

9.000 NONFOREST / DENIED / HAZARDOUS / WATER PLOTS

OVERVIEW -- This section describes field procedures for attempted, field-visited CONDITION CLASS STATUS 2 through 7. These plots are of interest from the standpoint that they may once have been forest or that they may revert to forest or become accessible in the future. Thus, they are monitored to account for lands that move into and out of the forest land base.

- A plot is considered entirely nonforest (CONDITION CLASS STATUS 2) if no part of it is currently located in any another condition class.
- A plot is inaccessible if access is prevented to the entire plot or subplot by the landowner or because of some hazardous situation.
- In cases where an entire plot or subplot is inaccessible, but obviously contains no forest land (e.g., marshes) assign the plot or subplot to the appropriate CONDITION CLASS STATUS 2 through 7.

PROCEDURE -- If the entire plot falls in a **CONDITION CLASS STATUS 2 through 7**, only basic plot identification data are recorded on these plots -- Plot, Condition, Subplot, and GPS data. If applicable, include boundary, tree data and a plot diagram.

If a forested remeasure plot has been converted to nonforest, the previous tree data are reconciled. Trees on previously forested plots will be reconciled using TREE HISTORY codes from Chapter 6.

- There is a distinction between plots that have been clearcut, and plots that have been converted or changed to another land use. A clearcut plot is considered forestland until it is actively converted to another land use. The procedures in this section do not apply to clearcuts unless and until the land is converted to a nonforest use. Additional information concerning land use classifications is contained in Chapter 4.

If a plot that was previously CONDITION CLASS STATUS 2 through 7 becomes forest, a new forest ground plot is installed. Establish these plots as described in the previous chapters.

All plots with CONDITION CLASS STATUS 2 through 7 are visited if there is any reasonable chance that they might include some accessible forest land. Delineate all boundaries between CONDITION CLASS STATUS 2 through 7 that occur within the

sample area on subplots and microplots. These plot are established and mapped as described in the previous chapters.

If the entire plot falls in CONDITION CLASS STATUS 2, but consists of multiple nonforest land uses (LAND USE 61 through 88), do not map these land uses. See “Plot Diagram Rules” in Appendix 5.

If any or all of a remeasure plot becomes inaccessible due to access denied or hazardous situations, the previous data is reconciled and an attempt is made to visit this area of the plot during the next remeasurement cycle.

3.000 PLOT DATA -- Plot data are recorded from the center of subplot 1. In general, they apply to the entire plot.

3.100 STATE -- Record the unique FIPS (Federal Information Processing Standard) code identifying the state where the plot center is located.

When collected: All plots
Field width: 2 digits
Tolerance: No errors
MQO: At least 99% of the time
Values: See Appendix 1

3.110 UNIT -- Record the unique code that identifies the inventory unit where the plot center is located.

When collected: All plots
Field width: 1 digit
Tolerance: No errors
MQO: At least 99% of the time
Values: See Appendix 1

3.120 COUNTY -- Record the unique FIPS (Federal Information Processing Standard) code identifying the county where the plot center is located.

When collected: All plots
Field width: 3 digits
Tolerance: No errors
MQO: At least 99% of the time
Values: See Appendix 1

3.130 PLOT NUMBER -- Record the four-digit number that permanently identifies each field plot. Plot numbers are unique within a county. **Do not ever change a plot number.** Bring any suspected errors to the attention of your supervisor.

