

Changes of the Phase 2 Field Guide from Version 3.01 to version 4.00

These listed changes are intended to highlight significant changes to the field guide and does not contain all of the details or minor changes.

National Changes:

- Added: 1.5 PLOT NONSAMPLED REASON. Added code 11 defined as “Ocean – plot falls in ocean water below mean high tide line.”
- Clarified: 1.6 SUBPLOTS EXAMINED. Clarified text by adding “By default, PLOT STATUS = 1 plots have all 4 subplots examined.”
- Modified: 1.9 FIELD GUIDE VERSION. Modified the *Values* from “3.0” to “4.0”.
- Modified: 1.11 DECLINATION (CORE OPTIONAL). Modified the *Values* from “-359.0 to + 359.0” to “+/- 50”.
- Deleted: 1.15 CREW TYPE. Dropped this variable.
- Added: 1.15 CREW NUMBER.
- Added: 1.16.7.1 LATITUDE DEGREES. Added *Values* to be “0-90”.
- Added: 1.16.8.1 LONGITUDE DEGREES. Added *Values* to be “1-180”.
- Modified: 1.16.9 UTM ZONE. Modified the *Values* from “03-19Q and 03-19W” to “Number varies from 2 in Alaska to 19 on the East Coast. The letter varies from Q in Hawaii to W in Alaska”.
- Added: 1.16.10 EASTING (X) UTM. Added *Values* to be “0000000-9999999”.
- Added: 1.16.11 NORTHING (Y) UTM. Added *Values* to be “0000000-9999999”.
- Modified: 1.16.16 GPS ERROR. Modified *Values* from “000 to 070 if possible” to “000 – 999”.
- Modified: 1.16.18 GPS FILENAME (CORE OPTIONAL). Modified *Field width* from “8 characters.3 characters (e.g., R0171519.ssf)” to “15 characters”. Modified *Values* from “Letters and numbers’ to “English words, phrases, and numbers”.
- Modified: 1.18 PLOT-LEVEL NOTES. Modified the variable title to “PLOT NOTES”.
- Added: 2.4.3 CONDITION NONSAMPLED REASON. Added code 11 defined as “Ocean – Plot falls in ocean water below mean high tide line.”
- Clarified: 2.5.1 RESERVED STATUS. Under *When collected*, repeated the information listed in CORE in CORE OPTIONAL also.
- Clarified: 2.5.2 OWNER GROUP. Under *When collected*, repeated the information listed in CORE in CORE OPTIONAL also.
- Clarified: 2.5.7 OWNER CLASS. Under *When collected*, repeated the information listed in CORE in CORE OPTIONAL also.

