguous area covering approximately 78,513 acres is included in the initial inventory to evaluate for wilderness characteristics. This polygon, BMWC-01, includes the Bear-Marshall-Scapegoat-Swan Inventoried Roadless Area and other lands that extend to excluded road and other improvements, as well as private land boundaries.

Table 3. Summary of inventory polygons adjacent to the Bob Marshall Wilderness Complex and previously proposed wilderness additions

Inventory Polygon ID Number	Polygon Name	Total
BMWC-W-02	Scapegoat (Designated)	75,573.6
BMWC-PW-06	Bob Marshall Addition (Proposed)	70,994.5
BMWC-01	Bear-Marshall-Scapegoat-Swan	78,512.5
-	Total	225,080.5

Welcome Creek Wilderness Area

The 1986 Plan did not propose any additions to the Welcome Creek Wilderness area; however, the initial inventory includes 3 polygons that are adjacent to this designated area. Two of the polygons, WC-01 and WC-02, do not have Inventoried Roadless Area designations within them. The third polygon, WC-03, includes both the Stony Mountain and Welcome Creek Inventoried Roadless Areas, as designated by the 2001 Roadless Area Conservation Rule. Additional national forest system land outside of these inventoried roadless areas are included in this polygon.

Table 4. Summary of inventory polygons adjacent to the Welcome Creek Wilderness Area

Inventory Polygon ID Number	Polygon Name	Total
WC-W-03	Welcome Creek (Designated)	28,214.2
WC-01	-	9,788.6
WC-02	-	654.2
WC-03	Stony Mountain/Welcome Creek	49,226.0
-	Total	87,883.0

Rattlesnake Wilderness Area

There are 6 inventory polygons adjacent to the designated Rattlesnake Wilderness Area. Unique to this area, the Rattlesnake National Recreation Area overlaps with some of the inventory polygons outside of the designated wilderness area. The National Recreation Area covers about 34,267 acres of the designated Rattlesnake Wilderness (RS-W-04), 11,594 acres of RS-02, and 12,476 acres of RS-03. Other small sections of RS-01, RS-04, and RS-06 also overlap with the National Recreation Area. Additionally, the Rattlesnake Inventoried Roadless Area covers multiple portions within 3 of the polygons (RS-W-04, RS-04, and RS-05). RS-06 represents several small areas directly adjacent, but not included as part of the designated Rattlesnake Wilderness.

Table 5. Summary of inventory polygons adjacent to the Rattlesnake Wilderness Area

Inventory Polygon ID Number	Polygon Name	Total
RS-W-04	Rattlesnake (Designated)	34,237.0
RS-01	-	1,980.9
RS-02	-	11,931.3
RS-03	-	32,503.1
RS-04	-	11,504.3
RS-05	-	8,658.2
RS-06	-	35.8
-	Total	100,850.6

Great Burn proposed wilderness

The Great Burn area includes 7 polygons of previously proposed (1986 Plan) and the Hoodoo Inventoried Roadless Area. Polygons GB-01 and GB-02 are small interior parcels and areas directly adjacent to the Great Burn proposed wilderness that are not currently included. The remaining inventory polygons are areas that contain portions of the Hoodoo Inventoried Roadless Area that fall outside the proposed wilderness and extend to road improvements or other ownership boundaries.

Table 6. Summary of inventory polygons adjacent to the Great Burn proposed wilderness

Inventory Polygon ID Number	Polygon Name	Total
GB-PW-08	Great Burn (Proposed)	90,391.3
GB-PW-INT-01	Great Burn Interior Parcels (not previously proposed)	96.0
GB-01	-	69.6
GB-02	-	16,053.8

GB-03	-	7,646.1
GB-04	-	11,327.7
GB-05	-	10,110.3
GB-06	-	4,133.5
	Total	139,828.2

Sliderock Proposed Wilderness

The 1986 Plan included the Sliderock proposed wilderness. Much of this area overlaps with the Quigg Inventoried Roadless Area that is divided by road improvements. Polygon SL-01 is the northern section of the inventoried roadless area, while SL-02 is national forest system lands adjacent not currently included in the Sliderock proposed wilderness.