When collected: All plots
Field width: 4 digits
Tolerance: No errors
MQO: At least 99% of the time
Values: 0001 to 9999

3.140 SAMPLE KIND -- Record the code that describes the kind of plot being established.

When collected: All plots
Field width: 1 digit
Tolerance: No errors
MQO: At least 99% of the time
Values:

- 1 **Initial** plot establishment

- 5 **Remeasurement of a NEFIA or FHM plot** – remeasurement of a previously established 4-point fixed radius plot

- 6 **Remeasurement of an NEFIA plot** – remeasurement of a previously established fixed radius plot that was new at the previous occasion

- 7 **Remeasurement of an NEFIA plot** – remeasurement of a previously established fixed radius plot that was remeasured at the previous occasion

- 8 **Remeasurement of an NEFIA plot** – remeasurement of a previously established variable radius plot that was remeasured at the previous occasion

3.145 QA STATUS -- Record the code to indicate the type of plot data collected, using the following codes:

When collected: All plots
Field width: 1 digit
Tolerance: No errors
MQO: At least 99% of the time

Values:

- 1 Standard production plot
- 2 Cold check plot (partial remeasurement by a field supervisor or QA staff)
- 3 Reference plot (off grid)
- 4 Training/practice plot (off grid)
- 5 Botched plot file (disregard during data processing)
- 6 Blind check plot (complete remeasurement by a QA crew)
- 7 Hot check/standard production plot (standard field crew and field supervisor or QA staff)

3.150 CREW TYPE -- Record the code to specify what type of crew is measuring the plot.

When collected: All plots

Field width: 1 digit

Tolerance: No errors

MQO: At least 99% of the time

Values:

- 1 Standard field crew
- 2 QA crew (any QA crew member present collecting data)

3.155 PHASE -- Record the code that indicates the phase of the sample plot.

When collected: All plots

Field width: 1 digit

Tolerance: No errors

MQO: At least 99% of the time

Values:

- 2 Phase 2 (FIA only) plot
- 3 Phase 3 (FIA and FHM) plot

3.160 MONTH -- Record the two-digit code for the month that the plot visit was completed.

When collected: All plots

Field width: 2 digits

Tolerance: No errors

MQO: At least 99% of the time

Values:

January	01	July	07
February	02	August	08
March	03	September	09
April	04	October	10
May	05	November	11
June	06	December	12

3.170 DAY -- Record the day of the month that the plot visit was completed.

When collected: All plots
Field width: 2 digits
Tolerance: No errors
MQO: At least 99% of the time
Values: 01 to 31

3.180 YEAR -- Record the year that the plot visit was completed.

When collected: All plots
Field width: 4 digits
Tolerance: No errors
MQO: At least 99% of the time
Values: Beginning with 1998, constant for a given year

3.190 PREVIOUS LAND USE -- Transfer this information from the old tally sheets. The codes **used during the previous inventory** are listed below:

When collected: All plots that are being remeasured
Field width: 2 digits
Tolerance: No errors
MQO: At least 99% of the time
Values:

Forest Land

20	timberland
22	urban timberland (OH, PA & NY)
40	unproductive forestland
41	unproductive reserved forestland
50	productive reserved forestland
51	Christmas tree plantation
52	urban forestland

Nonforest Land

Without trees

61
63
65
67
69
70

with trees

62 cropland
64 improved pasture
66 idle farmland
68 other farm land
--- bog
--- marsh

71	---	salt marsh
72	---	swamp
73	74	maintained rights-of-way, regardless of width
75	76	mining and wasteland
77	78	developed recreation area
79	80	industrial and commercial land
81	82	tract and/or multiple family housing
83	84	single-family custom housing
85	86	other (specify in general notes)

Water

91	census water
92	noncensus water

3.200 PREVIOUS MONTH -- Transfer this information from the old tally sheet.

When collected: All plots that are being remeasured
Field width: 2 digits
Tolerance: No errors
MQO: At least 99% of the time
Values: 01 to 12

3.210 PREVIOUS YEAR -- Transfer this information from the old tally sheet.

When collected: All plots that are being remeasured
Field width: 4 digits
Tolerance: No errors
MQO: At least 99% of the time
Values: 1988 to 1998

3.220 CRUISER -- Enter the three-digit numeric code of the person that cruised the plot.

When collected: All plots
Field width: 3 digits
Tolerance: No errors
MQO: At least 99% of the time
Values: As assigned

