



FSH 2409.21e – TIMBER MANAGEMENT CONTROL HANDBOOK

CHAPTER 100 – TIMBER STAND MANAGEMENT RECORD SYSTEM

Amendment No.: R1 2409.21e-2002-1

Effective Date: June 12, 2002

Duration: This supplement is effective until superseded or removed.

Approved: HARLAN SMID
Director of Financial Resources

Date Approved: 05/22/2002

Posting Instructions: Amendments are numbered consecutively by Handbook number and calendar year. Post by document; remove the entire document and replace it with this amendment. Retain this transmittal as the first page(s) of this document. The last amendment to this Handbook was 2409.21e-96-1 to Chapter 100.

New Document	2409.21e-2002-1	40 Pages
Superseded Document(s) by Issuance Number and Effective Date	2409.21e-96-1, 8/5/96 (includes the following documents) 2409.21e,146-146.5 2409.21e,146.5,Exhibit01 2409.21e,146.6-146.27 2409.21e,146.28-148.4	9 Pages 2 Pages 12 Pages 4 Pages

Digest:

146.3 - Updates the list of activity codes and fund codes.

146.5 - Updates the list of allowable funds by category.

146.14 - Updates the definition of the cost/unit field.

146.16 - Updates the list of type of workforce codes.

146.20 - Updates the list of method of accomplishment codes.

Revises format of handbook to correspond with current directives procedures.

FOREST SERVICE HANDBOOK
MISSOULA, MONTANA

FSH 2409.21e - TIMBER MANAGEMENT CONTROL HANDBOOK

R-1 Amendment No. 2409.21e-96-1

Effective August 5, 1996

POSTING NOTICE: Amendments are numbered consecutively by handbook number and calendar year. Post by document name; replace existing documents.

This amendment contains 17 documents. Retain this transmittal sheet as the first page of this title; remove when next amendment to this title is filed. The last amendment to this handbook was Amendment No. 23, May 15, 1991.

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Digest:

000 through 144.9 - Removes Chapter 100 in its entirety. Revises format of handbook to correspond with new directives procedures, and to correspond with the new Timber Stand Management Record System structure.

141.7 - Inserts codes for Ownership.

141.20, Exhibit 01 - Corrects errors in habitat type codes. Adds habitat type codes.

141.24 - Adds codes for new Research Natural Areas. Removes codes for Research Natural Areas that no longer exist. Updates codes for Research Natural Areas that have changed from proposed to established.

141.32 - Adds codes to Stand Size Class.

141.36 - Adds Special Uses codes.

141.40 - 141.60 - Establishes direction for photo interpreted data.

143.3 - Adds codes to the threatened, endangered, and sensitive species list.

145.20 - Adds code for most similar neighbor to the component type of exam codes.

146.3 - Adds new activity codes.

146.5 - Updates activity fund types. Removes activity fund code 32. Adds activity fund codes 50 and 98.

146.5, Exhibit 01 - Revises the allowable funds by activity categories chart.

146.6 - Adds activity sequence number field.

146.7 - Adds code for most similar neighbor to the activity type of exam codes.

146.8 - Updates regeneration status codes.

146.20 - Updates method of accomplishment codes.

148.4 - Establishes direction for the timber sale name field.

151 - Updates basic stand information documentation.

153 - Updates activities documentation.

153.1 - Updates stand examination and prescription documentation.

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153.4 - Updates fuel treatment documentation.

153.5 - Updates reforestation documentation.

153.83 - Updates special activity code documentation. Establishes direction for reporting special activity codes with other resource project dollars.

HAL SALWASSER
Regional Forester

FSH 2409.21e

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CHAPTER 100 - TIMBER STAND MANAGEMENT RECORD SYSTEM

110 - GENERAL FUNCTION

1. The Timber Stand Management Record System (TSMRS) provides managers at all levels in the Region with the information they need to manage the timber resource. When used correctly the system will:

- a. Provide information for silvicultural prescriptions.
- b. Plan for and schedule treatments.
- c. Make required reports.
- d. Keep an historical record of all treatments.
- e. Provide information to update and amend the Forest Plans.

2. The usefulness of the system is directly proportional to the reliability and completeness of data entered. The addition and updating of information in the system should be regarded as a daily responsibility of those engaged in managing the timber resource.

3. The Timber Stand Management Record System is composed of three components:

- a. Index Map
- b. Stand Folder
- c. Automated Data Base

4. Each component cannot function correctly without the other two. The index map is the primary index for all stands in the system. The stand folder contains all the detail needed for management. The automated data base allows compilation of summarized information.

5. The forest stand (as defined in Winters, Robert K. (Ed.) 1977. Terminology of forest science, technology, practice, and product. 2d ed. Society of American Foresters, Wash. D.C. 349 p.), is the basic unit that shall be used for recordkeeping. Other forest subdivisions are not acceptable for referencing data. Stand size and shape may change, but every stand number is unique. A new stand can either be delineated where none was previously recognized or can be defined as a smaller part of an existing stand or stands. By Regional definition, a stand cannot cross State, congressional district, county, forest, district, compartment, subcompartment, or deferred and reserved timber land use boundaries.

120 - INDEX MAP

1. The function of the index map is to record the boundaries of each stand in relation to surrounding stands and the land base itself. Each stand identified in the record system must be delineated on the index map. Changes in stand boundaries must be noted currently on the index map. At least an annual version of the index map shall be retained in an historical record. The historical map record must show all stand configurations for which stand data was recorded in the stand folder and the automated data base.

2. An index map will be maintained for all stands entered into the automated data base. The map will consist of a base with a scale of 1:24000 (2.64" per mile) and a clear overlay for recording stand boundaries. One map will be kept for each compartment. The size for each map will be 24 x 30 inches. Map coverage will be adjusted to cover at least one entire drainage or subdrainage defined by hydrographic boundaries.

a. Base Map Standards. The preferred base map is an orthophoto print; aerial survey map overprinted with contours, names, and some conventional signs to facilitate interpretation. Topographic base maps should be used unless orthophoto maps are provided for the Unit. The topographic base map should conform to the same outside boundaries as that to be used for the orthophoto base.

(1) The orthophoto print will extend to the edge of the 24 x 30 inch plate. The print will be mounted on railroad board at least 0.048 inches thick (or equivalent). Topographic base maps used for initial establishment of the orthobase must be printed by vacuum frame.

(2) The following information will be reproduced on the orthophoto:

(a) Section lines and numbers in white.

(b) Contour lines, 50 percent screened in white (optional by Forest).

(c) Selected streams and feature names in white (optional by Forest).

(3) Draft geographic information system (GIS) orthophoto base standards include: single matte, polyester film, vacuum-framed ortho transparency, 7.5 minute quad with universal transverse mercator (UTM) tick marks. Can be stored temporarily on stiff base material (plexiglass, equal to or greater than 0.125 inch thick) attached by registration pins.

b. Overlay Standards. The overlay should cover the area of the compartment for each plate. Adherence to specifications for the material of this overlay and for drafting stand boundaries is mandatory to insure that an acceptable microfilm record can be made of the index map.

(1) The overlay will consist of a heavy clear film approximately 0.0075 inches thick (K and E Stabilene, stock #44-1037 or equivalent) that will accept and retain water soluble ink.

(2) Standard information on each overlay will be:

(a) Township and range notations in black.

(b) Index Map Title Block, Form R1-FS-2400-11, will be applied to a little used area of the map.

(c) Contour lines in black (optional by Forest).

(d) Selected streams and feature names in black (optional by Forest).

(e) Compartment and subcompartment boundaries in black line.

(3) Stands will be delineated on the overlay with solid lines in water soluble black ink (Pelikan TT: drawing ink for plastic film or equivalent). Each subcompartment and stand will be numbered in black.

(4) Copies of orthophoto stand index overlays can be updated yearly and stored off site. Off-site storage is inexpensive to maintain and can be valuable in case of fire at the primary location. Copies of overlays can simply be stored in a warehouse, pumphouse, and so forth, on the District. Off-site storage is optional by Forest or District.

c. Mounting Standards. Facilities for filing the index maps may, for some Units, dictate how the overlay is used with the map base. The preferred method (optional by Forest) is to permanently fix two 1/4 x 1/4 inch mounting studs to the orthophoto base. The overlay can then be registered with these studs and layered with other resource overlays of 1:24000 scale. The overlay should not be permanently mounted to the map base.

3. All stands entered in the Timber Stand Management Record System must first be delineated on the index map. As stands are added or changed, a current record must be kept on the index map overlay of new stand configurations. To avoid undue changes in stand boundaries, a careful job of stand delineations should be done.

A copy of the overlay must be made every year and retained in an historical file. If multiple changes are made in any year to any stand in the compartment, a copy of the map must be made before the second change is drafted on the overlay.

130 - STAND FOLDER. The stand folder will contain all of the information needed to manage the stand, that cannot be economically retained and accessed in an automated data base. Basic stand information, component data, and activity information from the automated data base can be stored in the stand folders. However, it is more economical to run master lists of the data rather than filing the information in the stand folders.

Other information to be retained in the stand folder is:

1. Stand examination data. Plot measurements must be retained as the basic information describing the stand at a given point in time. Summaries of stand data such as stand tables may be kept at the option of the user.

2. Detailed silvicultural prescriptions. National standards require that the silvicultural prescriptions be retained as part of the stand record.

3. Activity maps. In many situations, treatments of portions of a stand are best documented on a map. The automated data base can record partial stand treatments, but cannot specify where these treatments occur within the stand. It is mandatory to keep a map showing plot locations with each stand examination. A copy of the stand from the current index map can often be used for the activity map.

4. Narrative Record. In addition to the silvicultural prescription, certain information about a stand is best recorded in narrative form. An example of important narrative information is the evaluation of a treatment. Local data forms may also fall in this category.

Detailed information should be kept in the stand folder at least as long as it is current. When the information pertains to completed treatments and previous stand conditions, it can be moved to an historical file.

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140 - AUTOMATED DATA BASE. The automated portion of the stand record system is an Oracle data base. It will allow access of past and present stand information. The data base fields are described according to Form and Table.

141 - Description of Fields in the Basic Stand Data Form and Stand PI Data Form (STANDS Table). Each field is identified by its common name, followed by the field name in the data base table.

141.1 - Stand ID. STAND_ID (Mandatory Field) (8-character numeric code). The stand identification uniquely identifies each record in the data base. The concatenated eight-digit number is composed of District, Compartment, Subcompartment, and Stand Number.

Example: 10203004

<u>Code</u>	<u>Element</u>
1	District
02	Compartment
03	Subcompartment
004	Stand Number

141.2 - District. DISTRICT_NO (Mandatory Field) (1-digit numeric code) (Automatically crossed over from R1-Edit.)

BEAVERHEAD

1 Dillon
2 Wise River
3 Wisdom
6 Sheridan
7 Madison

IDAHO PANHANDLE

1 Wallace
2 St. Joe (Avery)
3 Fernan
4 St. Joe (St. Maries)
6 Sandpoint
7 Bonners Ferry
8 Priest Lake

CUSTER

2 Beartooth
3 Sioux
4 Ashland/
Ft. Howes

BITTERROOT

1 Stevensville
2 Darby
3 Sula
4 West Fork

CLEARWATER

1 Pierce
2 Palouse
3 North Fork
5 Lochsa
6 Powell

DEERLODGE

1 Deer Lodge
2 Jefferson
3 Philipsburg
4 Butte

FLATHEAD

1 Swan Lake
2 Condon
4 Spotted Bear
6 Hungry Horse
7 Glacier View
8 Tally Lake

KOOTENAI

1 Rexford
2 Three Rivers (North)
3 Fortine
4 Three Rivers
5 Libby (West)
6 Libby (East)
7 Cabinet

LOLO

3 Missoula
4 Ninemile
5 Plains
6 Seeley Lake
7 Superior
8 Thompson Falls

GALLATIN

1 Big Timber
2 Livingston
3 Gardiner
5 Bozeman
6 Gallatin
7 Hebgen Lake

LEWIS AND CLARK

1 Rocky Mountain
4 Judith
6 Musselshell
7 Kings Hill

NEZ PERCE

1 Salmon River
3 Slate Creek
4 Clearwater
5 Red River
6 Moose Creek
7 Selway
8 Elk City

HELENA

1 Townsend
2 Canyon Ferry
3 Helena
4 Lincoln

141.3 - Compartment. COMPARTMENT (Mandatory Field) (2-digit numeric code)
(Automatically crossed over from R1-Edit.)

The compartment the stand is located in.

Code Compartment

02 02

141.4 - Subcompartment. SUBCOMPARTMENT (Mandatory Field) (2-digit numeric code)
(Automatically crossed over from R1-Edit.)

The subcompartment the stand is located in.

Code Subcompartment

03 03

141.5 - Stand Number. STAND (Mandatory Field) (3-digit numeric code) (Automatically
crossed over from R1-Edit.)

The number identifying the individual stand within the compartment and subcompartment.

Code Stand

004 004

141.6 - Forest. FOREST_NO (Mandatory Field) (2-digit numeric code) (Automatically crossed over from R1-Edit.)

The code for the National Forest (administrative boundary) where the stand is located.

<u>Code</u>	<u>Forest</u>	
02	Beaverhead (Bvhd.)	Note: The Beaverhead and Deerlodge National Forests have been administratively combined. Forest numbers currently remain the same. (2/2/96)
03	Bitterroot (Btr.)	
04	Idaho Panhandle (INPF)	
05	Clearwater (Clr.)	
08	Custer (Cus.)	
09	Deerlodge (Drlg.)	
10	Flathead (Flt.)	
11	Gallatin (Gal.)	
12	Helena (Hlna.)	
14	Kootenai (Koot.)	
15	Lewis & Clark (L&C)	
16	Lolo (Lolo)	
17	Nez Perce (Nez.)	

Example: 04 = Idaho Panhandle National Forests

141.7 - Ownership. OWNERSHIP (Mandatory Field) (3-character alpha code)

The ownership of the land where the stand is located. FS (Forest Service) is automatically entered for stands in the FS tables.