- Clarified: 2.5.8 PRIVATE OWNER INDUSTRIAL STATUS. Under *When collected*, repeated the information listed in CORE in CORE OPTIONAL also.
- Modified: 2.5.11 DISTURBANCE 1. Deleted code 55. Added codes 90 through 95.
- Modified: 2.5.12 DISTURBANCE YEAR 1. Added the *Values* 9999 that is currently in the text.
- Clarified: 2.5.23 PHYSIOGRAPHIC CLASS. Clarified code 33 by deleting "...sites in the Lake States with lowland swamp conifers or...".
- Added: 3.2 SUBPLOT/MACROPLOT STATUS. Added a code 4 defined as "QA crew did not measure trees, saplings, or seedlings. QA crew did measure all other data items (condition, boundary, and subplot-level data). For use only on check plots (QA STATUS = 2-6). Not a legal entry on production plots (QA STATUS = 1 or 7)".
- Added: 3.3 SUBPLOT NONSAMPLED REASON. Added a code 11 defined as "Ocean – Plot falls in ocean water below mean high tide line."
- Modified: 3.5 MICROPLOT CENTER CONDITION. Modified *When collected* from "All microplots where subplot center is CONDITION CLASS STATUS = 1, 2, 3" to "All microplots".
- Clarified: 3.6 SUBPLOT SLOPE. Clarified *Values* from "000 to 155" to "000, 005 to 155".
- Modified: 3.9 SUBPLOT/MACROPLOT CONDITION LIST (CORE OPTIONAL). Changed variable from CORE OPTIONAL to CORE. Also changed *When collected* from "All forested Phase 3 plots" to "All plots".
- Added: 4.2.2 PLOT TYPE. Added code 4 defined as "hectare plot boundary (coded from subplot 1 only)."
- Added: 4.2.7 CORNER DISTANCE. Added to *Values*: "hectare 001 to 185 ft". Also added leading zeros to other codes as appropriate and changed *Field width* from "2" to "3".
- Added: 5.7.3 MORTALITY: **RM** When collected **NM only**: All dead tally trees ≥ 5.0 in DBH/DRC that were live at the previous inventory or within the past 10 years if no previous inventory.
- Clarified: 5.14 TOTAL LENGTH. Under *When collected*, repeated the information listed in Phase 2 CORE OPTIONAL in Phase 3 CORE OPTIONAL also.
- Clarified: 5.15 ACTUAL LENGTH. Under *When collected*, repeated the information listed in Phase 2 CORE in Phase 2 CORE OPTIONAL and Phase 3 CORE.
- Clarified: 5.16 LENGTH METHOD. Under *When collected*, repeated the information listed in Phase 2 CORE OPTIONAL in Phase 3 CORE OPTIONAL.
- Modified: 5.20.3 DAMAGE SEVERITY 1 (CORE OPTIONAL). Changed the *Field width* from 2 digits to 1 digit.
- Modified: 5.22 MORTALITY YEAR (CORE OPTIONAL). Changed *Values* from "1995 or higher" to "1994 or higher".
- Modified: 5.26 MISTLETOE CLASS (CORE OPTIONAL). Changed the variable name from "MISTLETOE CLASS (CORE OPTIONAL)" to "DWARF MISTLETOE CLASS (CORE OPTIONAL)".
- Modified: 7.2.1 CONDITION CLASS LIST. Changed *Field width* from 5 digits to 4 digits. Also changed the *Values* from "1 to 9 or 10000 to 98765" to "1000 to 9876".
- Modified: Appendix 2. FIA Forest Type Codes. Some codes were retired, some codes were added, and some forest types were reassigned to different codes:

Old Code	New Code	Forest Type
	128	Fraser fir
	129	red spruce/Fraser fir

	151	tropical pines
	172	Florida softwoods
181	171	Eastern redcedar
183	369	Western juniper
223	225, 226, 203	Jeffrey-Coulter-bigcone Douglas-fir divided to separate types
382		Delete Australian pine and aggregate with 995 exotic hardwoods
	384	Norway spruce
	385	introduced larch
	391	other softwoods
	609	baldcypress/pondcypress
803	516	cherry-white ash-yellow-poplar
807	517	elm-ash-black locust
	903	gray birch
	905	pin cherry
925	971	deciduous oak woodland
926	972	evergreen oak woodland
932	933, 934	canyon-interior live oak divided to canyon live oak and interior live oak
	935	California white oak (valley oak)
951	961	Pacific madrone
952	973	mesquite woodland
953	974	cercocarpus (Mountain brush) woodland
954	975	intermountain maple woodland
955	962, 976	misc. woodland hardwoods
	962	other hardwoods
981		Sabal Palm is no longer tallied as a tree. Change any 981 to either 983 (Palms) or 962 (Other hardwoods)
	983	palms
	989	other tropical hardwoods

Also, in the forest type descriptions, some descriptions were retired, some were added, and some were modified. See the change proposal for a complete list.

- Added: Appendix 3. FIA Tree Species Codes. Added several new species based primarily in west Texas, codes 0060, 0061, 0141, 0223, 0363, 0523, 0851, 0867, 0868, 0869, 0870, 0911, 5491, 8511, 8512, 8513, 8514, and 8651.