3.230 TALLY -- Enter the three-digit numeric code of the person that tallied the plot.

When collected: All plots
Field width: 3 digits

Tolerance: No errors
MQO: At least 99% of the time
Values: As assigned

3.290 TERRAIN POSITION – If there is no accessible forest land on the plot, record code 8.

When collected: All plots
Field width: 1 digit
Tolerance: No errors
MQO: At least 90% of the time
Value: 8

3.400 MANUAL VERSION -- Record the version number of the National Core Field Guide that was used to collect the data on this plot. This will be used to match collected data to the proper version of the field manual. (Note: This is the same number as the regional field guide.)

When collected: All Nonforest / Denied Access / Hazardous plots
Field width: 2 digits (x.y)
Tolerance: No errors
MQO: At least 99% of the time
Values: **17**

3.300 GPS COORDINATES -- Use the procedures described in Chapter 3.

3.310 DEGREES OF LATITUDE -- Enter the degrees of latitude as shown on the GPS receiver.

When collected: All plots
Field width: 2 digits (DD)
Tolerance: No errors
MQO: At least 99% of the time
Values:

3.320 MINUTES OF LATITUDE -- Enter the minutes of latitude as shown on the GPS receiver.

When collected: All plots
Field width: 2 digits (MM)
Tolerance: No errors
MQO: At least 99% of the time
Values:

3.330 SECONDS OF LATITUDE -- Enter the seconds and hundredths of seconds of latitude as shown on the GPS receiver.

When collected: All plots
Field width: 4 digits (SS.SS)
Tolerance: No errors
MQO: At least 99% of the time
Values:

3.340 DEGREES OF LONGITUDE -- Enter for the degrees of longitude as shown on the GPS receiver.

When collected: All plots
Field width: 2 digits (DD)
Tolerance: No errors
MQO: At least 99% of the time
Values:

3.350 MINUTES OF LONGITUDE -- Enter the minutes of longitude as shown on the GPS receiver.

When collected: All plots
Field width: 2 digits (MM)
Tolerance: No errors
MQO: At least 99% of the time
Values:

3.360 SECONDS OF LONGITUDE -- Enter the seconds and hundredths of seconds of longitude as shown on the GPS receiver.

When collected: All plots
Field width: 4 digits (SS.SS)
Tolerance: No errors
MQO: At least 99% of the time
Values:

3.361 NUMBER OF READINGS -- Record a 3-digit code indicating how many readings were averaged by the GPS unit to calculate the plot coordinates. Collect at least 180 readings if possible. (If 3.370 LOCATION OF GPS READING is 2, then record the value collected at this location, e.g., SP.)

When collected: All plots
Field width: 3 digits
Tolerance: No errors
MQO: At least 99% of the time
Values: 1 to 999

3.365 ELEVATION -- Record the elevation above mean sea level of the plot center, in feet, as determined by GPS. **Lowest elevation in the Northeastern U.S is 0 ft (sea level).** Highest elevation in the Northeastern US is Mt Washington at 6,288 ft. (If 3.370 LOCATION OF GPS READING is 2, then record 9999.)

When collected: All plots
Field width: 4 digits
Tolerance: No errors
MQO: At least 99% of the time
Values: 0000 to 6300, 9999

3.370 LOCATION OF GPS READING -- Enter a one-digit code to indicate where the GPS reading for the plot was taken.

When collected: All plots
Field width: 1 digit
Tolerance: No errors
MQO: At least 99% of the time
Values:

- 0** Positions could not be taken because GPS unit was either unavailable or not operational – Paravant PDR regional code only.
- 1** Positions taken over plot center
- 2** Positions taken from a location other than over plot center

3.375 GPS ERROR -- Record the error as shown on the GPS unit to the nearest foot. Make every effort to collect readings only when the error is less than 70 ft. However, if after trying several different times during the day, at several different locations, this is not possible, record the best reading that can be obtained with an error of up to 999 ft. (If 3.370 LOCATION OF GPS READING is 2, then record the value collected at this location, e.g., SP.)