<u>Code</u>	<u>Ownership</u>
ARL	Agriculture Research Land
BIA	Bureau of Indian Affairs
BLM	Bureau of Land Management
BN	Burlington Northern
BOR	Bureau of Reclamation
BSL	Big Sky Lumber
CAN	Canada - B.C.
CHM	Champion International
COE	Corps of Engineers
COR	Generic for All Corporate Lands
CP	Crown Pacific
DAW	DAW Forest Products
FS	USDA Forest Service
FWS	US Fish & Wildlife Service
IFI	Idaho Forest Industries
LPC	Louisiana Pacific Corp.
MIN	Mining Claims
NPS	National Park Service
NWR	National Wildlife Refuge
OFD	Generic for Other Federal
OGV	Other Governmental (City, County)
OPR	Generic for Other Private Ownership
PCC	Plum Creek Timber Company, Inc.

POT Potlatch

<u>Code</u>	<u>Ownership--Continued</u>
PRI	Private - Industrial
PRN	Private - Non-industrial
RCL	Riley Creek Lumber
SID	State of Idaho
SMT	Montana Dept of State Lands
SND	State of North Dakota
SSD	State of South Dakota
STA	Generic for All State Lands
SWA	State of Washington
WIF	W-I Forest Products

141.8 - State. STATE_CODE (Mandatory Field) (2-digit numeric code) (Automatically crossed over from R1-Edit.)

The standard numeric code for the State in which the stand is located.

<u>Code</u>	<u>State</u>
16	Idaho
30	Montana
46	South Dakota
53	Washington

141.9 - Congressional District. CONG_DIST_NO (Mandatory Field) (1-digit numeric code) (Automatically crossed over from R1-Edit.)

The standard code for the congressional district in which the stand is located. See a congressional district map for the appropriate code. Stands in Eastern Montana should continue to be coded as congressional district 2, even though Montana currently has only one congressional district.

<u>Code</u>	<u>Congressional District</u>
1	Idaho
1	Montana (W)
2	Montana (E)
2	South Dakota
5	Washington

141.10 - County. COUNTY_CODE (Mandatory Field) (3-digit numeric code) (Automatically crossed over from R1-Edit.)

The standard code for the county in which the stand is located.

IDAHO

<u>Code</u>	<u>County</u>	<u>Code</u>	<u>County</u>
009	Benewah	055	Kootenai
017	Bonner	057	Latah
021	Boundary	061	Lewis
035	Clearwater	069	Nez Perce
049	Idaho	079	Shoshone

MONTANA

<u>Code</u>	<u>County</u>	<u>Code</u>	<u>County</u>
001	Beaverhead	053	Lincoln
007	Broadwater	057	Madison
009	Carbon	059	Meagher
011	Carter	061	Mineral
013	Cascade	063	Missoula
015	Choteau	067	Park
023	Deer Lodge	071	Phillips
027	Fergus	073	Pondera
029	Flathead	075	Powder River
031	Gallatin	077	Powell
035	Glacier	081	Ravalli
037	Golden Valley	087	Rosebud
039	Granite	089	Sanders
043	Jefferson	093	Silver Bow
045	Judith Basin	095	Stillwater
047	Lake	097	Sweetgrass
049	Lewis & Clark	099	Teton
		107	Wheatland

SOUTH DAKOTA

<u>Code</u>	<u>County</u>
063	Hardin

WASHINGTON

<u>Code</u>	<u>County</u>
019	Ferry
051	Pend Orielle

065 Stevens

141.11 - Stand Acres. STAND_ACRES (Mandatory Field) (4-digit numeric code)
(Automatically crossed over from R1-Edit.)

The total acres for the stand.

<u>Code</u>	<u>Stand Acres</u>
36	36

141.12 - Percent Capable Growing Area. PERCENT_CAP_GROW (3-digit numeric code)

Percent capable growing area is an estimate of the percent of the stand area that is capable of growing trees. Exclude areas such as roads, creeks, swamps, rock outcrops, and so forth. Area exclusions of 1 acre or larger must be mapped on a stand diagram. In the case of mottled or mosaic exclusions of less than an acre, enter your best estimate of the area capable of growing trees. Use your professional judgment.

For example, a 30-acre stand has an estimated 4 acres of swamp and 3 acres of rock. The other 23 acres are capable of growing trees. The stand is 77 percent capable of growing trees.

<u>Code</u>	<u>Percent Capable Growing Area</u>
77	77 Percent
100	100 Percent

141.13 - Forest Type. FOREST_TYPE_CODE (Mandatory Field) (3-character alpha code)
(Automatically crossed over from R1-Edit.)

The standard forest type is based on plurality of tree numbers up to 5.0 inches dbh and on basal area over 5.0 inches dbh. The average dbh is derived from the total live component. The 0-1 dbh class is not used in the calculation of average dbh for the total live component. If an area is nonstocked, enter the forest type anticipated for the area in the prescription. If there is no prescription, enter the last forest type which occupied the area.

<u>Code</u>		<u>Forest Type Definition</u>
DF	Douglas-fir	Stands in which Douglas-fir comprises a plurality of the stocking. Common associates include western hemlock, western redcedar, grand fir, ponderosa pine, and larch.
PP	Ponderosa Pine	Stands in which ponderosa pine comprises a plurality of the stocking. Common associates include Douglas-fir and larch.
WP	Western White Pine	Stands in which white pine comprises a plurality of the stocking. Common associates are western redcedar, larch, grand fir, Engelmann spruce, and lodgepole pine.

<u>Code</u>		<u>Forest Type Definition--Continued</u>
SAF	Spruce-Subalpine Fir	Stands in which Engelmann spruce and/or subalpine fir, singly or in combination, comprise a plurality of the stocking. Common associates are mountain hemlock, whitebark pine, and lodgepole pine.
C	Western Redcedar	Stands in which western redcedar or hemlock comprise a plurality of the stocking. Common associates include Douglas-fir and grand fir.
MAF	Mountain Hemlock-Subalpine Fir	
WH	Western Hemlock	
L	Larch	Stands in which western larch or grand fir comprise a plurality of the stocking.
GF	Grand Fir	
LP	Lodgepole Pine	Stands in which lodgepole pine comprises the plurality of the stocking. Common associates are subalpine fir, western white pine, whitebark pine, Engelmann spruce, western larch, and sometimes aspen.
WLP	Whitebark-Limber Pines	
BGA	Birch-Green Ash, Boxelder, Red Alder	Stands in which hardwoods comprise the plurality of the stocking. Region 1 hardwoods are aspen, black cottonwood, birch, red alder, green ash, and boxelder.
ASP	Aspen	
CW	Cottonwood	
J	Juniper,	Stands in which juniper, whitebark pine, limber pine, or subalpine larch, singly or in combination comprise a plurality of the stocking.
WSL	Whitebark-Limber Pines, Subalpine Larch	
NF	Nonforest	
		Lands that have never had or that are incapable of having 10 percent or more of the area occupied by forest trees; or lands previously having such cover and currently developed for nonforest use.

141.14 - Landtype. LANDTYPE_CODE (5-character alpha-numeric code)

Landtypes are map units on soil maps. Each landtype has a unique symbol and name.

Forests supply their own codes for this field. A copy of the Forest codes must be submitted to the Regional Office.

141.15 - Specific Soils. SPECIFIC_SOILS_CODE (5-character alpha-numeric code)

First digit: Order/suborder (1-character alpha code)

Second digit: Great group (1-character alpha code)

Third and fourth digits: Subgroup (2-digit numeric code)

Fifth digit: Family (1-character alpha code)

Code Order - Suborder

Entisols
A Aquents
B Fluents
C Orthents
D Psamments

Inceptisols
G Andepts
H Aquepts
I Ochrepts
J Umbrepts

Spodosols
M Orthods

Mollisols
P Albolls
Q Aquolls
R Borolls
S Ustolls
T Zerolls

Alfisols
V Boralfs
W Udalfs
X Xeralfs

Z Histisols

Code Great Group

A AND
B CALCI
C CRY
D UD
E EUTR
F FLUV
G FRAGI
K HAPL
M HUM
P PALE
R ARGI
S UST
V VITR
X XER
Y DYSTER

<u>Code</u>	<u>Subgroup</u>
	Intergrades
01	Alfic
02	Alfic andeptic
04	andeptic or andic1
05	andic dystic
08	aquic
11	argic
12	argic sachic
18	argiaquic
19	argiaquic xeric
31	boralfic
35	cryic
37	calcic
41	dystic
43	entic
46	fluventic
47	fluvaquentic
51	glossic
53	haplic
55	histic
56	histic lithic
58	humic
61	mollic
63	psammentic
64	udic
65	ultic
67	umbric
78	ustic
79	xeric

	Extragrades
84	cumulic
85	cumulic ultic
88	hydric
91	lithic
94	pachic
95	pachic ultic

99 Typic

<u>Code</u>	<u>Family</u>
A	clayey (or fine) skeletal
B	clayey (or fine) skeletal mesic
C	clayey (or fine) skeletal frigid
D	clayey (or fine) mesic
E	clayey (or fine) frigid
F	clayey (or fine) cryic
G	fragmental
Z	loamy
H	loamy skeletal
I	loamy skeletal mesic

J loamy skeletal frigid
K loamy mesic

<u>Code</u>	<u>Family--Continued</u>
L	loamy frigid
M	loamy cryic
N	medial skeletal
P	medial skeletal mesic
Q	medial skeletal frigid
O	medial
R	medial mesic
S	medial frigid
T	sandy skeletal
U	sandy skeletal mesic
V	sandy skeletal frigid
W	sandy mesic
X	sandy frigid
Y	silty frigid

141.16 - General Soils. GENERAL_SOILS_CODE (2-digit numeric code)

The general soils code that describes the depth and texture of the soil.

<u>Code</u>	<u>General Soils</u>
10	Soil depth more than 18 inches
11	Silt or loam
12	Sandy
13	Gravelly
14	Rocky
20	Soil depth less than 18 inches
21	Silt or loam
22	Sandy
23	Gravelly
24	Rocky

141.17 - Slope Percent. SLOPE_PERCENT (Mandatory Field) (2-digit numeric code)
(Automatically crossed over from R1-Edit.)

Record the average slope of the major portion of the stand.

<u>Code</u>	<u>Actual Percent of Slope</u>
33	33 Percent

141.18 - Aspect. ASPECT_CODE (Mandatory Field) (2-character alpha code) (Automatically crossed over from R1-Edit.)

The average direction toward which the stand slopes.

<u>Code</u>	<u>Aspect</u>
N	North
NE	Northeast
E	East
SE	Southeast
S	South
SW	Southwest
W	West
NW	Northwest
LR	Level or Rolling
G	Generic (Only use when there is no predominant or average aspect.)

141.19 - Elevation. ELEVATION (Mandatory Field) (3-digit numeric code) (Automatically crossed over from R1-Edit.)

The elevation of the midpoint of the stand expressed to the nearest 100 feet.

<u>Code</u>	<u>Actual Elevation</u>
111	11,100 feet
065	6,500 feet

141.20 - Habitat Type. HABITAT_TYPE_CODE (Mandatory Field) (3-digit numeric code) (Automatically crossed over from R1-Edit.)

The predominant habitat type for the stand, as determined by the plurality of sample point habitat types (see 141.20 - Exhibit 01).

141.20 - EXHIBIT 01

**SEE THE PAPER COPY OF THE MASTER SET
FOR SECTION 141.20 - EXHIBIT 01**

FSH 2409.21e - TIMBER MANAGEMENT CONTROL HANDBOOK
R1 AMENDMENT 2409.21e-96-1
EFFECTIVE August 5, 1996

141.21 - Productivity Class. PROD_CLASS_CODE (Mandatory Field) (1-digit numeric code)
(Automatically crossed over from R1-Edit.)

Site trees and trees identified as tree class 1 in the R1-Edit are used to calculate the productivity class. Productivity class is not applicable when the forest type is nonforest.

<u>Code</u>	<u>Productivity Class</u> (Potential growth expressed in cu. ft./acre/year.)
1	225+
2	165-224
3	120-164
4	85-119
5	50- 84
6	20- 49
7	19 and less

141.22 - Logging System. LOGGING_SYSTEM_CODE (1-digit numeric code)

Logging System is a Regional expression of yarding feasible for the stand, based on allowable practices or constraints as called for in the Forest Plan. The hierarchy is from the least restrictive (all yarding methods satisfactory) to the most constraining.

<u>Code</u>	<u>Description</u>
1	No restriction
2	Groundbase
3	Groundlead Cable
4	Short-span Skyline (less than 2000 feet)
5	Long-span Skyline (greater than or equal to 2000 feet)
6	Aerial

141.23 - Special Unit Kind. SPEC_UNIT_KIND_CODE (3-digit numeric code)

This field identifies timber land use data and timber resource data for areas that are managed for special purposes, such as wilderness, national recreation areas, geological areas, and so forth. Each Forest's Forest Plan identifies the special unit kind for a given area.

<u>Code</u>	<u>Description</u>
	Congressionally Classified
011	Wilderness
012	Primitive Area
021	National Recreation Area
030	National Wild and Scenic River

Congressionally Classified--Continued

031 National Recreation River
032 National Scenic River
033 National Wild River
041 National Recreation Trail
042 National Scenic Trail
043 National Historic Trail
051 Scenic - Research Area
060 National Monument
090 Other National Areas

Administratively Classified

101 Archeological Area
102 Botanical Area
103 Geological Area
104 Historical Area
105 Scenic Area
106 Memorial Area
107 Neoteric Area
108 Paleontological Area
109 Zoological Area
150 Recreation Area

Other Special Units

230 Research Natural Area (RNA)
231 Experimental Research Area
232 Experimental Forest (Includes Experimental Ranges)
233 Geothermal Area
234 Natural Area
399 National Game Refuge
431 Wild and Scenic River Study Area (Congressionally Designated)
432 Recreation River Study Area
433 Scenic River Study Area
434 Wild River Study Area
450 Wilderness Study Area (Congressionally Designated)
520 Roadless Area
521 Roadless Area - Proposed for Wilderness
522 Roadless Area - Further Study
921 National Grassland
922 Land Utilization Project
923 Purchase Unit
970 Military Reservation (Administered by Forest Service)

The following list shows how Special Unit Kind codes will automatically be entered in the data base when certain Management Areas are entered:

<u>Management Area Code</u>	<u>Special Unit Kind Code</u>
WLDNS	011
NRA	021
WSENR	030
ARCUL	101

BOTAN	102
GELOG	103

<u>Management Area Code</u>	<u>Special Unit Kind Code</u>
PIHIK	105
RNA	230
EXPER	232
RCWLD	450
RDLES	520

141.24 - Special Unit Number. SPEC_UNIT_CODE (4-digit numeric code)

This field specifically identifies which wilderness area, primitive area, national recreation area, and so forth, the stand is located in.