Table 7. Summary of inventory polygons adjacent to the Sliderock proposed wilderness

Inventory Polygon ID Number	Polygon Name	Total
SL-PW-10	Sliderock (Proposed)	58,826.3
SL-01	Quigg 2	9,671.1
SL-02	Quigg 1	1,963.8
	Total	70,461.2

Inventory Polygons not adjacent to designated or proposed wilderness

All other areas included in the preliminary inventory cover national forest system lands absent of roads and other improvements of 5,000 acre or more or were included because they are inventoried roadless areas. None of these areas are adjacent to designated or proposed wilderness areas. Boundaries of these polygons are largely driven by the Lolo National Forest administrative boundary or road improvements that were excluded from the preliminary inventory. Two of the polygons included in the preliminary inventory are just below 5,000 acres and are pending final decision to include or not include for Step 2: Evaluation.

Starting from the western end of the forest and moving east, all inventory polygons were given an identification number starting at ‘01’. Where applicable, the associated inventoried roadless areas located within the polygon was used as the polygon name. No name has been assigned to the remaining polygons not associated with an inventoried roadless area.

Table 8. Summary of inventory polygons that are not adjacent to designated or proposed wilderness. Numbers were assigned from west to east across the Lolo National Forest. Names were assigned based on the inventoried roadless areas that fall within each polygon.

Inventory Polygon ID Number	Polygon Name	Total
1	Evans Gulch	11,471.0
2	Maple Peak	7,437.9
3	-	8,405.1
4	Clear Creek	14,688.6
5	Mount Bushnell	45,850.8
6	-	6,066.7
7	-	5,055.4
8	Cherry Peak	51,975.7

Inventory Polygon ID Number	Polygon Name	Total
9	Cataract	12,468.2
10	Cube Iron-Silcox/Sundance Ridge	76,124.0
11	Teepee - Spring Creek	28,476.1
12	-	5,055.8
13	McGregor - Thompson	27,889.0
14	Baldy Mountain	9,919.9
15	Stevens Peak	645.9
16	Wonderful Peak	1,311.0
17	-	5,876.6
18	-	4,709.7
19	Gilt Edge - Silver Creek/Ward Eagle	32,214.6
20	-	5,789.9
21	-	4,318.7
22	Patricks Knob - North Cutoff	23,397.2
23	South Siegel - South Cutoff	16,925.1
24	Reservation Divide/North Siegel	46,774.5
25	-	5,118.6
26	-	17,259.1
27	-	11,745.8
28	-	5,645.6
29	-	5,078.9
30	Marble Point	15,962.0
31	Sheep Mountain - Stateline	47,297.6
32	Meadow Creek - Upper North Fork	11,012.3
33	-	22,179.5
34	-	8,150.1
35	Stark Mountain	25,313.5
36	Burdette	32,178.3
37	Garden Point	6,314.6
38	-	5,099.3
39	-	7,256.0
40	Petty Mountain	50,519.4
41	-	5,034.0
42	Deep Creek	8,103.6
43	-	7,690.1
44	-	6,262.3
45	-	24,579.8
46	-	9,138.8
47	-	9,204.3
48	-	18,014.6
49	Silver King 1	17,551.3
50	Silver King 2	10,797.2

Inventory Polygon ID Number	Polygon Name	Total
51	Silver King 3	101.6
52	-	6,447.1
53	-	6,207.0
54	Marshall Peak	12,459.6
55	-	6,077.2
-	Total	876,646.6

1.3 Appendix A – Data Sources and Criteria Application

Prior to developing the initial inventory, the Plan Revision Team and Lolo National Forest staff reviewed each of the spatial datasets to ensure the information used was as reliable and valid as possible. We updated a subset of these datasets to reflect current status and recent project-level decisions implemented, but not yet updated, in the corporate database. Developed recreation site data were substantially updated to reflect the locations and types of recreation opportunities across the forest. We reviewed locations of communication sites, permitted private access right of ways, easements, utility corridors, waterlines, pipelines, and other special use authorizations. Grazing and range allotment improvements, as well as current mining activities, were discussed and reviewed as available. We also spent a substantial amount of time reviewing recent project-level decisions to verify if road and transportation information was reflective of decision-supported changes in forest road status, public access, and existing maintenance level. The Forest Activity Tracking System (FACTS), which supported one of the criteria, was used to understand vegetation management activities implemented across the forest.