When collected: All plots
Field width: 3 digits
Tolerance: No errors
MQO: At least 99% of the time
Values: 0 to 70 if possible, 31 to 999 if an error of less than 70 cannot be obtained

3.380 GPS SERIAL NUMBER -- Record the last six digits of the serial number on the GPS unit used.

When collected: All plots
Field width: 6 digits

Tolerance: No errors
MQO: At least 99% of the time
Values: 000001 to 999999

4.000 CONDITION CLASS DATA

4.300 CONDITION CLASS NUMBER -- On a plot, assign and record a unique identifying number for each condition class. At the time of the plot establishment, the condition class at plot center (the center of subplot 1) is designated condition class 1. Other condition classes are assigned numbers sequentially at the time each condition class is delineated. On a plot, each sampled condition class must have a unique number that can change at remeasurement to reflect new conditions on the plot.

When collected: All condition classes
Field width: 1 digit
Tolerance: No errors
MQO: At least 99% of the time
Values: 1 to 9

4.310 CONDITION CLASS STATUS -- Record the code that describes the status of the condition. Record for all condition classes sampled on a plot. The instructions beginning on page 39 (“Determination of Condition Class”) and the instructions starting on this page (“Delineating Condition Classes Differing in Condition Class Status”) apply when delineating condition classes that differ by **CONDITION CLASS STATUS**.

When collected: All plots
Field width: 1 digit
MQO: No errors, 99% of the time
Values:

- 2 Nonforest land
- 3 Noncensus water
- 4 Census water
- 5 Denied access area
- 6 Area too hazardous to visit
- 7 Area that is not in the sample, e.g., in Canada or Mexico.

4.320 LAND USE CLASS – This is a Northeast regional variable used to further subdivide nonforest land. Assign a current land use class for each condition class that occurs on the subplot. To qualify as a separate land use, the area in question must meet the guidelines as

described in “Delineating Condition Classes Differing in Condition Class Status” (see page 42 – 45).

Field crews are required to notify a supervisor of all plots that are assigned a Land Use Class that differs from the Previous Land Use Class within one week of the date that the plot was completed.

When collected: CONDITION CLASS STATUS 2, 3 and 4

Field width: 2 digits

Tolerance: No errors

MQO: At least 99% of the time

Values:

NONFOREST LAND -- Land that does not support, or has never supported, forests, and lands formerly forested where use for timber management is precluded by development for other uses (see Nonforest Land definition on page 49). Although there may be some stocking, the critical classification factor is the predominant use being made of the land. ***Do not confuse with urban forest land.***

NONFOREST LAND WITH TREES -- This is a land use on which trees 5 inches DBH and larger are present within the “plot triangle,” but the predominant use is other than forest land. The plot triangle is formed by the 3 outer subplots and is used in photo interpretation to determine whether or not a plot is classified with or without trees. If there are multiple conditions on plot, assess only the portion of the plot triangle that occupies the condition. See Figure A and B.

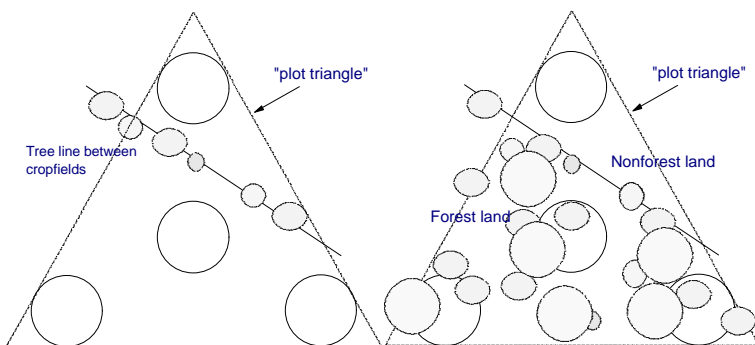


Figure A. Entire plot is classified as nonforest land with trees.