1. CONGRESSIONALLY CLASSIFIED.

a. Wilderness Areas (011).

<u>Code</u>	<u>Name</u>
0131	Absaroka-Beartooth (Custer, Gallatin)
0047	Anaconda-Pintlar (Beaverhead, Bitterroot, Deerlodge)
0049	Bob Marshall (Lewis & Clark (L&C), Flathead (Flt.))
0050	Cabinet Mountains (Kootenai)
0051	Gates of the Mountain (Helena)
0122	Gospel Hump (NezPerce (Nez.))
0135	Great Bear (Lewis & Clark, Flathead)
0092	Hells Canyon (1,4,6) (NezPerce)
0188	Lee Metcalf (Beaverhead (Bvhd.), Gallatin)
0052	Mission Mountains (Flathead)
0137	Rattlesnake (Lolo)
0136	River of No Return (1,4) (Bitterroot, NezPerce)
0239	Salmo-Priest (Idaho Panhandle National Forests (IPNF))
0090	Scapegoat (Helena, Lolo)
0044	Selway-Bitterroot (Bitterroot, Clearwater, Lolo, Nez.)
0123	Welcome Creek (Lolo)

b. National Recreation Areas (021).

<u>Code</u>	<u>Name</u>
0007	Hells Canyon (1,4,6) (NezPerce)
0009	Rattlesnake (Lolo)

c. National Wild and Scenic Rivers (030, 031, 032, 033).

<u>Code</u>	<u>Name</u>
0011	Flathead (Flathead)
0002	Middle Fork Clearwater (Bitterroot, Clearwater, Nez.)
0009	Rapid River (1,4) (NezPerce)
0016	Salmon (Bitterroot, NezPerce)

0010	Snake River (1,4,6) (NezPerce)
0012	St. Joe (IPNF)

d. National Recreation Trails (041).

<u>Code</u>	<u>Name</u>
0152	Anderson Butte (NezPerce)
0335	Baldy L.O. - Lake Lolo (Lolo)
0180	Basin Lakes (Custer)
0171	Big Creek Trail No. 44 (IPNF)
0309	Big Hole Battlefield (Bitterroot)
0065	Black Tail-Wild Bill ORV (Flathead)
0011	Blue Mtn. Equestrian & Hiking (Lolo)
0012	Blue Mtn. Nature (Lolo)
0329	Boulder River Natural Bridge (Gallatin)
0017	Bridger Mtns #534 (Gallatin)
0363	Caribou Ridge (IPNF)
0264	Cascade Falls Nature (Lolo)
0356	Chilco Mountain #14 (IPNF)
0310	Chipmunk Rapids X-C Ski (IPNF)
0013	Coeur d'Alene River (IPNF)
0134	Colgate Licks Nature (Clearwater)
0081	Como Lake Loop (Bitterroot)
0340	Crown Mountain (Lewis & Clark)
0014	Crystal Lake Shoreline Loop (Lewis & Clark)
0338	Danny On Memorial (Flathead)
0218	Deep Creek Figure 8 Loop (Lewis & Clark)
0149	East Boyd-Glover Roundup (NezPerce)
0366	Easthouse (Bitterroot, Deerlodge, Lolo)
0072	Elk Mountain (Flathead)
0298	English Point (IPNF)
0222	Gallatin Riverside (Gallatin)
0223	Garnet Mountain (Gallatin)
0284	Grasshopper Ridge #428 (Beaverhead)
0019	Griffin Creek (Flathead)
0069	Hanging Valley, #247 & Vigilante, #248 (Helena)
0010	Hanna Flat (IPNF)
0228	Haystack Mountain (Deerlodge)
0016	Heaven's Gate Scenic (NezPerce)
0362	Holland Falls (Flathead)
0231	Independence Creek (IPNF)
0020	Ingalls Mtn., Sylvia Lake, #171 (Flathead)
0297	Jackass Ridge Snowmobile (IPNF)
0339	Jones' Creek #155 (Lewis & Clark)
0015	Lakeshore #294 (IPNF)
0372	Little North Fork (Kootenai)
0269	Lodgepole Ski Touring (Deerlodge)
0237	Lost Cabin Lake (Flathead)
0315	Louise Lake #168 (Deerlodge)
0064	Lupine Lake (Flathead)
0008	Major Fenn (Clearwater)
0322	May Creek (Beaverhead)
0369	Marble Creek Trails (IPNF)
0296	Meadow Creek (NezPerce)
0346	Memorial Falls (Rejected)
0311	Morrell Falls (Lolo)

0097 Mt. Helena (Helena)

d. National Recreation Trails (041)--continued

<u>Code</u>	<u>Name</u>
0018	Nelson Ridge (IPNF)
0009	Palisade Falls (Gallatin)
0301	Palisade Mountain (Bitterroot)
0319	Parkside Ski Touring (Custer)
0271	Pattee Canyon Ski Touring (Lolo)
0241	Pioneer Loop (Beaverhead)
0358	Pulpit Mountain #356 (Kootenai)
0371	Ralph L. Thayer Memorial (Flathead)
0312	Refuge Point X-C Ski (Gallatin)
0320	Silver Run Ski Touring (Custer)
0273	Skookum Butte (Lolo)
0361	Skyline (Kootenai)
0324	Snake River (1,6) (Use Hells Canyon NRA - NezPerce)
0082	South Fork Teton Blacktail (Lewis & Clark)
0313	Stateline (IPNF, Clearwater, Lolo,)
0295	Tally Mountain-Bill Creek (Flathead)
0357	Trout Creek Loop (Kootenai)
0083	Two Medicine-Elk Calf Mountain (Lewis & Clark)
0067	Two Top Snowmobile (1,4) (Gallatin)
0367	Vinal Creek Trail System (Kootenai)
0260	White Pine (Clearwater)
0066	Whitefish Divide-Smokey (Flathead)
0211	Wild Bill's Lake (Custer)
0347	Wise River-Elkhorn Hot Springs Snowmobile (Bvhd.)

e. National Scenic Trails (042).

<u>Code</u>	<u>Name</u>
0127	Continental Divide (1,2,3) (All Montana Forests except the Custer and Kootenai)
0307	North Country (1,9) (Custer)

f. National Historic Trails (043).

<u>Code</u>	<u>Name</u>
0124	Lewis & Clark (1,4,6) (Clearwater, Lolo)
0137	Nee-Me-Poo (Same as Nez Perce Trail) (1,6) (All Forests except Deerlodge, Flathead, Helena, IPNF, and Kootenai)

g. Other National Areas (090).

<u>Code</u>	<u>Name</u>
1101	Cabin Creek Special Management Area (Gallatin)

2. ADMINISTRATIVELY CLASSIFIED.

a. Botanical Areas (102).

<u>Code</u>	<u>Name</u>
0123	Hobo Cedar Grove (IPNF)
0130	Settlers Grove of Ancient Cedars (IPNF)

b. Geological Area (103).

<u>Code</u>	<u>Name</u>
0083	Madison R. Can. Earthquake (Gallatin)

c. Historical Areas (104).

<u>Code</u>	<u>Name</u>
0086	Sacajawea (Beaverhead)

d. Scenic Areas (105).

<u>Code</u>	<u>Name</u>
0128	Jewel Basin (Flathead)
0129	Mallard-Larkin Pioneer (Clearwater, IPNF)
0104	Northwest Peaks (Kootenai)
0069	Roosevelt Grove of Ancient Cedars (IPNF)
0037	Ross Creek (Kootenai)
0105	Ten Lakes (Kootenai)
0122	Upper Priest Lake (IPNF)

3. OTHER SPECIAL UNITS.

a. Research Natural Areas (230). (Established and Proposed)
(Proposed RNA's are the 8000 series codes. RNA's within existing or proposed wilderness areas are preceded by a (W).)

<u>Code</u>	<u>Name</u>
8032	Alum Beds (Nez Perce)
0243	Aquarius (Clearwater)
0231	Bald Mountain (Clearwater)
8048	Barktable Ridge (Lolo)
0294	Bartleson Peak (Lewis & Clark)
8077	Basin Creek (Deerlodge)
8056	(W) Bass Creek (Bitterroot)
8078	Bernice (Deerlodge)
0240	Big Creek (Kootenai)
8033	Bills Creek (Nez Perce)
0201	Binarch Creek (IPNF)

- 0275 Bitterroot Mountain Snow Avalanche (Bitterroot)
- 0274 Bitterroot River (Bitterroot)
- 8091 (W) Black Butte (Gallatin)

a. Research Natural Areas (230)--continued

Code	<u>Name</u>
0125	Bottle Lake (IPNF)
0241	Boulder Creek (Bitterroot)
8040	(W) Bramlet Lake (Kootenai)
0175	Bull Run Creek (Clearwater)
0018	Canyon Creek (IPNF)
0156	Carlton Ridge (Lolo)
8066	Cattle Gulch (Beaverhead)
8101	Cave Mountain (Beaverhead)
0230	Chateau Falls (Clearwater)
0024	Cliff Lake (Beaverhead)
0026	Coram (Flathead)
0027	Cottonwood Creek (Beaverhead)
0242	Council Grove (Lolo)
8079	Dexter Basin (Deerlodge)
8080	Dry Mountain (Deerlodge)
0237	Dutch Creek (Clearwater)
8064	(W) East Fork (Bitterroot)
8092	(W) East Fork Mill Creek (Gallatin)
0280	East Shore (Flathead)
8029	(W) Elk Creek (Nez Perce)
8067	Elkhorn Lakes (Beaverhead)
8041	(W) Falls Creek (Kootenai)
8021	(W) Fenn Mountain (Clearwater)
0174	(W) Five Lakes Butte (IPNF)
0185	(W) Fish Lake (Nez Perce)
0228	Four-Bit (Clearwater)
8081	(W) Goat Flats (Deerlodge)
8087	Granite Butte (Helena)
0272	(W) Grave Peak (Clearwater)
8068	Horse Prairie (Beaverhead)
0271	Hoskins Lake (Kootenai)
0126	Hunt Girl Creek (IPNF)
8089	Indian Meadows (Helena)
0127	Kaniksu Marsh (IPNF)
8073	Le Beau (Flathead)
8034	Lightning Creek (Nez Perce)
0248	Limber Pine (Custer)
0289	Little Bitterroot (Flathead)
8035	Little Granite Creek (Nez Perce)
0128	Lochsa River (Clearwater)
0300	Lost Water Canyon (Custer)
0286	Lower Lost Horse Canyon (Bitterroot)
8038	Lower Ross Creek (Kootenai)
0064	Montford Creek (IPNF)
0147	Moose Meadow Cr. (Nez Perce)
8093	Mt. Ellis (Gallatin)
8030	Newsome Creek (Nez Perce)
0186	No Business Creek (Nez Perce)
8042	Norman Mountain (Kootenai)
0295	O'Brien Creek (Lewis & Clark)

8094 Obsidian Sands (Gallatin)

a. Research Natural Areas (230)--continued

Code	<u>Name</u>
8069	O'Dell Lake (Beaverhead)
0149	O'Hara Creek (Nez Perce)
0296	Onion Park (Lewis & Clark) (Completely inside the Tenderfoot Creek Experimental Forest)
0297	Paine Gulch (Lewis & Clark)
8095	Palace Butte (Gallatin)
8043	Parmenter Creek (Kootenai)
8096	(W) Passage Creek (Gallatin)
0287	Pete Creek Meadows (Kootenai)
0157	Petty Creek (Lolo)
8097	Pioneer Lake (Gallatin)
0158	Plant Creek (Lolo)
0084	Poker Jim (Custer)
0188	Pond Peak (IPNF)
0202	Potholes (IPNF)
0159	Pyramid Peak (Lolo)
8088	Red Mountain (Helena)
8024	(W) Rhodes Peak (Clearwater)
8006	Roundtop Mountain (IPNF)
8059	(W) Salmon Mountain - Idaho (Bitterroot)
8065	Sapphire Divide (Bitterroot)
8076	Sapphire Divide (Deerlodge)
0281	Sawmill Creek (Bitterroot)
0181	(W) Scotchman No. 2 (IPNF)
0160	Sheep Mountain Bog (Lolo)
0288	Sheyenne Springs
8070	Skull Creek Meadows (Beaverhead)
8098	Sliding Mountain (Gallatin)
0183	Smith Creek (IPNF)
0193	Sneakfoot Meadows (Clearwater)
8045	(W) Snowshoe Lake (Kootenai)
0232	(W) Snowy Top (IPNF)
0187	Spion Kop (IPNF)
0194	(W) Steep Lakes (Clearwater)
8054	Squaw Creek (Lolo)
8031	(W) Square Mountain Creek (Nez Perce)
8071	Swan River (Flathead)
0109	Teepee Creek (IPNF)
0229	Therault Lake (IPNF)
0173	Three Ponds (IPNF)
8082	Thunderbolt Mountain (Deerlodge)
0283	Tuchuck (Flathead)
0114	Two Top and Big Top Mesas (Custer)
0192	Ulm Peak (Kootenai)
0115	Upper Fishhook (IPNF)
0277	Upper Lost Horse Canyon (Bitterroot)
8008	Upper Priest River (IPNF)
0180	Upper Shoshone Creek (IPNF)
0298	Wagner Basin (Lewis & Clark)
0299	Walling Reef (Lewis & Clark)

8046 (W) Wanless Lake (Kootenai)
0209 (W) Warm Springs Creek (Nez Perce)

a. Research Natural Areas (230)--continued

<u>Code</u>	<u>Name</u>
8090	Wheeler Ridge (Gallatin)
8102	Windy Ridge (Deerlodge)
0270	Wolf/Weigel (Kootenai)

b. Experimental Forests and Ranges (232).