After applying the criteria for developing the preliminary inventory, we reviewed each resulting polygon for errors that may have resulted from data processing. Some polygons were clearly split by road improvements and were subsequently split into separate polygons to evaluate individually. Other polygons had areas where other improvements were in close proximity to each other. If road improvements or other improvements were less than 1000’ apart, these areas were grouped and excluded from the inventory or split into individual polygons to produce a more accurate acreage for each polygon. Areas with improvements greater than 1000’ apart were kept in the inventory, as the evaluation will provide an opportunity to understand the extent of developments in the area and how they may impact wilderness characteristics.

The preliminary inventory polygons boundaries were largely defined by existing road improvements that split national forest lands into individual areas that met inventory criteria. In some cased the Lolo National Forest administrative boundary dictated the boundary as inventory polygons adjoined neighboring national forest system lands or other ownerships.

Table 9 shows the inventory criteria as included in Forest Service Handbook 1909.12, Chapter 70, Section 71.22, the data and information source to support applying those criteria, and a description of how we used the data and information to develop the inventory.

Table 9. Inventory Criteria and how it was applied to develop the preliminary inventory of lands that may be suitable for wilderness recommendation.

Criteria	Included or excluded	Rationale
Designated Wilderness	Included but will not be evaluated.	Areas already congressionally designated. This will inform applying the size criteria for areas less than 5,000 acres that are contiguous to existing Wilderness areas. These areas are included in the inventory but will not be further evaluated during this process. When assigning inventory polygon identification (ID) numbers, all designated wilderness areas were marked with an abbreviation of their name, followed by ‘W’. The associated polygon name shows them as designated wilderness: Selway-Bitterroot designated wilderness: SB-W-01 Scapegoat designated wilderness: BMWC-W-02 Welcome Creek designated wilderness: WC-W-03 Rattlesnake designated wilderness: RS-W-01
Previously Proposed Wilderness as	Included and will be evaluated and	Areas already found suitable for inclusion in national wilderness preservation system under the 1986 Lolo National Forest Land

Criteria	Included or excluded	Rationale
included in the 1986 Lolo National Forest Land Management Plan	boundaries will be verified.	Management Plan. These areas are included in the inventory but will not be further evaluated during this process. Update evaluation to meet guidance of the 2012 planning rule and consideration under revision. When assigning inventory polygon ID numbers, all proposed wilderness areas were marked with an abbreviation of their name followed by 'PW'. The associated polygon name shows them as proposed wilderness. Selway-Bitterroot addition: SB-PW-05 Bob Marshall additions: BMWC-PW-06 Great Burn proposed wilderness: GB-PW-08 Sliderock proposed wilderness: SL-PW-10
Inventoried Roadless Areas under the 2001 Roadless Area Conservation Rule	Included.	Regardless of road or other improvements found within them or size, all 2001 Roadless Area Conservation Areas were included in the inventory. The extent of improvements included in these areas will be documented in Step 2: Evaluation. Polygon names were assigned by their associated inventoried roadless area as appropriate. Some polygons contained two IRAs. Other multipart IRAs are included in multiple inventory polygons.
Forest Road Improvements	Both	As outlined in FSH 1909.12 Chpt 70, Section 72.22 (see Forest Road Improvements, page 3). Operational Maintenance Level road information, permitted motorized access, and route status was used to determine which existing national forest system roads to include or exclude from preliminary inventory. As validated, this dataset supports the open/closed to public motorized use, which informs existing use of national forest system roads. This dataset supports road decisions made at the project-level or through travel planning efforts, which informs the existing and long-term use needs of national forest system roads. Recent project-level decisions that included road management activities were reviewed an incorporated as appropriate into the corporate road database. Operation Maintenance Level 1 roads, as well as temporary, decommissioned, and unauthorized roads and historical travel routes, are included. Roads excluded from the inventory: All Operational Maintenance Level 2, 3, 4, and 5 national forest system roads. Roads that permit public motorized use or receive maintenance from heavy/mechanized equipment (national forest system and other jurisdiction). Roads with long-term use granted by easements or other road use authorizations will be excluded from the preliminary inventory. All roads were buffered by 33 feet, consistent with the buffer assigned to roads for the timber suitability mapping associated with this Plan Revision effort.
Airstrips and heliports	Included	These are minor improvements on the Lolo and will be evaluated on a case-by-base basis during Step 2: Evaluation.
Areas of vegetation treatments, previous logging, and associated road construction activities	Both	Criteria to understand which vegetation treatments are included or excluded is outlined in **Error! Reference source not found.**.
Areas of mining activities	Included	Generally, all current mining activities are small operations, temporary in nature, and very hard to predict as applications can be