Appendix 3. FIA Tree Species Codes

- Code 0130 *Pinus sylvestris* – add 'W' to the West region designation column
- Code 0138 *Pinus quadrifolia* – add 'w' to the Woodland designation column
- Code 0303 *Acacia farnesiana* – add 'w' to the Woodland designation column
- Code 0304 *Acacia greggii* – add 'w' to the Woodland designation column
- Code 0341 *Ailanthus altissima* – add 'W' to the West region designation column
- Code 0374 *Betula occidentalis* – add 'W' to the West region designation column

- Code 0583 *Halesia parviflora* – change the PLANTS code from HACA3 to HAPA2
- Code 0800 – change the national Common Name from ‘Oak – deciduous spp.’ to ‘Oak spp.’
- Code 0828 – change the scientific name from *Quercus buckleyi* to *Quercus texana*
- Code 0828 – change the PLANTS code to from QUBU2 to QUTE
- Code 0828 – add Texas red oak to the common name
- Code 0850 Oak, evergreen spp. – drop this code
- Added: Appendix 3. FIA Tree Species Codes. Added common name columns for species in the North, South, Rocky Mountain, and Pacific Northwest regions to national field guide version.
- Appendix 4: Added code 0042 Alaska yellow-cedar (*Chamaecyparis nootkatensis*) as a valid species, with PNWRS listed as the region.
- Clarified: Appendix 6. Glossary. Clarified the definitions of the following terms: blind check, cold check, hot check, production plot, reference plot, and training plot. Also added a definition for the term ‘botched plot’.
- Changed: Appendix 8. Tree Coding Guide for RECONCILE. Changed the title of Appendix 8 from “Tree Coding Guide for RECONCILE” to “Tree Coding Guide”.

Changes made to the “RM” sections (note: page numbers will differ depending on Field Guide Version Number):

- With the addition of MIDAS and the phasing out of TALLY and its file structure, any reference to TALLY will be changed to match how MIDAS is now used.
- Every Page: Changed the header to Version 4.0, November, 2009
- Page 33/34: 0.1.5.3RM Plot Center Incorrectly Placed or Not Found
Deleted the last bullet statement on page 33 and first 2 bullet statements on page 34 These statements are in reference to re-establishing a previously installed plot if it is more than 500’ off from the theoretical GPS coordinates **or** if the PC is not in the same condition as where the theoretical coordinates would put it **or** if the previously established PC is not located in the correct ownership.

Re-establish a plot only if it cannot be found or is greater than 1,000 meters from the theoretical coordinates. If more than 1000 meters off, contact the local QC or AL.
- 0.4RM TREE SAMPLING PROCEDURES – page 48 - spelling mistake fixed in table under Plot Type
- Moved 1.15.1 OWNER CONTACT to Section 1 Plot Level Data from Section 8 Field Location Reference Items
- Moved 1.15.2 4x4 to Section 1 Plot Level Data from Section 8 Field Location Reference Items
- Moved 1.15.1 ATV to Section 1 Plot Level Data from Section 8 Field Location Reference Items
- Moved 1.15.1 LOCKED GATE to Section 1 Plot Level Data from Section 8 Field Location Reference Items
- 1.9.1RM REGIONAL FIELD GUIDE VERSION
Changed “Values” from 3.01 to 4.00
- 2.2 CONDITION CLASS DEFINITIONS - Definition of Forest Land # 1 (a) – added at the end after “or” **40 established seedlings per acre.**

2.5.10.2**RM** CROWN COVER – in variable description, deleted “greater than 1.0” DBH/DRC” and “Do not include seedlings”.