Figure B. Subplots 1, 3 and 4 classified as forest land. Subplot 2 classified as nonforest land without trees.

Following are the nonforest land use definitions and codes. Use these codes in conjunction with CONDITION CLASS STATUS 2.

Enter odd numbered codes for nonforest land uses without trees and the even numbered codes for nonforest land with trees.

CROPLAND — without trees Code **61** with trees Code **62**

Land that currently supports agricultural crops including silage and feed grains, bare farm fields resulting from cultivation or harvest, and maintained orchards and nurseries.

IMPROVED / MAINTAINED PASTURE -- without trees Code **63** with trees Code **64**

Land maintained and used and for grazing (not including grazed cropland). Evidence of maintenance, besides the degree of grazing, includes condition of fencing, presence of stock ponds, periodic brush removal, seeding, or mowing. Land that generally has less than 10 percent stocking in live trees (established seedlings or larger trees), except that occasional large trees with the obvious function of providing shade for livestock, and small single trees or clusters of hawthorn or eastern redcedar should be ignored when determining stocking. Grazing should be so intense that forest reproduction (except for hawthorn and eastern redcedar) could not occur naturally -- this would be evident if all other vegetation were closely browsed.

IDLE FARMLAND -- without trees Code **65** with trees Code **66**

Former cropland or pasture that has not been tended within the last 2 years and that has less than 10 percent stocking with live trees, (established seedlings or larger trees) regardless of species. A field that is between crop rotations should not be called idle, however, cropland.

OTHER FARMLAND -- without trees Code **67** with trees Code **68**

Other farmland is all nonforest land on a farm excluding cropland, pasture, and idle farmland. It includes farm lanes, stock pens, and farmsteads. Specify the specific land use in the General Notes

BOG (nonforest) -- Code **69**

Wet, spongy land characteristically having a thick layer of peat. It is rich in plant residues, usually acidic, and frequently surrounds a body of open water. Characteristic florae are sedges, heaths, and sphagnum.

NOTE: Bogs are not always nonforest. Some tree species such as black spruce can adapt to bog conditions. If the stocking requirement

is met, the land is considered forestland. The decision as to whether the land is productive or unproductive will be made by the field crews. (LU 20 or 40).

MARSH -- Code 70

A tract of soft wet land, often periodically inundated and always treeless. It is usually characterized by grasses, cattails or other monocotyledons (i.e., lilies, lady slippers, sedges).

SALT MARSH -- Code 71

Flat land that is subject to intermittent or occasional overflow by salt water, containing water that is brackish to strongly saline. A salt marsh supports saltwater adapted plants that usually consist chiefly of grasses.

SWAMP (nonforest) -- Code 72

Wet, spongy land saturated and sometimes partially or intermittently covered with water. Such land supports natural vegetation predominantly of shrubs, and/or trees.

NOTE: Swamps are not always nonforest. Some tree species readily adapt to the swamp conditions. If the stocking requirement is met, the land is considered forestland. The decision of whether the land is productive or unproductive will be made by the field crews. (LU 20 or 40)

RIGHTS - of - WAY -- without trees Code 73 with trees Code 74

Highways, railroads, airports, pipelines, power lines, canals

MINING and WASTE LAND -- without trees Code 75 with trees Code 76

Surface mining, gravel pits, dumps, landfills, reclaimed mining areas

NOTE: Reclaimed mining areas are not always nonforest. Some trees such as black locust readily adapt to reclaimed areas. If the stocking requirement is met, the land is considered forest land. The field crews will make the decision of whether the land is productive or unproductive. Reclaimed mine areas should remain in this land use until either stocking is met for accessible forest land or another nonforest land use applies.

DEVELOPED RECREATION SITE -- without trees Code **77** with trees Code **78**

Parks, campgrounds, playing fields, athletic and sports tracks.