<u>Code</u>	<u>Name</u>
0019	Coram (Intermountain Research Station (INT)) (Flathead)
0025	Deception Creek (INT) (IPNF)
0062	Priest River (INT) (IPNF)
0081	Tenderfoot Creek (INT) (Lewis & Clark)

c. Wild and Scenic River Study Area (431). (Cong. Designated)

<u>Code</u>	<u>Name</u>
481	Upper Priest River Corridor (IPNF)

d. Wilderness Study Areas (450). (Congressional Designation)

<u>Code</u>	<u>Name</u>
1739	Big Snowies (Lewis & Clark)
1941	Bluejoint (Bitterroot)
1620	Elkhorn (Helena)
1549	Hyalite-Porcupine-Buffalo Horn (Gallatin)
1734	Middle Fork Judith (Lewis & Clark)
1666	Mount Henry (Kootenai)
1421	Sapphire (Bitterroot)
1663	Ten Lakes (Kootenai)
1006	West Pioneer (Beaverhead)

e. Roadless Areas (520-522). (Cong. Classified and Proposed)

<u>Code</u>	<u>Name</u>
0126	Kootenai Peak - Ref. 1126 in Forest Plan (IPNF)
0127	White Mountain - Ref. 1127 in Forest Plan (IPNF)
0128	Hellroaring - Ref. 1128 in Forest Plan (IPNF)
0129	Trestle Peak - Ref. 1129 in Forest Plan (IPNF)
1001	North Big Hole (Beaverhead, Bitterroot)
1003	Beaver Lake (Beaverhead)
1004	Saginaw Creek (Beaverhead)
1005	Tash Peak (Beaverhead)
1006	West Pioneer (Beaverhead)
1008	East Pioneer (Beaverhead)
1009	Call Mountain (Beaverhead)

- 1010 Cattle Gulch (Beaverhead)
- 1011 Fleecer (Beaverhead, Deerlodge)
- 1012 Granulated Mountain (Beaverhead)

e. Roadless Areas (520-522)--continued

Code	<u>Name</u>
1013	Middle Mountain Tobacco Root (Beaverhead, Deerlodge)
1014	Potosi (Beaverhead)
1015	Bear Creek (Beaverhead)
1016	McKenzie Canyon (Beaverhead)
1017	Sourdough Mountain (Beaverhead)
1018	Timber Butte (Beaverhead)
1019	Dixon Mountain (Beaverhead)
1020	Four Eyes Canyon (Beaverhead)
1021	Sheep Mountain (Beaverhead)
1022	Crockett Lake (Beaverhead)
1023	Cherry Lakes (Beaverhead)
1024	Vigilante (Beaverhead)
1025	Snowcrest Mountain (Beaverhead)
1026	Black Butte (Beaverhead)
1027	Big Horn Mountain (Beaverhead)
1028	Lone Butte (Beaverhead)
1029	Freezeout Mountain (Beaverhead)
1065	Swift Creek (Bitterroot)
1066	Needle Creek (Bitterroot)
1067	Selway-Bitterroot (Bitterroot, Nezperce)
1070	Tolan Creek (Bitterroot)
1074	Sleeping Child (Bitterroot)
1121	Little Grass Mtn (IPNF) (ID,MT)
1122	Blacktail Mtn (IPNF - Priest Lake RD)
1123	Upper Priest (IPNF)
1124	South Fork Mtn (IPNF)
1125	Selkirks (IPNF)
1126	Benchmark (Flt.) (See 0126 for Kootenai Peak - IPNF)
1127	Coal Ridge (Flt.) (See 0127 for White Mountain - IPNF)
1128	Deadhorse Ridge (Flt.) (See 0128 for Hellroaring-IPNF)
1129	Standard Peak (Flt.)(See 0129 for Trestle Peak - IPNF)
1130	Bee Top (IPNF)
1131	East Cathedral Peak (IPNF)
1132	Magee (IPNF)
1133	Tepee Creek (IPNF)
1134	Spy Glass
1135	Skitwish Ridge (IPNF)
1136	Spion Kop (IPNF)
1137	Lost Creek (IPNF)
1138	Trouble Creek (IPNF)
1139	Graham Coal (IPNF)
1140	Pony Peak
1141	Maple Peak (IPNF, Kootenai, Lolo)
1142	Stevens Peak (IPNF, Lolo)
1143	Big Creek (IPNF)
1144	Storm Creek (IPNF)
1145	Hammond Creek (IPNF)
1146	Roland Point (IPNF, Lolo)
1147	North Fork (IPNF)
1148	Grandmother Mtn (IPNF)

- 1149 Pinchot Butte (IPNF)
- 1150 Mosquito Fly (IPNF)

e. Roadless Areas (520-522)--continued

Code	<u>Name</u>
1151	Midget Peak (IPNF)
1152	Wonderful Peak (IPNF, Lolo)
1153	Continental Mountain (IPNF)
1154	Saddle Mountain (IPNF)
1155	Packsaddle (IPNF)
1156	Hungry Mountain (IPNF)
1157	Katka Peak (IPNF)
1160	Schafer Peak (IPNF)
1161	Blacktail Mtn (IPNF - Sandpoint RD)
1166	Zulu (Kootenai)
1172	Marston (Kootenai)
1173	Willard-Lake Estella (IPNF, Kootenai)
1176	Gold Hill West (Kootenai)
1202	Petty Mountain (Lolo)
1204	Rattlesnake (Lolo) (Was 1801)
1205	Reservation Divide (Lolo)
1209	Baldy Mountain (Lolo)
1220	Ward Eagle (Lolo)
1226	O'Hara-Falls Creek (Nez Perce)
1227	Lick Point (Nez Perce)
1235	Dixie Summit-Nut Hill (Nez Perce)
1300	Mallard Larkins (IPNF, Clearwater)
1301	Hoodoo (Clearwater, Lolo)
1302	Meadow Creek-Upper North Fork (IPNF, Clearwater, Lolo)
1303	Siwash (Clearwater)
1304	Pot Mountain (Clearwater)
1305	Moose Mountain (Clearwater)
1306	Big Horn Weitas (Clearwater)
1307	N. Lochsa Slope (Clearwater)
1308	Weir - Post Office Creek (Clearwater)
1309	North Fork Spruce-White Sand (Clearwater)
1310	Section 16 Wilderness B
1311	Lochsa Face (Clearwater)
1312	Eldorado Creek (Clearwater)
1313	Rawhide (Clearwater)
1314	Sneakfoot Meadows (Clearwater)
1362	Lost Water Canyon (Custer)
1363	Red Lodge Creek-Hellroaring (Custer)
1364	Burnt Mountain (Custer)
1366	Fishtail Saddleback Mtn (Custer)
1368	Black Butte (Custer)
1369	West of Woodbine (Custer)
1370	Cook Mountain (Custer)
1371	North Absaroka (Custer, Gallatin)
1372	King Mountain (Custer)
1373	Tongue River Breaks (Custer)
1421	Sapphires (Bitterroot, Deerlodge)
1423	Emerine (Deerlodge)
1424	Silver King (Lolo)
1425	North Carp (Deerlodge)

- 1426 Upper East Fork (Deerlodge)
- 1427 Storm Lake (Beaverhead, Deerlodge)

e. Roadless Areas (520-522)--continued

<u>Code</u>	<u>Name</u>
1428	Flint Range (Deerlodge)
1429	Dolus Lake (Deerlodge)
1430	Basin Creek (Deerlodge)
1431	Highlands (Deerlodge)
1432	O'Neil Creek (Deerlodge)
1433	Whitetail (Deerlodge)
1434	Haystack (Deerlodge)
1435	Fred Burr (Deerlodge)
1481	Mt Hefty (Flathead)
1482	Tuchuck (Flathead, Kootenai)
1483	Thompson Seton (Flathead, Kootenai)
1485	Bear-Marshall-Scapegoat-Swan (Flt., Helena, L&C, Lolo)
1500	Mission Addition 1 (Flathead)
1501	Mission Addition 2 (Flathead)
1502	Mission Addition 3 (Flathead)
1503	Mission Addition 4 (Flathead)
1504	Mission Addition 5 (Flathead)
1505	Mission Addition 6 (Flathead)
1506	Mission Addition 7 (Flathead)
1507	Le Beau (Flathead)
1508	East Shore (Flathead) (No longer a roadless area.)
1509	Grubb (Flt., Kootenai) (No longer a roadless area.)
1510	Griffin (Flathead) (No longer a roadless area.)
1511	Tally (Flathead) (No longer a roadless area.)
1541	Crazy Mountains (Gallatin, Lewis & Clark)
1543	Bridger (Gallatin)
1545	Republic Mountain (Gallatin)
1547	Chico Peak (Gallatin)
1548	Gallatin Divide (Gallatin - Ref. G1548)
1550	Dry Canyon (Gallatin)
1601	Lincoln Gulch (Helena)
1602	Anaconda Hill (Helena)
1603	Specimen Creek (Helena)
1604	Crater Mountain (Helena)
1605	Ogden Mountain (Helena)
1606	Nevada Mountain (Helena)
1607	Jericho Mountain (Helena)
1608	Lazyman Gulch (Helena)
1609	Electric Peak (Deerlodge, Helena)
1610	Big Log (Helena)
1611	Devils Tower (Helena)
1612	Middleman Mountain (Helena)
1613	Hedges Mountain (Helena)
1616	Camas Creek (Helena)
1617	Mount Baldy (Helena)
1618	Grassy Mountain (Helena)
1619	Ellis Canyon (Helena)
1620	Bullock Hill (Deerlodge, Helena)
1621	Irish Gulch (Helena)
1661	Buckhorn Ridge (IPNF, Kootenai)

- 1662 Scotchman Peaks (IPNF, Kootenai)
- 1663 Northwest Peak (IPNF, Kootenai)

e. Roadless Areas (520-522)--continued

<u>Code</u>	<u>Name</u>
1664	Trout Creek (IPNF, Kootenai)
1665	Cataract (Kootenai, Lolo)
1666	Mount Henry (Kootenai)
1667	Grizzly Peak (Kootenai)
1668	Gold Hill (Kootenai)
1670	Cabinet Face West (Kootenai)
1671	Cabinet Face East (Kootenai)
1672	Berray Mountain (Kootenai)
1673	Government Mountain (Kootenai)
1674	Lone Cliff Smeads (Kootenai)
1675	McNeeley (Kootenai)
1676	McKay Creek (Kootenai)
1677	Galena Creek (Kootenai)
1678	East Fork Elk Creek (Kootenai)
1682	Chippewa Creek (Kootenai)
1683	Ten Lakes (Kootenai)
1684	Roderick (Kootenai)
1690	Flagstaff (Kootenai)
1691	Roberts Mountain (Kootenai)
1692	West Fork Elk Creek (Kootenai)
1693	Rock Creek (Kootenai)
1721	Sawtooth (Lewis & Clark)
1726	Tenderfoot-Deep Creek (Lewis & Clark)
1727	Pilgrim Creek (Lewis & Clark)
1728	Paine Gulch (Lewis & Clark)
1729	Sawmill Creek (Lewis & Clark)
1730	TW Mountain (Lewis & Clark)
1731	Big Baldy (Lewis & Clark)
1732	Granite Mountain (Lewis & Clark)
1733	Tollgate - Sheep (Lewis & Clark)
1734	Middle Fork Judith (Lewis & Clark)
1735	Mount High (Lewis & Clark)
1737	Highwood - Baldy (Lewis & Clark)
1738	Highwoods (Lewis & Clark)
1740	Bluff Mountain (Lewis & Clark)
1741	Spring Creek (Lewis & Clark)
1742	Box Canyon (Gallatin, Lewis & Clark)
1743	Castle Mountains (Lewis & Clark)
1744	North Fork of Smith (Lewis & Clark)
1745	Calf Creek (Lewis & Clark)
1746	Eagle Park (Lewis & Clark)
1781	Marshall Peak (Lolo)
1784	Cube-Iron (Kootenai, Lolo)
1785	Sundance Ridge (Lolo)
1786	Teepee-Spring Creek (Lolo - Ref. X1786)
1790	Mount Bushnell (Lolo)
1791	Cherry Peak (Lolo)
1792	Gilt Edge Silver Creek (IPNF, Lolo)
1794	Patrick's Knob-North Cutoff (Lolo)
1795	South Siegel-South Cutoff (Lolo)