- 2.5.10.5**RM** LIVE PLUS MISSING CROWN COVER

Added “live and dead” wording to the statement – Include *live and dead* tally trees, saplings, and seedlings (see Appendix 3)

When collected now reads: All accessible forest and nonforest land condition classes (CONDITION CLASS STATUS 1 and 2)

Changed the codes where:

00 is None

01 is 1% crown cover

10 is 10% crown cover

- 2.5.10.6**RM** TOTAL SEEDLINGS – changed wording of definition:

Record the estimated number of live seedlings per acre of the condition. Base the estimate on actual counts or field observations. When actual counts are impractical, seedling numbers can be estimated by expanding the microplot tally. If all 4 microplots are in the same condition, multiply each seedling tallied by 75; 3 microplots in the same condition, multiply each seedling tallied by 100; 2 microplots in the same condition, multiply each seedling tallied by 150; 1 microplot in the condition, multiply each seedling tallied by 300. If microplot seedling tally does not accurately represent what is present on the condition, adjust the estimate.

When collected now reads: All accessible forest and nonforest land condition classes (CONDITION CLASS STATUS = 1 AND 2)

Field width: 5 digits

Values: 00000 - 99999

- 2.5.10.7**RM** LAND USE - Added Definition of variable:

For each condition, record the current land use.

When collected: All accessible forest land and nonforest condition classes (CONDITION CLASS_STATUS = 1 and 2)

Field width: 3 digits

Tolerance: no errors

MQO: At least 90% of the time

Values: 001 - 003

Code	Definition
001	Condition is not subject to a nonforest land use that prevents normal regeneration and succession such as regular mowing, intensive grazing, or recreation activities.
002	Condition is subject to a nonforest land use that prevents normal regeneration and succession such as regular mowing, intensive grazing, or recreation activities.
003	Condition has been chained in the past.
004	Same as Code 001 above, however, size and width (1 acre, 120 feet) considerations preclude qualifying the condition (inclusions) as accessible forest land, regardless of live plus dead crown cover.

- 2.5.10.8**RM** TREE FORM - Added Definition of variable:

For each condition, describe the: 1) site potential (See codes for 1st digit), and the 2) tree height potential (See codes for last 2 digits).

When collected: All accessible forest land and nonforest condition classes (CONDITION CLASS STATUS = 1 and 2)

Field width: 3 digits

Tolerance (1st digit): correct

Tolerance (2nd digit): +/- 10 % of true height

MQO: At least 90% of the time

Values (1st digit): 0, 1

Values (last 2 digits): 00 to 99

1) Record the appropriate code for site potential (1st digit).

Site potential is mainly an expression of the combined influence of all its physical characteristics (aspect, slope, soils, elevation, moisture, environment) on vegetation. Vegetation is in a constant state of change while site is much more static. On sites where trees are present, use the following stand or tree characteristics as a **guide** to help confirm the site descriptions below, remembering that disturbance or forest succession does not change the physical site characteristics. In that case, nonforest land does not necessarily denote a low site, just as forest land does not necessarily denote a high site. On sites where no trees are present, use the physical site descriptions to determine if it is a low site.

Codes Definition

- | | |
|---|---|
| 0 | Condition primarily occurs on a high site and lacks low site characteristics. By definition, all sites that are not low are considered high sites. (See characteristics of low sites below) |
| 1 | Condition primarily occurs on a low site. (See characteristics of low sites below) |

Characteristics of low sites:

If trees are present then (Use all species of tall trees regardless of forest type):

- Stocking or crown cover is usually low
- Stand is composed of only dominants or codominants. Intermediate size classes are not present
- Stand is composed of overmature or decadent trees. **Young** (seedlings, saplings, and trees) are not present or are in very small numbers
- No seed trees are present
- Trees are stunted

Site usually occurs on one of the following

1. Steep, rocky terrain characterized by the presence of cliffs, ledges, rock columns, and large boulders. Any trees present usually must gain a foothold and grow on what little soil accumulates in cracks or on flat areas
2. High, narrow ridge tops subject to constant high winds (Krummholz). Generally, these areas support stunted, gnarled trees, usually of large girth but of short height. Age normally is quite high and growth has slowed to a negligible progression
3. Narrow to moderately wide chutes subject to frequent snow or land slides. The site may be capable of supporting, or may be supporting trees but the periodic snow or land slides prohibit trees from growing to maturity by breaking their main stems, damaging lower trunks by dashing rocks and logs against them, burying smaller trees under debris, and uprooting larger trees
4. Areas of steep to flat topography covered by shale, or fist-sized to larger rocks. Trees may be present—having become established in cracks between rocks or during a period when more soil existed before the rocks slid down to cover the site
5. Very dry sites that are flat or often southern to western exposures. Trees present are stunted with dead tops or many dead stems

2) Record the appropriate code for tree height potential (last 2 digits).