Criteria	Included or excluded	Rationale
		submitted throughout the year. No sites excluded from preliminary inventory. These improvements will be reviewed on a case-by-case basis and documented as part of Step 2: Evaluation.
Grazing areas and range allotments	Included	Grazing activities and range allotments are limited on the forest and have little to no improvements associated with them. These areas will be reviewed on a case-by-case basis and documented as part of Step 2: Evaluation.
Watershed treatment areas	Both	Where water supply spatial information was available, locations were buffered by 33 feet (linear features) or 200 feet (point features) and excluded as appropriate. Watershed treatment spatial information was not readily available at the time of the inventory. However, these treatments are considered not substantially noticeable and are only short-term impacts as the intent of these activities is restoration and watershed improvement.
Areas with minor, easily removable recreation improvements.	Included	With the exception of established outfitter and guide camps authorized by special use permits, recreation improvements associated with special use permits (recreation events) and developed recreation sites with no permanently established amenities (Development scales 0 and 1) are included in the inventory.
Permanently installed vertical structures, such as electronic installations that support television, radio, telephone, or cellular communications	Excluded	All locations were buffered by 200 feet and excluded from the preliminary inventory due to routine access and maintenance needs.
Ground-return telephone lines, electric lines, and powerlines with uncleared right-of-ways	Not applicable.	All utility right of ways were buffered by 33 feet and excluded from the inventory. While some utility corridors are moving towards buried lines, implementation is on-going and data supporting locations where this was not readily available at the time of this inventory.
Areas with historical and cultural structures, dwellings, and other relics of past occupation.	Both	No sites were excluded with the exception of historic locations that also serve as higher developed recreation sites, such as cabin rentals or interpretive sites.
Lands adjacent to development or activities that impact opportunities for solitude.	Included	This information will be documented during Step 2: Evaluation to understand how activities on adjacent lands may impact opportunities for solitude.
Developed recreation sites will be excluded from the inventory.	Excluded	All development scale 2, 3, 4, and 5 sites were buffered by 200 feet and excluded from the inventory due to the long-term commitment to support developed recreation opportunities and visitor amenities.
Powerlines with cleared rights-of-way, pipelines, and other permanently installed linear right-of-way structures will be excluded from the inventory.	Excluded	All pipelines, permanent and authorized utility right of ways were buffered by 33 feet and excluded from the inventory. While some utility corridors are moving towards buried lines, implementation is on-going and data supporting locations where this was not readily available at the time of this inventory.

1.4 Appendix B - Determining substantially noticeable vegetation treatments for the draft wilderness inventory

This section outlines the process used to determine if vegetation treatments on the landscape are substantially noticeable as it relates to developing the wilderness inventory for the Lolo National Forest Plan Revision. Our definition of substantially noticeable is: "what a viewer will likely see when viewing vegetation treatments and associated roads from the background, mid-ground and foreground of an area to assist in determining whether or not vegetation treatments, timber harvest, and prior road construction were substantially noticeable and, consequently, whether or not affected areas should be included or excluded from the wilderness evaluation."

The steps of the analysis included:

Step 1. Define substantially noticeable characteristics associated with vegetation treatments.

Step 2. Determine the timeframes needed to achieve visual recovery after treatments.

Step 3. Map areas with vegetation treatment that are substantially noticeable. Identify areas that have burned since treatment and determine if they are still substantially noticeable.

Step 4. Conduct internal and external review of rationale and mapping.