1796 North Siegel (Lolo)
1798 Marble Point (Lolo)

e. Roadless Areas (520-522)--continued

Code	<u>Name</u>
1799	Sheep Mtn State Line (IPNF, Lolo)
1800	Start Mountain (Lolo)
1803	Burdette (Lolo)
1805	Lolo Creek (Bitterroot, Clearwater, Lolo)
1806	Welcome Creek (Lolo)
1807	Quigg (Deerlodge, Lolo)
1808	Stony Mtn (Bitterroot, Deerlodge, Lolo)
1809	Garden Point (Lolo)
1811	Evans Gulch (Lolo - Ref. X1811)
1812	Clear Creek (Lolo - Ref. X1812)
1814	Deep Creek (Lolo - Ref. X1814)
1841	Rackcliff-Gedney (Clearwater, Nez Perce)
1842	Middle Fork Face (Nez Perce)
1844	Clear Creek (Nez Perce)
1845W.	Meadow Cr. (Nez. - Ref. 1845C) (See 9979 - E. Meadow Cr.)
1846	Middle Bargamin (Nez Perce)
1847	Mallard (Nez Perce)
1849	Silver Creek-Pilot Knob (Nez Perce)
1850	North Fork Slate Creek (Nez Perce)
1851	Little Slate Creek (Nez Perce)
1852	John Day (Nez Perce)
1853	Big Canyon A
1854	Klopton Creek-Corral Creek
1855	Salmon Face (Nez Perce)
1857	Kelly Mountain (Nez Perce)
1911	Line Creek Plateau (Custer)
1912	Beartooth (Custer, Gallatin)
1913	Rock Creek (Custer)
1914	Reef (Gallatin)
1921	Gospel Hump (NezPerce) (Jersey Jack?)
1922	Rapid River (Nez Perce)
1941	Blue Joint (Bitterroot)
1942	Anderson Mountain (Beaverhead)
1943	West Big Hole (Beaverhead)
1944	Goat Mountain (Beaverhead)
1945	Maiden Peak (Beaverhead)
1946	Allan Mountain (Bitterroot)
1961	Garfield Mountain (Beaverhead)
1962	Mt Jefferson (Beaverhead)
1963	Lionhead (Gallatin)
1981	Salmo Priest (IPNF ID & WA)
1982	Grassy Top (IPNF)
9979	East Meadow Creek (Nez Perce - Ref. 1845D)
9980	Eighteenmile Peak - Ref. A1945 (Beaverhead)
9981	Italian Peak - Ref. I1945 (Beaverhead)
9982	McGregor-Thompson (Lolo - Ref. L1LAQ)
9983	Swan River Island (Flathead - Ref. L1FAA)
9984	Dixie Tail (- Ref. P1913)
9985	Horse Creek (Custer - Ref. L1DAP)
9986	Bell Lake (Custer - Ref. L1DAK)

9987 Twin Buttes (Custer - Ref. L1DAU)

e. Roadless Areas (520-522)--continued

Code	<u>Name</u>
9988	Lone Butte (Custer - Ref. L1DAX)
9989	Bennett-Cottonwood (Custer - Ref. L1DAY)
9990	Magpie (Custer - REF. L1DBB)
9991	Ash Coulee (Custer - Ref. L1DBD)
9992	Wannagan (Custer - Ref. L1DBE)
9993	Kinley Plateau (Custer - Ref. L1DBI)
9994	Bullion Butte (Custer - Ref. L1DBJ)
9995	Strom Hanson (Custer - Ref. L1DBL)
9996	Casy Peak (Helena - Ref. E1620)
9997	Holter (Helena - Ref. A1610)
9998	Hyalite (Gallatin - Ref. H1548)
9999	Gallatin Fringe (Gallatin - Ref. J1548)

f. Land Utilization Project (922)

Code	<u>Name</u>
6998	Northeast Washington (IPNF)

141.25 - Capability Area. CAPABILITY_AREA_CODE (6-character alpha-numeric code)

Capability area represents the geographic delineations used to describe characteristics of the land and resources in integrated forest planning. Lands are delineated in capability areas for the purpose of estimating their response to various management practices, resource values, output coefficients, and multi-resource or joint projection functions. Capability areas may be synonymous with ecological land units, ecosystems, habitats, stands, or land response units.

Capability area codes are Forest defined, and are located with Forest planning documentation.

141.26 - Land Suitability Classification. LAND_CLASS_CODE (Mandatory Field) (3-digit numeric code)

Determining and reporting of lands that are capable, suitable, and available is a requirement of the 1976 National Forest Management Act (36 CFR 219).

Present Forest Plan outputs and land management activities are based on these land suitability classifications.

This field serves two purposes. An important part of future land and resource management planning (Forest Plan) is to identify lands that are tentatively suitable, not suitable or available, or not as a fixed input to forest planning models to establish benchmarks and alternatives.

This field, in conjunction with management area, allows each Forest to fulfill their National requirements to report land suitability acres to the Chief and Congress. This is accomplished through the land suitability class file in the Timber Activity Control System (TRACS)

which is part of the Timber Management Information System (TMIS). It also forms the basis for the land classification table which appears in the Forest Plan appendix. Land Suitability Classification and Management Area must be looked at together when running queries and reports for suitable land.

(TRACS was formerly the TMIS data base. TMIS will now consist of all timber data bases such as TRACS, STARS (Sales Tracking and Reporting System), TSA (Timber Sale Accounting), plus any new timber data bases developed.)

For definitions of timber resource land suitability classifications, see FSH 2409.13, Timber Resource Planning Handbook, Chapter 20.

1. NONFORESTED.

<u>Code</u>	<u>Description</u>
001	Census water (water not included in the Chief's Land Area Report). This is usually water bodies over 40 acres in size which cross section lines and are excluded from the acreage for surveyed sections, and canals and streams over one-eighth of a statute mile wide.
100	Non-Census water (that water which is included in the Chief's Land Area of the National Forests Report). This is usually water bodies less than 40 acres in size and streams less than one-eighth of a statute mile wide, but more than 120 feet in width and ponds and lakes larger than 1 acre, but less than 40 acres in size. It may also contain water bodies larger than 40 acres in size that are wholly contained within a surveyed section which was not included in census water.
200	Nonforest land. Lands that never have had or that are incapable of having 10 percent or more of the area occupied by forest trees; or lands previously having such cover and currently developed for nonforest use.

2. PHYSICALLY SUITABLE FOREST LAND.

<u>Code</u>	<u>Description</u>
500	Tentatively Suitable Forest Land. All lands not assigned one of the other codes.

3. LACK OF RESPONSE DATA, TECHNOLOGY, OR RESTOCKING PROBLEMS

<u>Code</u>	<u>Description</u>
710	Unsuitable forest land. Restocking cannot be assured.
720	Unsuitable forest land. Irreversible resource damage is likely to occur, such as erosive soils, unstable soils, watershed damage, and so forth.

<u>Code</u>	<u>Description--continued</u>
740	Unsuitable forest land. Adequate response information is lacking.

If not for one of the previous three reasons, these lands would be in the 500 series. Once the problem has been solved, (for example, restocking can be assured, non-resource damage will occur, or adequate information becomes available) the 710, 720, and 740 will be changed to 500 (Tentatively Suitable Forest Land).

4. NON-INDUSTRIAL LAND.

<u>Code</u>	<u>Description</u>
900	Unsuitable forest land. Incapable of producing industrial wood.
910	Unsuitable forest land. Isolated tracts of forest land, 100 acres or less in size, where access is not perceivable.

The 300 (unsuitable forest land, withdrawn from timber production), 400 (unsuitable forest land, withdrawn pending final action), 600 (suitable forest land, resource emphasis other than timber), and 800 (unsuitable forest land, not appropriate for timber production) series for National Files and reporting will be obtained by combining land suitability classification (LSC) and management area (MA). The Regional Office (RO) will develop the logic to report land suitability classification acres to the Chief and Congress through the LSC data files in TRACS.

Examples of Land Suitability Classification:

1. Physically suitable forest land in a wilderness area.
LSC (Code 500) and MA (Code WLDNS)

This would place the stand in the 300 series in the land suitability file as Wilderness-Suitable. If LSC had been code 900, it would still be in the 300 series for National use.

2. Unsuitable forest land where adequate response information is lacking (740) in management area (CARBU) where caribou is the management direction. This would fall in the 700 series for national use. This would represent unsuitable ground due to lack of adequate response information, but it is located in a caribou management area. This differs from a 500, tentatively suitable area in a CARBU management area, in that this situation would be in the National Files in the 800 series. For Regional use, this ground would also be placed in the 800 series.

141.27 - Management Area. MANAGEMENT_AREA_CODE (Mandatory Field) (5-character alpha code)

Management Area definitions are located in each Forest Plan. The Forest Plan Management Area is a numeric number on the Management Area Map, and the map is in the Plan itself. For Timber Management purposes, Management Area will be an alpha code. This code describes the management area direction, objective, goal(s), and prescriptions. Each Forest will supply RO,

Forest and Rangeland Management, with a cross-walk between their numeric codes and the alpha codes.

<u>Code</u>	<u>Descriptive Classification Name</u>
ADMSI	Administrative Sites
AMNTY	Amenity Values
ARCUL	Archeological or Cultural Areas or Sites
BGAMW	Wildlife (Big Game) Winter Range (Includes whitetailed and mule deer.)
BGRNG	Wildlife - Range
BGVIW	Wildlife (Big Game) Winter Range and Visual or Scenic
BOTAN	Botanical Areas
CABCK	Recreation - Wildlife (Cabin Creek)
CAMPG	Developed Recreation Sites (Includes campgrounds.)
CARBU	Caribou (Winter and Summer Range)
CORTR	Trail Corridors - Unsuitable Lands
ELKHA	Elk Horns - Elk Winter Range
ELKHB	Elk Horns - Elk, Mule Deer, & Moose Summer Range
ELKHC	Elk Horns - Elk Calving and Summer Range
ELKHD	Elk Horns - Elk, Mule Deer, and Moose Year Long Range
ELKSU	Elk Summer Range (Includes forest and nonforest.)
ELKWI	Elk Winter Range (Includes forest and nonforest.)
ETSSP	Endangered, Threatened, and Sensitive Species
EXPER	Experimental Forests or Ranges
GELOG	Geological Areas
GRIZZ	Grizzly Bear Areas
GRREC	Grizzly Bear - Recreation Areas
GRRNG	Grizzly Bear - Range Areas
GSOTP	Genetic Seed Orchards and Test Plantations (Includes seed orchards, field tests, and early selection trials.)
HVFIS	High Value Fisheries
MINMA	Minimum Management or Level or Custodial Management
MNGSI	Mineral or Mining Sites (Includes those areas that are actual extraction or processing sites.)
MOOSE	Moose Areas (Winter and Summer Range)
MUNWA	Municipal Watersheds
MWGEO	Georgetown Lake Recreation Area - Municipal Watershed
NATRS	National Trails
NFNIL	Nonforest or Nonindustrial Lands
NRA	National Recreation Areas
OLDGR	Old Growth Designated Areas in the Forest Plan
PIHIK	Pioneer and Hiking Areas
PRREC	Primitive Recreation
RANGE	Range Allotments or Land
RCWLD	Recommend Wilderness Areas or Further Planning
RDCOR	Travel or Highway or Road Corridors
RDLES	Roadless Areas or Roadless Recreation (Can include both small and large roadless areas within a forest.)
RDLSS	Roadless Areas (Small unroaded parcels)
RECWL	Recreation - Wildlife
RIPRN	Riparian Areas
RNA	Research Natural Areas
RNGM	Range Management at Moderate Intensity
RNGMI	Range - Minerals
RNGWA	Range - Watershed or Riparian

Code Descriptive Classification Name--continued

RWLMI	Range - Wildlife (Big Game) - Minerals
RWLVS	Range - Wildlife (Big Game) - Visual
SENIC	Scenic Areas
SKI	Ski Areas or Trails
SPREC	Special Recreation (Includes summer homes and area designated as concentrated heavy use areas that have a wide variety of recreation or special designated recreation use.)
SPREM	Semi-primitive Recreation - Motorized
SPREN	Semi-primitive Recreation - Nonmotorized
TIMBR	Timber (With or without roads)
TFISH	Timber - Fisheries
TGRIZ	Timber - Grizzly Bear
TGRWR	Timber - Grizzly Bear Winter Range
TMARC	Timber - Archeological or Cultural Areas or Sites
TMCAR	Timber - Caribou (Winter and Summer Range)
TMCOR	Timber and Travel or Highway or Road Corridors
TMEKS	Timber - Elk (Big Game) Summer Range
TMEKW	Timber - Elk (Big Game) Winter Range
TMGEO	Timber - Geologic or Botanical Areas
TMLOW	Timber Management at Low Intensity
TMOSE	Timber - Moose (Winter and Summer Range)
TMREC	Timber - Recreation
TMRIP	Timber - Riparian
TMRNG	Timber - Range
TMSSL	Timber - Steep Slopes
TMTE	Timber and Threatened and Endangered Species
TMVIS	Timber - Visual or Scenic Areas (With or without roads)
TMWET	Timber Management in Wet Areas (Bogs, Seeps, Meadows, High Water Table)
TMWLD	Timber - Wildlife
TMWSR	Timber - Wild and Scenic Rivers (Suitable)
TPREP	Timber - Site Preparation Problems
TRCNR	Timber - Recreation Without Roads
TRNRI	Timber - Range - Riparian
TSOIL	Timber - Sensitive Soil
TSSSS	Timber - Steep Slopes - Sensitive Soil
TSSWR	Timber - Steep Slopes - Big Game Winter Range
TTRCO	Timber and Trail Corridors
TVISP	Timber - Visual or Scenic (Partial Retention)
TVISR	Timber - Visual or Scenic (Retention)
TVSPW	Timber - Partial Retention (Visual) - Big Game (Winter Range)
TVSRW	Timber - Retention (Visual) - Big Game (Winter Range)
TWTDS	Timber - Wildlife (Big Game) Summer Range (Includes whitetailed and mule deer.)
TWTDW	Timber - Wildlife (Big Game) Winter Range (Includes whitetailed and mule deer.)
TWTER	Timber - Municipal Watersheds
UTCOR	Utility Corridors
VISUL	Visual Areas
WATER	Large Water Bodies and Associated Influence Zones
WDHRS	Wild Horse Areas
WLDLF	Wildlife (A general category for all wildlife for those Forests which would like to use it.)
WLDNS	Wilderness Areas

Code Descriptive Classification Name--continued

WREHB Watershed Rehabilitation
WSENR Wild and Scenic Rivers

141.28 - Condition Class. CONDITION_CLASS_CODE (1-digit numeric code)

Condition class is based on Forest Survey classification in which desirable tree stocking is compared to total stocking. (Stocking tables are located in FSH 2409.17, Silvicultural Practices Handbook, Chapter 9.)

Condition class is a classification of commercial forest land based upon stocking of desirable trees and other conditions affecting current and prospective timber growth. It is the condition of the stockable area. For example, a stand can be 15 percent nonstockable and still be a condition class 1. (FSH 4809.11, Forest Survey Handbook, Chapter 20.)