Record the height of the tallest tree (live or dead) on the condition sample acre. Similar to site tree selection, consider only trees that are representative of the condition's site. For example, if a dry site condition contains a wet site inclusion (spring) with much larger trees, do not consider trees of an inclusion or microsite that are not representative of the condition sample acre.

Consider only species of the **Field-recorded** forest type. For example, if a condition that is a Mountain Mahogany forest type contains limber pine, do not consider limber pine; or a pinyon-juniper forest type that contains ponderosa pine, only consider pinyon or juniper.

For nonstocked conditions, record the estimated tree height potential of the tallest tree for the site. Consider only species of the field recorded forest type. Base your estimate on past evidence (dead trees, stumps, etc.), or a similar nearby site.

Record 99 for any trees greater than 99. Record 00 if no trees occur on the condition sample acre, and it is not nonstocked.

- Changed 5.25.2**RM** FORM DEFECT: Change field guide when collected on FORM DEFECT to: All live tally trees \geq 9.0 inches diameter softwoods and \geq 11.0 inches diameter hardwoods. Retained part that states “not to be recorded for woodland species”. In addition, added text that form defect is limited to the sawlog portion of a tree (1-foot stump to a 7.0 inch DOB for softwoods and a 9.0 inch DOB for hardwoods).
- Added **RM** note to DIAMETER CHECK:
 - When the diameter of a timber species is taken accurately but not measured at 4.5 ft due to an abnormality, branches, scars, etc., use code “0” and record the height to diameter distance in the tree notes.
- Added Senecio spp. (SENEC) to the list of plants that can be coded at the genus level. SENEK can either be a forb or shrub
- CHANGED the name of Section 8 from FIELD LOCATION REFERENCE ITEMS to FIELD LOCATION REFERENCE FORM and PLOT MONUMENTATION RECORDS
- Reworked all of Section 8 to match MIDAS (too many changes in this section to record here; highlights below)
- ADDED: 8.1.1**RM** MONUMENT TYPE
- ADDED: 8.1.2**RM** SUBPLOT REFERENCED
- Modified: 8.1.3**RM** AZIMUTH: Changed witness tree azimuth from “Record the azimuth (to the nearest degree) from the PC stake to the center of tree/landmark at its base” to “the azimuth (to the nearest degree) from the PC stake to the tag on the tree or landmark.
- ADDED: 8.1.6**RM** REFERENCE TYPE
- ADDED: 8.1.8 OTHER REFERENCE
- ADDED: 10.2.5**RM** PREVIOUS NUMBER OF POINTS MEASURED
- ADDED: 10.2.8**RM** PREVIOUS NUMBER OF MICROPLOTS MEASURED
- Deleted the first 2 bullet statements under ACCOUNTING PROCEDURES
- Deleted “Pilot” out of the DWM section title and last 2 paragraphs at the bottom of page 265 and top of 266
- Deleted 11.0.4**RM** Use of hardcopy data sheets
- Deleted 11.0.5**RM** Recording “Time to Complete” box on Form 1
- Added an “*” to species BEOC2 (water birch) making this a tally species in the Rocky Mountain Region.
- Added an “*” to species 0461 CELA (sugarberry) making this a tally species in the Rocky Mountain Region.
- Added the new plot filtering condition variables to the Condition Class Description Record
- MODIFIED: APPENDIX A.1 to match MIDAS