1.4.1 Treatments evaluated and assumptions for what a forest visitor is likely to see

For this analysis, vegetation treatments can be categorized into 3 main types: 1) Prescribed fire and forest fuels treatments, 2) Intermediate treatments and Uneven-aged harvesting, and 3) Even-aged regeneration harvesting. Consistent with the Scenery Management System definitions, the foreground includes areas 0-0.5 miles away from the viewing location, midground includes areas 0.5-4 miles away, and background includes areas greater than 4 miles away. The descriptions below provide an overview of each vegetation treatment categories and what a viewer may see in the foreground, midground, and background.

Prescribed burning and forest fuels treatments

Forest fuels treatments include activities often accomplished by hand or mechanical equipment, combined with prescribed fire through broadcast burning or pile burning. The goal of these treatments is to remove understory trees that act as ladders during wildfire events, allowing fire to move from the ground into the forest canopy. Vegetation treatment activities such as slashing and hand piling reduce the number of small trees and create small diameter stumps. Treatments accomplished with mechanized equipment include slash piling, mulching or mastication, and burning large jackpot piles. Piling accumulated forest fuels can break up the continuity of slash, which can affect wildfire spread and fire behavior. Prescribed burning may consume surface fuels, small trees, and cause some overstory tree mortality. Dead and scorched trees remain on the landscape. Prescribed burning is visible through charred vegetation for a short time, but often appears similar to the effects of wildfire. Fuel breaks are created near roads or private property boundaries and often involve more intense removal of overstory trees, intending to decrease fire activity near public or private use areas.

In the foreground, factors such as stumps, slash, and slash piles are visible until piles are burned or the slash decomposes into the grass, shrub, and litter layer (generally within 5 years). Treatment unit shapes and residual tree densities are often irregular and indistinguishable from the natural landscape when viewed from the middle or background.

Generally, prescribed burning and forest fuels treatments are not substantially noticeable, except for fuel breaks which may be delineated with geometric patterns.

Intermediate Treatments and Uneven-Aged Regeneration Harvests

Intermediate treatments remove some trees in a stand, leaving behind residual trees (i.e., thinning). Treatments in young stands, such as precommercial thinning, are often accomplished by hand, and may leave residual trees on a relatively even spacing. Small stumps and slash are visible in the foreground for 5 to 15 years depending on site conditions; as material starts to decompose it becomes covered with grasses, shrubs, and the litter layer. In the middle and background, the regular spacing of trees could be visible. Intermediate treatments in mature stands, such as commercial thinning, are often accomplished with ground-based mechanical equipment. Stumps and logging slash would be visible in the foreground in the short term. Because of their larger size, stumps may be visible for decades. Because residual trees are left, often roads are not highly visible. In some cases, treatments were accomplished with skyline logging methods, creating linear corridors; delineated in units with geometric edges; and/or created low tree densities that are visible from the midground and background for decades until tree crowns and understory development softens the pattern. Conversely, some treatments are irregular in shape and residual density, and blend in almost immediately in the middle and background. Uneven-aged treatments, such as single tree selection, are designed to regenerate trees but appears similar to an intermediate treatment. Intermediate and uneven-aged treatments are substantially noticeable for 5 to 20 years depending on the specific treatment.

Even-aged Regeneration Harvest

Even-aged regeneration harvests generally remove most of the existing trees, and include treatments, such as clearcuts, seed tree, and shelterwood cuts. These activities are often associated road building and may be followed by prescribed burning. In the past, clearcuts were often delineated with geometric edges that contrast with unharvested areas. Recent harvests tend to be more irregularly delineated and with more patches of reserve trees. Seedtree and shelterwood cuts leave behind scattered residuals and sometimes resemble a thinning or intermediate harvest as previously described. Nevertheless, it is assumed that most regeneration harvests left behind few trees.

In the foreground, logging slash is visible in the short term and stumps may be visible for decades, although grass and shrub cover may cover them on some sites. Road cuts are evident in the foreground for an extend time. The delineation between harvested and unharvested areas diminishes as young trees grown and reduce views. In the middle ground, roads and geometric patch shapes are visible until newly established trees grow to a height that blocks visibility of the road and blends in with the landscape. These characteristics are similar for the background except that the viewer may not have a continuous line of sight, as the features may be interrupted by terrain and vegetation. When seen from the background, harvested areas are typically distinct and noticeable as compared to unharvested areas until trees re-grow. Roads within and surrounding the harvested area are particularly visible during the first few decades.