INDUSTRIAL / COMMERCIAL LAND -- without trees Code **79** with trees Code **80**

Supply yards, parking lots, shopping centers, factories, etc.

MULTIPLE FAMILY HOUSING -- without trees Code **81** with trees Code **82**

More than one family household per structure, for example, condominiums, townhouses, row houses and apartment buildings.

SINGLE FAMILY HOUSING -- without trees Code **83** with trees Code **84**

One family or person per structure

OTHER NONFOREST -- without trees Code **85** with trees Code **86**

Includes any category of nonforest land use not mentioned previously. Describe each situation, in detail, in the General Notes section.

CHRISTMAS TREE PLANTATIONS -- without trees Code **87** with trees Code **88**

Active Christmas tree plantation must show signs of annual shearing. Record tree species used in the plantation in the General Notes section.

Use the following codes in conjunction with CONDITION CLASS STATUS 3 and 4. See definitions on page 49.

CENSUS WATER -- Land Use Code **91**

NONCENSUS WATER -- Code **92**

4.000 BOUNDARY DATA

If the entire plot falls in CONDITION CLASS STATUS 2, but consists of multiple nonforest land uses (LAND USE 61 through 88), do not map these land uses. If the plot consists of multiple condition classes, than all conditions must be delineated. See boundary reference procedures beginning on page 86.

4.000 SUBPLOT DATA**4.100 SUBPLOT NUMBER** – Record the code corresponding to the number of the subplot.

When collected: All plots

Field width: 1 digit

Tolerance: No errors

MQO: At least 99% of the time

Values:

- 1 Center subplot
- 2 North subplot
- 3 Southeast subplot
- 4 Southwest subplot

4.105 SLOPE CORRECTION -- Record the amount of slope correction that was applied, to the nearest tenth of a foot, while traversing from subplot 1 to subplots 2, 3, and 4. **If traverse was not completed, record 999.**

When collected: At subplots 2, 3 and 4

Field width: 3 digits

Tolerance: No errors

MQO: At least 99% of the time

Values: 001 to 999

4.106 SUBPLOT CENTER CONDITION -- Record the **CONDITION CLASS NUMBER** of the condition class at the subplot center.

When collected: All plots

Field width: 1 digit

Tolerance: No errors

MQO: At least 99% of the time

Values: 1 to 9

4.107 MICROPLOT CENTER CONDITION -- Record the **CONDITION CLASS NUMBER** of the condition class at the microplot center.

When collected: All plots

Field width: 1 digit

Tolerance: No errors

MQO: At least 99% of the time

Values: 1 to 9

4.110 SUBPLOT SLOPE -- Record 999 if there is no accessible forest land on the subplot.

When collected: All plots
Field width: 3 digit
Tolerance: No errors
MQO: At least 99% of the time
Value: 999

4.120 SUBPLOT ASPECT -- Record 999 if there is no accessible forest land on the subplot.

When collected: All plots
Field width: 3 digit
Tolerance: No errors
MQO: At least 99% of the time
Value: 999

4.125 SNOW/WATER DEPTH -- Record 99 if there is no accessible forest land on the subplot.

When collected: All subplots with an accessible forest land condition class (CONDITION CLASS STATUS = 1)
Field width: 2 digits (x.y)
Tolerance: ± 0.5 ft at the time of measurement
MQO: No MQO after initial date of visit
Values: 99

4.130 CROWN CLOSURE – Record 0 if there is no accessible forest land on the subplot.

When collected: All subplots with accessible forest land – **MAINE only**
Field width: 1 digit
Tolerance: ± 1 class
MQO: At least 90% of the time
Values: 0

6.000 TREE DATA

If a remeasure plot has converted from forest to CONDITION CLASS STATUS 2 through 7, use the procedures in Chapter 6 and Appendix 5 to reconcile any previously recorded trees.