Code Condition Class Description

- | | |
|---|--|
| 1 | Areas fully stocked with desirable trees and not overstocked. |
| 2 | Areas fully stocked with desirable trees, but overstocked with all live trees. |
| 3 | Areas medium to fully stocked with desirable trees, and with less than 30 percent of the area controlled by other trees and/or inhibiting vegetation or surface conditions that will prevent occupancy by desirable trees. |
| 4 | Areas medium to fully stocked with desirable trees and with 30 percent or more of the area controlled by other trees and/or conditions that ordinarily prevent occupancy by desirable trees. |
| 5 | Areas poorly stocked with desirable trees, but fully stocked with growing trees. |
| 6 | Areas poorly stocked with desirable trees, but medium to full stocking of growing stock trees. |
| 7 | Areas poorly stocked with desirable trees, and poorly stocked with growing stock trees. |

(Growing stock trees are defined as: live trees of commercial species that meet specified standards for sawtimber or will likely meet such standards when they reach sawtimber size and would be included in the allowable sale quantity calculation. This includes desirable and acceptable crop trees.)

141.29 - Ground Truth Stratum. GROUND_STRATUM (6-character alpha-numeric code)

Ground truth stratum is the true stratum of the stand. If a field review reveals that the photo interpretation (PI) stratum was incorrectly identified, the Forest developed code for the true stratum is then entered in this field. The PI stratum code is never changed once it is identified, unless the entire area is restratified. See PI Stratum for the minimum strata requirements (section 141.40).

141.30 - Visual Quality Objective. VISUAL_QUAL_OBJ_CODE (2-character alpha code)

See Agriculture Handbook No. 462 for description of codes.

<u>Code</u>	<u>Visual Quality Objective</u>
P	Preservation
R	Retention
PR	Partial Retention
M	Modification
MM	Maximum Modification
RH	Rehabilitation
E	Enhancement

141.31 - Stand Treatment Needs. TREATMENT_NEEDS_CODE (2-digit numeric code)

Stand treatment needs are determined during the diagnosis phase of the prescription process. When a stand examination is completed on forest land, a diagnosis should be done at the time Table 10 of the R1-Edit stand tables is checked (prior to crossing the stand over to the data base). Stand treatment needs should be entered when the stand is crossed over to the data base. The stand treatment needs do not change until another examination is completed and a stand diagnosis is prepared. (See silvicultural prescription process, R-1 supplement to FSH 2409.17, Silvicultural Practices Handbook, Chapter 8. Diagnosis is no longer a separate activity, but it is required for activity 4334, Silviculture Prescription, credit.)

<u>Code</u>	<u>Description</u>
01	No treatment
02	Regenerate understocked area
03	Regeneration harvest (method unspecified)
04	Regenerate with clearcut
05	Regenerate with shelterwood
06	Selection
07	Precommercial thinning
08	Commercial thinning
09	Sanitation/Salvage
10	Removal cut or final cut
11	Release
12	Regenerate stagnated or cull stands (no viable commercial sale)
13	Regenerate with seed tree
14	Liberation

Example - A stand examination is completed and a diagnosis is prepared. The stand treatment needs are entered as code 04, regenerate with clearcut or seed tree. A clearcut harvest activity is accomplished, as well as the hazard reduction, site preparation, and planting activities. Examinations are scheduled for the first, third, and fifth year after planting, and the exams are accomplished. After the fifth year exam, the stand is certified and a new diagnosis is prepared. The new stand treatment need is code 01, no treatment. Another stand examination is scheduled in 10 years. At that time another diagnosis will be done and the stand treatment needs may change to code 07, precommercial thin.

141.32 - Stand Size Class. SIZE_CLASS_CODE (Mandatory field.) (4-character alpha code)

A classification of forest lands based on live trees in the stockable portion of the stand. The basic stand size classification can be further defined using descriptive adjectives as shown under the acceptable code list.

Sawtimber Stands. Stands at least 10 percent stocked with growing stock trees 5 inches diameter breast height (dbh) and larger, in which the stocking of trees 9 inches dbh and larger is at least equal to the stocking of trees 5 to 8.9 inches dbh.

Poletimber Stands. Stands at least 10 percent stocked with growing stock trees 5 inches dbh and larger, in which the stocking of trees 5 to 8.9 inches dbh exceeds the stocking of trees 9 inches dbh and larger.

Seedling - Sapling Stands. Stands at least 10 percent stocked with growing stock trees of all sizes, in which the stand size class is not poletimber or sawtimber. Saplings are generally 1.0 to 4.9 inches dbh and seedlings are generally less than 1.0 inch dbh.

Nonstocked. Forest land less than 10 percent stocked with growing stock trees.

<u>Code</u>	<u>Description</u>
SAWT	Sawtimber
MHRS	Mature High Risk
MLRS	Mature Low Risk
IMSA	Immature
POLE	Poletimber
MHRP	Mature High Risk
MLRP	Mature Low Risk
IPOL	Immature Pole
SAPL	Saplings
OSAP	Overtopped with Brush
SEED	Seedlings
OSEE	Overtopped with Brush
MULS	Multisized - 2 age classes.
MULT	Multisized - 3 or more age classes.
NONS	Nonstocked
HGHB	High Brush Occupying Site
LOWB	Low Brush Occupying Site
SOD	Sod Occupying Site
DUFF	Duff Occupying Site
DEB	Debris Occupying Site
BARE	Bare Soil
NA	Not Applicable - Use when forest type is nonforest.

Stocking is the degree of occupancy of land by trees measured by basal area and/or number of trees.

Mature is defined as the stage at which an even-aged stand has attained full development, particularly height and stand density. This usually occurs when a stand reaches 95 percent of culmination mean annual increment (CMAI).

High risk is defined as generally the point in time when at least 40 percent of the stand, as measured by basal area, is affected by damaging disease or insects.

Multisized stands contain more than one age class (usually at least three age classes) intermingled intimately on the same area, and the difference in age between the oldest and youngest trees exceeds 20 percent of the length of the rotation. Use code MULS for stands containing two age classes. Use code MULT for stands containing at least three age classes. Stand size class year of origin, 2111, should be entered when the stand size class is either MULS or MULT.

141.33 - Stand Size Class Year of Origin. SIZE_CLASS_ORIGIN_YEAR (Mandatory field.)
(4-digit numeric code)

Birth date of the stand (year of stand origin) or the stand component recognized in the stand size class element. For example, if a stand was planted in 1980, 1980 is entered as the stand size class year of origin and SEED is the stand size class. When the stand size class changes to SAPL in approximately 1994, stand size class year of origin remains as 1980.

<u>Code</u>	<u>Actual</u>
1894	1894
1986	1986
2111	Uneven-aged

141.34 - Fuel Load Tons/Acre. FUEL_LOAD (5-digit numeric code)

The first two digits of the code are the actual tons per acre of fuel less than 3 inches in diameter. The last three digits are the actual tons per acre of fuel greater than 3 inches in diameter.

Code Description

05012 Means a total fuel load of 17 tons per acre with 5 tons per acre less than 3 inches in diameter and 12 tons per acre greater than 3 inches in diameter.

141.35 - Watershed. WATERSHED_CODE (18-character alpha-numeric code)

Watershed codes must be formatted according to the Water Resources Council (WRC) coding (See FSM 2513.2). Additional space is provided so Forests can make a further breakdown or refinement of the watersheds. A copy of the Forest watershed codes must be sent to Forest and Rangeland Management in the Regional Office.

141.36 - Special Uses. SPECIAL_USE_CODE (2-digit numeric code)

This field is used to recognize stands identified for special management purposes. Record the most significant "special use" identified for the stand. (Old growth coding is generally considered the most significant special use.)

<u>Code</u>	<u>Description</u>
01	Snag Habitat Management (This code can be used to identify stands where snags are managed as a component in the stand.)
02	Grove Management (Special groves selected to be managed for their unusual, uncommon, or unique values such as size, age, height, species, or ecological or social character. Special groves represent some of the oldest or largest representatives of late seral or climax communities within the forest.)
03	Pacific Yew Genetic Reserves (Use this code to identify areas in which native Pacific yew trees are protected from disturbance for the purpose of conserving their genetic integrity.)
04	Hardwood Diversity (This code can be used to identify stands which contain significant hardwood species, or where it is desirable to enhance a hardwood component.)
05	White Bark Pine Management (This code can be used to identify stands which contain significant white bark pine, or where it is desirable to enhance the white bark pine component.)
06	Limestone Cliffs (This code can be used to identify stands which contain limestone cliffs.)
07	Bat Caves (This code can be used to identify stands where bat caves exist.)
08	Replacement Old Growth -- Field or Remotely Inventoried (Use this code to identify stands that could be used to replace existing stands that are managed as old growth.)
09	Retained Existing Old Growth -- Field Inventoried (Use this code for old growth that is planned to be retained through the Forest old growth strategy, or allocated in the Forest Plan. The old growth is inventoried through field examination.)

Special Uses--Continued

<u>Code</u>	<u>Description</u>
10	Retained Existing Old Growth -- Remotely Inventoried (Use this code for old growth that is planned to be retained through the Forest old growth strategy, or allocated in the Forest Plan. The old growth is inventoried through photo interpretation, regression analysis, satellite imagery, and so forth.)
11	Retained Potential Old Growth -- Field or Remotely Inventoried (These stands contain appropriate composition that in time will reach a structure that will function as old growth. These stands will be retained as part of the Forest old growth strategy.)
12	Additional Existing Old Growth -- Field Inventoried (Areas of old growth that are identified in addition to old growth that is planned to be retained through the Forest old growth strategy, or allocated in the Forest Plan. The old growth is inventoried through field examination.)
13	Additional Existing Old Growth -- Remotely Inventoried (Old growth that is identified in addition to old growth that is planned to be retained through the Forest old growth strategy, or allocated in the Forest Plan. The old growth is inventoried through photo interpretation, regression analysis, satellite imagery, and so forth.)
90	Seed Production Area (A phenotypically superior stand or plantation rogued and treated in such a manner as to produce large quantities of seed.)
91	Seed Orchard (A plantation established primarily for the production of seed of proven genetic quality.)
92	Genetic Test Plantation (A plantation, usually replicated, established to determine the extent to which differences among seedlots or clones are hereditary.)
93	Plus Tree Stand (A stand containing phenotypically superior trees.)
94	Seed Collection Stand (A natural stand that exhibits better than average seed production. The stand is identified for repeated seed collection.)

141.37 - Township. TOWNSHIP (5-character alpha-numeric code)

The township where the stand is located. Example: T32N

141.38 - Range. RANGE (5-character alpha-numeric code)

The range where the stand is located. Example: R26W

141.39 - Section. SECTION (3-character alpha-numeric code)

The section the stand is located in. Example: S07, S15

Code Description

19 19 Inches

141.44 - PI Hardwood Percent. PI_HARDWD_PERCENT (2-digit numeric code)

The photo interpreted percentage of the stand area that is occupied by hardwoods.

Code Description

05 5 Percent

141.45 - PI Nonstocked Rock Percent. PI_NONSTK_ROCK_PERCENT (2-digit numeric code)

The photo interpreted percentage of the stand area which is nonstocked because of rock.

Code Description

03 3 Percent

141.46 - PI Harvest Method. PI_HARV_METH_CODE (1-digit numeric code)

If the stand has been harvested, the photo interpreted silviculture harvest method (or the actual harvest method if known).

Code Description

1 Clearcut
2 Seed Tree Cut
3 Shelterwood Cut
4 Selection Cut
5 Commercial Thinning

141.47 - PI Topographic Position. PI_TOPO_POSITION_CODE (1-digit numeric code)

The photo interpreted topographic position of the stand.

Code Description

1 Valley Bottom
2 Midslope Drain
3 Midslope
4 Midslope Ridge
5 Ridgetop

141.48 - PI True Understory. PI_TRUE_UNDRSTRY_CODE (1-digit numeric code)

Enter a '1' if the stand truly has an understory. Enter a '2' if the main stand which is described by crown characteristics and so forth, has a scattered overstory above the main stand.

141.49 - PI Contour Curvature. PI_CONTOUR_CURV_CODE (1-digit numeric code)

The photo interpreted contour curvature of the stand.

<u>Code</u>	<u>Description</u>
1	Concave
2	Undulating
3	Straight
4	Convex

141.50 - PI Exam Year. PI_EXAM_YEAR (4-digit numeric code)

The year of the photo interpretation exam.

<u>Code</u>	<u>Description</u>
1996	1996

141.51 - PI OREG Species. PI_OREG_SPECIES_CODE (2-character alpha-numeric code)

The standard, alphabetic species code for the overstory component. The standard codes are listed with the major species field with the stand component information. Two additional codes that may be used are MC for mixed conifer, and HW for unidentified or mixed hardwood.

141.52 - PI OREG Crown Diameter. PI_OREG_CROWN_DIAM (2-digit numeric code)

The photo interpreted mean crown diameter, in feet.

<u>Code</u>	<u>Description</u>
10	10 Feet

141.53 - PI OREG Height. PI_OREG_HEIGHT (3-digit numeric code)

The photo estimated overstory height, in feet.

<u>Code</u>	<u>Description</u>
70	70 Feet

141.54 - PI OREG Texture. PI_OREG_TEXTURE_CODE (1-digit numeric code)

The photo estimated texture of the overstory component.

<u>Code</u>	<u>Description</u>
1	Fine
2	Medium Fine
3	Medium Coarse

4 Coarse

141.55 - PI OREG Year of Origin. PI_OREG_ORIGIN_YEAR (4-digit numeric code)

The calendar year of origin for the overstory component. Year of origin may be know from fire or treatment history.

<u>Code</u>	<u>Description</u>
1930	1930 - OREG year of origin

141.56 - PI UREG Species. PI_UREG_SPECIES_CODE (2-character alpha-numeric code)

The standard, alphabetic species code for the understory component. The standard codes are listed with the major species field with the stand component data. Five additional codes may be used: BR - brush, GR - grass, HW - unknown or mixed hardwood, MC - mixed conifer, RK - Rock.