Steep terrain, poor re-stocking/slow regrowth, or severe wildfire activity after harvesting can increase the road visibility. Additionally, these influences may require longer time periods for trees to grow tall enough to reduce the delineation between harvested and unharvested areas.

Tree Heights and Timeframes Needed for Visual Recovery after Regeneration Harvests

Factors such as tree height, stand density, and topography influence when a regeneration harvest area is no longer substantially noticeable. There is a range of variability across the Lolo National Forest, but

generally it is assumed that tree heights of 21 to 40 feet are needed to achieve visual recovery (Ministry of Forests, British Columbia 1994), depending on topography and treatment unit delineation. The timeframe needed for trees to grow to this height range varies because height growth, especially in young, immature tree stands, depends upon site productivity and species. The analysis provided a summary of the age of trees and stands that are 21 to 40 feet tall.

To estimate the time required for individual trees to reach a height of 21 feet following a regeneration harvest, we created a linear model using tree-level from Forest Inventory and Analysis plots on the Lolo National Forest. In the model, height was used as the response variable and age as the only predictor. Trees greater than 100 years old or greater than 50 feet tall were excluded from the analysis leaving a total of 1,165 trees for analysis. Results showed variability in growth rates based on species but overall, the model performed well with an R-squared value of 0.83 ($p < .001$). The model results showed that, on average, trees on the Lolo National Forest reach a height of 21 feet at 40 years of age. As such, a timeframe of 40 years was used as the estimated recovery time needed to render a regeneration treatment, such as a shelterwood or clear-cut, no longer substantially noticeable.

Activity Code Rationale (FACTS)

The Forest Activity Tracking System (FACTS) is a corporate database that provides the best available data for activities that occur on National Forest System land. The same acre often has a sequence of activities. The following table lists activity codes found in FACTS on the Lolo National Forest, along with the determination for the duration that the activity is considered substantially noticeable to support the wilderness inventory of lands to evaluate for inclusion in the National Wilderness Preservation System. We used the "Date completed" information from this data to reflect when the activity occurred on the ground.

Table 10. Activities that are not considered substantially noticeable. Areas with these activities are included in the inventory of lands that may be suitable and will be included in areas to evaluate for wilderness characteristics.

Activity	FACT Codes	Potentially Substantially noticeable?	Rationale
Broadcast, jackpot, underburn, or ecosystem wildlife burn	1111, 1113, 6101	No	Appearance similar to wildfire.
Wildfire (fuels benefits or fire use)	1115-1118	No	Wildfire, natural effects.
Yarding	1120	No	Disturbance not visible more than 1 season.
Burn of piles	1130	No	Appearance similar to wildfire.
Rehabilitation of burn piles	5633	No	Restoration of natural vegetation.
Range grazing systems	2000	No	Grazing not obvious; affects grass/shrub.
Piling of natural or activity-related fuels	1153	No	Piles only visible in foreground until burned in <5 years.
Chipping of natural or activity-related fuels	1154	No	Chips usually removed, spread, or burned.
Natural abatement-natural or activity-related fuels; misc	1156, 1256, 1169	No	No action; natural process.
Natural changes (excludes fire)	4250	No	Natural changes (bugs or wind).

Tree planting, seeding, natural regeneration, animal damage, seeding, planting propagules	4411, 4431, 4432,4448, 4450, 4451,4452, 4453, 4460,4461, 7030, 7031	No	Planting/reforestation looks similar to natural process.
Leave tree protection, disease control, insect prevention/control	4466, 8100, 8200, 8220	No	Pulling slash away, or application of pheromones – not visually impactive.
Burning site prep for planting, seeding, or naturals	4471, 4481, 4491	No	Looks similar to wildfire.
Chemical or manual site prep for planting, natural regeneration, or seeding; fertilizing	4472, 4475, 4495,4550	No	Minimal ground or veg disturbance; short term impact to localized areas of grass/shrub; not visible for more than 1 growing season.
Mechanical site prep for planting, seeding, or natural regeneration	4474, 4484, 4494	No	Scarification of soil – grass/forb/shrub recovery with conifers within 1 growing season.
Prescribed burn or other control of understory veg	4540, 4541	No	Looks similar to natural disturbance.
Wildlife habitat improvement	6050, 6080	No	Effects similar to natural conditions.
Reclamation of mines	5612	No	No sites excluded from preliminary inventory