141.57 - PI UREG Crown Diameter. PI_UREG_CROWN_DIAM (2-digit numeric code)

The photo estimated mean crown diameter in feet for the understory component.

<u>Code</u>	<u>Description</u>
03	3 Feet

141.58 - PI UREG Height. PI_UREG_HEIGHT (3-digit numeric code)

The photo estimated understory height in feet.

<u>Code</u>	<u>Description</u>
25	25 Feet

141.59 - PI UREG Texture. PI_UREG_TEXTURE_CODE (1-digit numeric code)

The photo estimated texture of the understory component.

<u>Code</u>	<u>Description</u>
1	Fine
2	Medium Fine
3	Medium Coarse
4	Coarse

141.60 - PI UREG Year of Origin. PI_UREG_ORIGIN_YEAR (4-digit numeric code)

The calendar year of origin for the understory component. Year or origin may be know from fire or treatment history.

<u>Code</u>	<u>Description</u>
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1970 1970 - UREG year of origin

142 - Description of Fields in the Stand Hazard Data Form (STAND_HAZARDS Table).

The following fields are located in the Stand Hazard Data Form, STAND_HAZARDS Table.

142.1 - Forest. FOREST_NO (Mandatory Field) (2-digit numeric code)

See Basic Stand Data.

142.2 - Stand ID. STAND_ID (Mandatory Field) (8-character numeric code)

See Basic Stand Data.

142.3 - Hazard Agent. HAZARD_AGENT_CODE (2-digit numeric code)

Stand risk rating describes the hazard agent and hazard rating of the agent(s) in the stand. For further information about stand risk rating, contact an Entomologist in the Regional Office.

<u>Code</u>	<u>Agent</u>
02	Mountain Pine Beetle
03	Douglas-fir Beetle
04	Spruce Beetle
11	Western Spruce Budworm
13	Douglas-fir Tussock Moth
30	Dwarf Mistletoe
35	Stem Rust
60	Root Rots

142.4 - Hazard Rating. HAZARD_RATING_CODE (1-character alpha code)

The rating assigned to the hazard agent(s) in the stand.

<u>Code</u>	<u>Rating</u>
L	Light
M	Moderate
H	Heavy

143 - Description of Fields in the Stand T_E_S Species Data Form (STAND_TES_SPECIES Table).

The following fields are located in the Stand T_E_S Species Data Form, STAND_TES_SPECIES Table.

143.1 - Forest. FOREST_NO (Mandatory Field) (2-digit numeric code)

See Basic Stand Data.

143.2 - Stand ID. STAND_ID (Mandatory Field) (8-character numeric code)

See Basic Stand Data.

143.3 - T, E, and S Species. TES_SPECIES_CODE (3-digit numeric code)

Record all threatened, endangered, and sensitive species that occur in the stand.

<u>Code</u>	<u>Threatened and Endangered</u>
075	Peregrine Falcon
095	Whooping Crane
422	Grizzly Bear
428	Blackfooted Ferret
437	Gray Wolf
071	Bald Eagle
517	Woodland Caribou
601	Interior Least Tern
602	Piping Plover
	<u>Sensitive</u>
001	Common Loon
024	Trumpeter Swan
050	Harlequin Duck
068	Ferruginous Hawk
085	Sage Grouse
175	Boreal Owl
416	Spotted Bat
417	Western Big-eared Bat
432	Wolverine
521	Bighorn Sheep
553	Coeur d'Alene Salamander
701	Baird's Sparrow
702	Pallid Bat
703	Mountain Plover
704	Belfragi's Bug
705	White-tailed Prairie Dog
706	Lynx
707	Dakota Skipper
708	Loggerhead Shrike
709	Fisher
710	Mountain Quail
711	Flammulated Owl
712	Tawny Crescent Butterfly
713	White-headed Woodpecker
714	Black-backed Woodpecker
715	Townsend's Big-eared Bat
716	Regal Fritillary
717	Northern Bog Lemming
718	Greater Prairie Chicken
719	Columbian Sharp-tailed Grouse
571	Sensitive Fish

Other Important Species

801 Goshawk

<u>Code</u>	<u>Plants</u>
901	Endangered
902	Threatened
903	Sensitive - a plant species, or recognized subspecies or variety, for which the Regional Forester has determined there is a concern for population viability, within a state, as evidenced by significant current or predicted downward trend in populations or habitat. All sensitive plant species are known to occur on National Forest land. This may include federal candidates (C1, C2, C3) and plant species proposed for listing as threatened and endangered species in the Federal Register.
904	Watch - a plant species, or recognized subspecies or variety that: (1) is not known to occur on National Forest land, but is predicted to occur on the basis of suitable habitat, and for which there is concern for population viability, within a state, as evidenced by significant current or predicted downward trend in populations or habitat. (These taxa, if found on National Forest land would be designated sensitive plant species. This may include federal candidates C1, C2, C3.) (2) is known to occur on Forest Service land, but has no immediate or predicted threats to population viability. (These taxa are important to monitor in the overall biological diversity program because of limited distribution or federal status. Included in this category could be taxa endemic to a given state, or federal candidate species for which we now have evidence that populations are more widespread than previously thought and are considered secure.)
905	Surveyed - No endangered, threatened, sensitive, or watch plants found.

144 - Description of Fields in the Stand Range Allotment Data Form (STAND_RANGE_ALLOTMENTS Table).

The following fields are located in the Stand Range Allotment Data Form, STAND_RANGE_ALLOTMENTS Table.

144.1 - Forest. FOREST_NO (Mandatory Field) (2-digit numeric code)

See Basic Stand Data.

144.2 - Stand ID. STAND_ID (Mandatory Field) (8-character numeric code)

See Basic Stand Data.

144.3 - Range Allotment. RANGE_ALLOT_NO (3-digit numeric code)

The range allotment number(s) (where applicable). It is possible for a stand to have multiple range allotments.

<u>Code</u>	<u>Range Allotment Number</u>
325	325

145 - Description of Fields in the Stand Component Data Form (STAND_COMPONENTS Table).

The following fields are located in the Stand Component Data Form, STAND_COMPONENTS Table.

All fields on the Stand Component Data Form can be automatically crossed over to the Timber Stand Data Base from R1-Edit. Stand components should be entered for all stands except nonforest stands. Components are not necessary for nonforest stands; however, if nonforest stands have been examined, components may be entered.

145.1 - Forest. FOREST_NO (Mandatory Field) (2-digit numeric code)

See Basic Stand Data Form.

145.2 - Stand ID. STAND_ID (Mandatory Field) (8-character numeric code)

See Basic Stand Data Form.

145.3 - Stand Component ID. COMPONENT_CODE (4-character alpha-numeric code)

Stand components describe the entire stand using the standard component codes. This may be done manually or automated through use of the R1-Edit (Stand Exam and Timber Inventory) crossover. Twelve standard components may be described for each stand. Information about the 0-1 component is based on trees per acre. Information for all other diameter (dbh) components is based on basal area. Information for TOTL, TOTD, and TOTC is based on basal area, if there is no basal area, the information is based on trees per acre.

<u>Code</u>	<u>Component</u>
0-1	0-.9 --\
1-3	1-2.9 \
3-5	3-4.9 \
5-7	5-6.9 DBH class component data applies only to live
7-9	7-8.9 / trees.
9-14	9-13.9 /
14 +	14 + --/
TOTL	Total Live
TOTD	Total Dead
TOTC	Total Cull (Live)
HERB	Herbaceous Vegetation
BUSH	Mesic and Xeric Shrubs

145.4 - Major Species. MAJOR_SPEC_CODE (2-character alpha-numeric code)

The major tree species is the primary species of the stand component based on plurality of basal area stocking. For cover type, the major species is the primary species of the stand component based on percent cover.

<u>Code</u>	<u>Tree Species</u>
PP	Ponderosa Pine
L	Western Larch
LP	Lodgepole Pine
DF	Douglas-fir
WP	Western White Pine
S	Engelmann Spruce
GF	Grand Fir
AF	Subalpine Fir
MH	Mountain Hemlock
WH	Western Hemlock
C	Western Redcedar
WB	Whitebark Pine
PF	Limber Pine
AL	Subalpine Larch
J	Juniper
B	Birch
QA	Quaking Aspen
CW	Cottonwood
GA	Green Ash
Y	Pacific Yew

<u>Code</u>	<u>Cover Type</u>	<u>Code</u>	<u>Cover Type</u>
20	Herbaceous Vegetation	55	cherries
21	native grasses	56	evergreen ceanothus
22	introduced grasses	57	redstem ceanothus
23	pinegrass	58	elderberry
24	sedges	59	hawthorn
25	beargrass	60	labrador tea
26	bracken fern	61	twinberry, honeysuckle
27	lady fern		
28	thistles	62	white rhododendron
29	knapweed		
30	leafy spurge	70	Xeric Shrubs
31	fireweed	71	whortleberry
32	western coneflower	72	snowberry
		73	serviceberry
40	Mesic Shrubs	74	spiraea
41	alder	75	ninebark
42	willow	76	ocean spray
43	dogwood	77	bearberry, kinnikinnick
44	birch		
45	Pacific yew	78	Oregon grape
46	menziesia	79	dwarf juniper
47	maple	80	sagebrush
48	mountain ash	81	bitterbrush
49	thimble berry	82	rabbitbrush
50	pachistima	83	mountain mahogany
51	gooseberries and currants	84	buffaloberry
52	huckleberries	85	shrubby cinquefoil
53	syringa	86	sumac

145.5 - Average DBH. AVG_DBH (2-digit numeric code)

The average dbh is the quadratic mean dbh for the stand component. Only live trees (tree classes 1-5) are considered for the diameter class components.

Code - Record actual quadratic mean dbh to the nearest whole inch.

145.6 - Average Height. AVG_HEIGHT (3-digit numeric code)

The basal area weighted mean height for the stand component and the average height for the cover class BUSH component. Only live trees (tree class codes 1-5) are considered for the diameter class components. The total live component (TOTL) contains all live trees (tree classes 1-5). The total cull component (TOTC) contains cull trees (tree classes 4-5).

Code - Record the basal area weighted mean height to the nearest foot for diameter class components. Record the average height to the nearest foot for the BUSH cover class component.

145.7 - Trees/Acre. TREES_PER_ACRE (5-digit numeric code)

The number of tree stems per acre for the stand component. Only live stems per acre (tree class codes 1-5) are recorded for the diameter class components. The total live component (TOTL) contains all live trees (tree class codes 1-5). The total cull component (TOTC) contains cull trees (tree class codes 4-5). The total dead component (TOTD) contains all dead trees (tree class codes 6-9).

Code - Record the actual number of trees per acre for diameter class stand components.

145.8 - Percent Cover. PERCENT_COVER (3-digit numeric field)

The percent cover for the vegetation cover class components.

Code - Record the percent cover for cover class components to the nearest percent.

145.9 - Basal Area/Acre. BA_ACRE (3-digit numeric code)

This field contains the basal area per acre for the diameter class stand component. Record only live basal area stocking (tree class codes 1-5) for the diameter class components. The total live component (TOTL) contains tree class codes 1-5. The total cull component (TOTC) contains tree class codes 4-5. The total dead component (TOTD) contains tree class codes 6-9.

Code - Record actual basal area/acre for diameter class stand components to the nearest square foot.

145.10 - 100 BF/Acre. VOL_ACRE_100BF (3-digit numeric code)

The net board foot volume per acre for the stand component is based on merchantability standards documented in the Regional Guide and Timber Management Data Handbook. Only live, noncull trees (tree class codes

1-3) are included in the diameter class components. Board foot volume for cull and non-salvable dead trees (tree class codes 4,5,7,9) is set to 0.0.

Code - Record actual net board foot volume per acre to the nearest 100 board feet.

Example: <u>Code</u>	<u>BF/Acre</u>
012	1,209
102	10,225

145.11 - Cubic Feet/Acre. VOL_ACRE_CF (5-digit numeric code)

The net merchantable cubic foot volume per acre for the stand component including trees 5 inches dbh and larger. Only live trees (tree class codes 1-5) are included in the diameter class components. The volume for the total cull (TOTC) component includes the rotten volume of live cull trees and the rotten volume of cull portions of merchantable trees. (In other words, the TOTC component contains the cull volume (damage codes 45-49) from all trees. The total live component (TOTL) contains volume from all live trees (tree class codes 1-5). The total dead (TOTD) component contains volume from dead trees (tree class codes 6-9). Volume must be added together for the TOTL, TOTC, and TOTD components to arrive at the total cubic foot volume per acre.

Code - Record the actual net merchantable cubic foot volume per acre to the nearest cubic foot.

145.12 - Height Growth. HEIGHT_GROWTH (3-digit numeric code)

The mean annual height growth for diameter class components 0-1 and 1-3.

Code - Record the actual mean annual height increment to the nearest 0.1 foot.

Example: <u>Code</u>	<u>Height Growth</u>
016	1.6
002	0.2

145.13 - Gross Periodic Accretion. CUBIC_FT_PAI (3-digit numeric code)

The projected 10-year gross periodic accretion in cubic feet, for all components except the 0-1 and 1-3 diameter class components. Trees 3 inches dbh and larger are included in the gross periodic accretion. This field does not contain true PAI (periodic annual increment) since expected mortality has not been taken out.

Code - Record the actual gross periodic accretion to the nearest cubic foot.

Example: <u>Code</u>	<u>Periodic Accretion CF</u>
042	42
120	120

145.14 - Component Year of Origin. COMP_ORIGIN_YEAR (4-digit numeric code)

Component year of origin is the basal area (BA) weighted mean age, (sum of (tree age x tree BA)) / (sum of tree BA), for the stand component, subtracted from the year of examination. In the R1-Edit Table 4 calculations, if any species is missing age for a certain diameter component, age is set to 0 for that diameter component. If the diameter component age is 0 in the R1-Edit, the component year of origin is set to 0 in TSMRS. Component year of origin is not recorded for the total dead (TOTD) component.