Table 11. Activities that are substantially noticeable for 5 years. Areas with these activities implemented from 2017-2022 were excluded from the inventory of lands that may be suitable and will not be evaluated for wilderness characteristics

Activity	FACT Codes	Potentially Substantially noticeable?	Rationale
Fireline construction	1140	Yes for 5 years	Visible foreground. Could include construction with equipment. Usually rehabbed after burn.
Individual tree or area release/weed or precommercial thin; other stand tending; wildlife slash	4511, 4521, 4570, 6133, 3370	Yes for 5 years	Small stumps/slash visible foreground only.

Table 12. Activities that are substantially noticeable for 10 years. Areas with these activities implemented from 2012-2022 were excluded from the inventory of lands that may be suitable and will not be evaluated for wilderness characteristics

Activity	FACT Codes	Potentially Substantially noticeable?	Rationale
Rearrangement or slashing; lop and scatter; site prep and slashing	1150, 1160, 4455	Yes for 10 years	Tree cutting usually by hand, <6" diameter. Stumps/slash visible foreground. Material "melts" into grass/forb/shrub/litter.
Compacting/crushing	1152	Yes for 10 years	Woody material scattered but grass/forb recover quickly and chunks "melt" into grass/forb/shrub/litter.

Table 13. Activities that are substantially noticeable for 20 years. Areas with these activities implemented from 2002-2022 were excluded from the inventory of lands that may be suitable and will not be evaluated for wilderness characteristics.

Activity	FACT Codes	Potentially Substantially noticeable?	Rationale
Prep cut for shelterwood, seedtree	4121, 4122	Yes for 20 years	Visually appears similar to thinning.
Single-tree selection	4151	Yes for 20 years	Visually appears like a thinning, only small gaps created.
Group selection cut	4152	Yes for 20 years	Usually, 1/3 of stand removed in small patches.
2-aged shelterwood or seedtree establishment or removal with reserves	4183, 4193, 4194	Yes for 20 years	Seed/shelter trees left indefinitely for 2-storied appearance. Timeframes more similar to intermediate harvest.
Improvement cut; commercial thinning	4210, 4220	Yes for 20 years	Intermediate harvest, ample residuals, usually irregular.
Sanitation or salvage (Intermediate)	4231, 4232	Yes for 20 years	Thinning of dead or special product trees (post/poles), intermediate.

Table 14. Activities that are substantially noticeable for 40 years. Areas with these activities implemented from 1982-2022 were excluded from the inventory of lands that may be suitable and will not be evaluated for wilderness characteristics.

Activity	FACT Codes	Potentially Substantially noticeable?	Rationale
Clearcut - patch, strip, stand, salvage, with or without reserves	4111, 4113, 4115	Yes for 40 years	Regen harvest, often geometric in the past with roads.
Shelterwood or seed tree seed cut (with reserves) w/ or w/o leave trees	4131, 4132	Yes for 40 years	Shelter/seed trees left for a period of time while regeneration establishes, then are removed.
Shelterwood or seedtree final cut, or removal with leave trees reserves	4141, 4142, 4146, 4148, 4196	Yes for 40 years	Overstory removal from regeneration; some reserves could be left. regeneration harvest.
Liberation cut; overstory removal from regen with or without reserves	4211, 4143	Yes for 40 years	Overstory is removed from well-established regeneration, generally at least 5’ tall.

Table 15. Activities that are substantially noticeable permanently once implemented. Areas with these activities were excluded from the inventory of lands that may be suitable and will not be evaluated for wilderness characteristics.

Activity	FACT Codes	Potentially Substantially noticeable?	Rationale
Seed production areas, seed orchards or genetic plantation establishment, maintenance	4931, 4932, 4933, 4934, 4940, 4941, 4950, 4951, 4981	Yes, permanently	Maintained for specific seed/genetic tests. Regular tree spacing, stakes, tags, etc.
Fuel break and maintenance; Permanent land clearing; harvest without restocking	1180, 4270, 4242, 9008	Yes, permanently	Stumps foreground, geometric edge mid/background, maintained indefinitely, usually on roads, ridges, near communities. May be road buffers, powerlines, etc.

1.5 Appendix C - Summary table of all inventoried polygons

Table 16. Summary of all inventoried polygons

Inventory Polygon ID Number	Polygon Name	Total
1	Evans Gulch	11,471.0
2	Maple Peak	7,437.9
3	-	8,405.1
4	Clear Creek	14,688.6
5	Mount Bushnell	45,850.8
6	-	6,066.7
7	-	5,055.4
8	Cherry Peak	51,975.7
9	Cataract	12,468.2
10	Cube Iron-Silcox/Sundance Ridge	76,124.0
11	Teepee - Spring Creek	28,476.1
12	-	5,055.8
13	McGregor - Thompson	27,889.0
14	Baldy Mountain	9,919.9
15	Stevens Peak	645.9
16	Wonderful Peak	1,311.0
17	-	5,876.6
18	-	4,709.7
19	Gilt Edge - Silver Creek/Ward Eagle	32,214.6
20	-	5,789.9
21	-	4,318.7
22	Patricks Knob - North Cutoff	23,397.2
23	South Siegel - South Cutoff	16,925.1
24	Reservation Divide/North Siegel	46,774.5
25	-	5,118.6
26	-	17,259.1
27	-	11,745.8
28	-	5,645.6
29	-	5,078.9
30	Marble Point	15,962.0
31	Sheep Mountain - Stateline	47,297.6
32	Meadow Creek - Upper North Fork	11,012.3
33	-	22,179.5
34	-	8,150.1

Inventory Polygon ID Number	Polygon Name	Total
35	Stark Mountain	25,313.5
36	Burdette	32,178.3
37	Garden Point	6,314.6
38	-	5,099.3
39	-	7,256.0
40	Petty Mountain	50,519.4
41	-	5,034.0
42	Deep Creek	8,103.6
43	-	7,690.1
44	-	6,262.3
45	-	24,579.8
46	-	9,138.8
47	-	9,204.3
48	-	18,014.6
49	Silver King 1	17,551.3
50	Silver King 2	10,797.2
51	Silver King 3	101.6
52	-	6,447.1
53	-	6,207.0
54	Marshall Peak	12,459.6
55	-	6,077.2
SB-W-01	Selway-Bitterroot (Designated)	9,831.3
SB-PW-05	Selway-Bitterroot Addition (Proposed)	3,702.5
SB-01	Lolo Creek	14,619.7
BMWC-W-02	Scapegoat (Designated)	75,573.6
BMWC-PW-06	Bob Marshall Addition (Proposed)	70,994.5
BMWC-01	Bear-Marshall-Scapegoat-Swan	78,512.5
WC-W-03	Welcome Creek (Designated)	28,214.2
WC-01	-	9,788.6
WC-02	-	654.2
WC-03	Stony Mountain/Welcome Creek	49,226.0
RS-W-04	Rattlesnake (Designated)	34,237.0
RS-01	-	1,980.9
RS-02	-	11,931.3
RS-03	-	32,503.1
RS-04	-	11,504.3
RS-05	-	8,658.2

Inventory Polygon ID Number	Polygon Name	Total
RS-06	-	35.8
GB-PW-08	Great Burn (Proposed)	90,391.3
GB-PW-INT-01	Great Burn Interior Parcels (not previously proposed)	96.0
GB-01	-	69.6
GB-02	-	16,053.8
GB-03	-	7,646.1
GB-04	-	11,327.7
GB-05	-	10,110.3
GB-06	-	4,133.5
SL-PW-10	Sliderock (Proposed)	58,826.3
SL-01	Quigg 2	9,671.1
SL-02	Quigg 1	1,963.8
-	Grand Total	1,528,903.7