Code Actual Year of Origin for the Stand Component

1971 1971

145.15 - Damage. DAMAGE_CODE (2-digit numeric code)

Record the most frequently occurring damaging agent, the agent affecting the most basal area stocking, in the stand component. For the total dead component (TOTD), it is the most frequent cause of death.

Code Definition

00 No significant damage

01 Bark Beetles
02 Mountain pine beetle (Dendroctonus ponderosae)
03 Douglas-fir beetle (Dendroctonus pseudotsugae)
04 Spruce beetle (Dendroctonus rufipennis)
05 Western pine beetle (Dendroctonus brevicomis)
06 Pine engraver beetle (Ips pini)
07 Fir engraver beetle (Scolytus ventralis)
08 Western balsam bark beetle (Dryocoetes confusus)
09 Red turpentine beetle (Dendroctonus valens)

10 Defoliators
11 Western spruce budworm (Choristoneura occidentalis)
12 Pine butterfly (Neophasia menapia)
13 Douglas-fir tussock moth (Orgyia pseudotsugata)
14 Larch casebearer (Coleophora laricella)
15 Pine looper (Phaoura mexicanaria)
16 Hemlock looper (Lambdina fiscellaria)
17 Sawflies (Neodiprion, Pristiphora, Anoplonyx)
18 Needle miners (Zelleria, Taniva, Coleotechnites)

20 Other Insects
21 Shoot moths (Eucosma, Rhyacionia)
22 Weevils (Pissodes, Magdalis, Scythropus)

30 Dwarf Mistletoe
31 Lodgepole pine dwarf mistletoe (Arceuthobium americanum)
32 Larch dwarf mistletoe (Arceuthobium laricis)

- 33 Douglas-fir dwarf mistletoe (Arceuthobium douglasii)
- 34 Ponderosa pine dwarf mistletoe (Arceuthobium campylopodum)

<u>Code</u>	<u>Definition--Continued</u>
35	<u>Stem Rusts</u>
36	White pine blister rust (<u>Cronartium ribicola</u>)
37	Western gall rust (<u>Endocronartium harknessii</u>)
38	Stalactiform blister rust (<u>Cronartium coleosporioides</u>)
39	Comandra blister rust (<u>Cronartium comandrae</u>)
40	<u>Stem Cankers</u>
41	Atropellis canker (<u>Atropellis</u> spp.)
42	Other cankers (<u>Cytospora</u> , <u>Phomopsis</u>)
45	<u>Stem Decays</u>
46	Red ring rot fungus (<u>Fomes pini</u>)
47	Indian paint fungus (<u>Echinodontium tinctorium</u>)
48	Brown cubical rot (<u>Polyporous schweinitzii</u>)
49	Quinine fungus (<u>Fomes laricis</u>)
50	<u>Foliar Pathogens</u>
51	Broom needle rusts (<u>Melampsorella</u> , <u>Chrysomyxa</u>)
52	Nonbroom needle rust pathogens (<u>Melampsorella</u> , <u>Chrysomyxa</u> , <u>Pucciniastrium</u>)
53	<u>Elytroderma</u> needle cast
54	Other nonrust needle pathogens (<u>Lophodermium</u> , <u>Rhabdocline</u> , <u>Hypodermella</u> , <u>Meria</u>)
60	<u>Root Diseases</u>
61	Shoestring root rot (<u>Armillaria mellea</u>)
62	Yellow laminated root rot (<u>Phellinus weirii</u>)
63	Brown cubical rot (<u>Polyporous schweinitzii</u>)
64	Annosus root rot (<u>Fomes annosus</u>)
65	Black stain root disease (<u>Verticicladiella</u> spp.)
70	<u>Animal</u>
71	Livestock
72	Big game (deer, elk)
73	Pocket gophers
74	Porcupines
75	Mice or voles
76	Rabbits or hares
77	Tree squirrels
78	Bear
79	Human (other than logging damage)
80	<u>Weather</u>
81	Wind (windthrow or stem breakage)
82	Snow or ice (breakage, bending, or bole cracks)
83	Frost damage to shoots
84	Frost heaving of soil
85	Winter dessication (Red belt)
86	Moisture deficiency (drought)

- 87 Sunscald or insolation
- 88 Lightning
- 89 Flood, high water table

<u>Code</u>	<u>Definition--Continued</u>
90	<u>Other Damage</u>
91	Logging damage (basal wounds or top breakage)
92	Fire
93	Improper planting technique
94	Lack of, or improper site preparation
95	<u>Physical Defects</u>
96	Broken/Missing top
97	Dead top
98	Forks, Crooks, and Sweep
99	Checks and Bole Cracks

145.16 - Damage Severity. SEVERITY_CODE (1-digit numeric code)

The damage severity rating of the most frequently occurring damaging agent for the stand component. Use the damage severity codes under "Other Damaging Agents" for the total dead (TOTD) component.

1. Bark Beetles - The level of stand damage by bark beetles is defined by the actual number of trees per acre currently infested. Only successfully attacked trees are considered. For the spruce beetle, infested windfalls are counted; but for the other bark beetles, only standing infested trees are considered.

<u>Code</u>	<u>Definition</u>
1	0.1 -0.5 infested trees/acre
2	0.6 -0.9 infested trees/acre
3	1 -2 infested trees/acre
4	3 -4 infested trees/acre
5	5 -6 infested trees/acre
6	7 -8 infested trees/acre
7	9 -10 infested trees/acre
8	11 -12 infested trees/acre
9	13+ infested trees/acre

2. Defoliators - The level of stand damage by defoliators is determined by assessing the amount of severe topkill, light topkill, heavy tree defoliation, moderate tree defoliation, and light tree defoliation relative to total stand component basal area. Severe topkill is defined as greater than 10 percent of the live crown dead, and light topkill refers to less than 10 percent of the live crown dead.

Defoliation is assessed at mid-crown and expresses the amount of foliage (new and old) that is missing. The defoliation classes are heavy (76-100 percent), moderate (26-75 percent), and light (1-25 percent). The most severe type of tree damage found defines the damage severity level for the stand according to the following damage severity classes:

<u>Code</u>	<u>Definition</u>
9	Severe topkill on more than 15% of component BA
8	Severe topkill on 5-15% of component BA
7	Light topkill on more than 15% of component BA

- 6 Light topkill on 5-15% of component BA
- 5 Heavy defoliation on more than 30% of component BA

Code Definition--Continued

- 4 Heavy defoliation on 5-30% of component BA
- 3 Moderate defoliation on more than 60% of component BA
- 2 Moderate defoliation on 5-60% of component BA
- 1 Light defoliation on more than 10% of component BA

3. Dwarf Mistletoes - The severity of stand damage by dwarf mistletoes is defined by the relative number of trees per acre sustaining infections and by the degree of individual tree infestation. The 6-Class Dwarf Mistletoe Rating System (Hawksworth, Frank G. Rocky Mtn. Forest & Range Exp. Sta., GTR RM-48) is used to describe intensity of individual tree infections.

Code Definition

- 1 Light infections (class 1-2) on 1-35% of stand component trees per acre.
- 2 Light infections (class 1-2) on 36-65% of stand component trees per acre.
- 3 Light infections (class 1-2) on >65% of stand component trees per acre.
- 4 Moderate infections (class 3-4) on 1-35% of stand component trees per acre.
- 5 Moderate infections (class 3-4) on 36-65% of stand component trees per acre.
- 6 Moderate infections (class 3-4) on >65% of stand component trees per acre.
- 7 Severe infections (class 5-6) on 1-35% of stand component trees per acre.
- 8 Severe infections (class 5-6) on 36-65% of stand component trees per acre.
- 9 Severe infections (class 5-6) on >65% of stand component trees per acre.

4. Stem Rusts - Stand damage severity for stem rusts is rated similar to that for dwarf mistletoes in that the rating is defined by the relative number of trees per acre sustaining infections and the degree of individual tree infection.

Code Definition

- 1 Minor branch infections (greater than 2 feet from bole) on 5-35% of stand component trees per acre.
- 2 Minor branch infections (greater than 2 feet from bole) on 36-65% of stand component trees per acre.
- 3 Minor branch infections (greater than 2 feet from bole) on >65% of stand component trees per acre.
- 4 Serious branch infections (6 inches to 2 feet from bole) on 5-35% of stand component trees per acre.
- 5 Serious branch infections (6 inches to 2 feet from bole) on 36-65% of stand component trees per acre.
- 6 Serious branch infections (6 inches to 2 feet from bole) on >65% of stand component trees per acre.

<u>Code</u>	<u>Definition--Continued</u>
7	Bole infections (on or within 6 inches of bole) on 5-35% of stand component trees per acre.
8	Bole infections (on or within 6 inches of bole) on 36-65% of stand component trees per acre.
9	Bole infections (on or within 6 inches of bole) on >65% of stand component trees per acre.

5. Root Diseases

<u>Code</u>	<u>Definition</u>
1	Evidence indicates pathogen is present but less than 1% of component trees per acre are infected.
2	1-5% of component trees per acre infected.
3	>5% of component trees per acre infected.
4	Root disease centers are present (group mortality has caused canopy openings).

6. Other Damaging Agents - The level of stand damage by other insects, stem cankers, stem decays, foliar pathogens, animals, weather, other damage, and physical defects, is described by the relative number of trees per acre affected.

<u>Code</u>	<u>Definition</u>
1	5-15% of stand component trees per acre
2	16-25% of stand component trees per acre
3	26-35% of stand component trees per acre
4	36-45% of stand component trees per acre
5	46-55% of stand component trees per acre
6	56-65% of stand component trees per acre
7	66-75% of stand component trees per acre
8	76-85% of stand component trees per acre
9	86+ % of stand component trees per acre

145.17 - Secondary Damage. SEC_DAMAGE_CODE (2-digit numeric code)

Record the second most frequently occurring damaging agent for the stand component as determined by basal area affected. For the total dead component (TOTD), it is the second most frequent cause of death.

Code - Use the same code descriptions as in the damage_code field.

145.18 - Second Severity. SEC_SEVERITY_CODE (1-digit numeric code)

Record the damage severity rating of the second most frequently occurring damaging agent for the stand component.

Code - Use the same code descriptions as in the severity_code field.

145.19 - Year of Exam. EXAM_YEAR (4-digit numeric code)

Record the calendar year of the stand examination which supplied the component data.

Code Calendar Year of Exam

1995 1995

145.20 - Type of Exam. EXAM_TYPE_CODE (1-digit numeric code)

Enter the type of examination which supplied the component data.

Code Type of Exam

- 1 Photo Estimate Unsupported by Field Examination
- 2 Walk-Through
- 3 Stand Examination - Standard Plot
- 4 Stand Examination - Quick Plot
- 6 Strata Mean Estimate From Compartment Inventory
- 7 Regression Estimate From Compartment Inventory
- 8 Most Similar Neighbor
- 9 New Component from July 1983 Conversion

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146 - DESCRIPTION OF FIELDS IN THE ACTIVITY DATA FORM, SEEDLOT DATA FORM, AND PLUS TREE DATA FORM (TSMRS_ALL_ACTIVITIES TABLE, TSMRS_ALL_SEEDLOTS TABLE, TSMRS_ALL_PLUS_TREES TABLE)

The following fields are located in the Activity Data Form, TSMRS_ALL_ACTIVITIES Table.

146.1 – Forest

FOREST_NO (Mandatory Field) (2-digit numeric code)

See Basic Stand Data.

146.2 - Stand ID

STAND_ID (Mandatory Field) (8-character numeric code)

See Basic Stand Data.

146.3 – Activity

ACTIVITY_CODE (Mandatory Field) (4-digit numeric code)

Planned and accomplished activities will be selected from the activities recognized by the Timber Management Information System. (See section 153 for activity descriptions.) Activities preceded by a double asterisk (**) are considered general categories and are not valid activities to be entered in the Timber Stand Data Base. Activities are unique by activity code, fiscal year planned, activity fund, and activity sequence number. Those four fields are often referred to as the Activity ID.

Special Activity Codes are provided to allow control of projects for resources other than timber. (See section 153.83 for entering special activity codes.) Special activities planned and accomplished with K-V funds must be reported in TSMRS. Other resource project dollars (fund code 98), stewardship contract fund codes, and so forth, may also be used to plan and accomplish these activities. A complete list of applicable fund codes is in Section 146.5, Exhibit 01.

Code

Description

**2000

K-V OTHER RESOURCE ACTIVITIES

**2200

RANGE

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2210 STRUCTURAL RANGE IMPROVEMENTS

- 2211 Fences
- 2212 Water Source Development
- 2213 Water Systems
- 2214 Cattleguard
- 2215 Other Range Improvements or Facilities

2220 NON-STRUCTURAL RANGE IMPROVEMENTS

- 2221 Cover Manipulation-Tall Shrubs
- 2222 Cover Manipulation-Short Shrubs
- 2223 Undesirable Herbaceous Plant Control
- 2224 Poisonous Plant Control
- 2225 Forage Improvement
- 2226 Noxious Weeds - First Treatment
- 2227 Noxious Weeds - Retreatment
- 2228 TES - Plants
- 2229 Monitoring (Non-structural Range Improvements)

**2300 RECREATION

2310 VISUAL RESOURCES PROTECTION & IMPROVEMENT

- 2311 Visual Enhancement
- 2312 Visual Rehabilitation
- 2313 Monitoring (Achievement of Visual Objectives,
Effectiveness of Improvement & Protection Measures)

2320 OUTDOOR RECREATION ACTIVITY ENHANCEMENT

- 2321 Provision of Consumptive Recreation Opportunities
- 2322 Provision of Non-Consumptive Recreation
Opportunities
- 2323 Management & Control of Recreation to Protect Resources
- 2324 Promotion of Public Information
- 2325 Monitoring (Activity Enhancement)

2330 OUTDOOR RECREATION FACILITIES

- 2331 Relocation of Disturbed Facilities
- 2332 Replacement of Disturbed Facilities
- 2333 Monitoring (Facilities)

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- 2340 CULTURAL RESOURCES
 - 2341 Cultural Site Evaluation
 - 2342 Cultural Site Protection
 - 2343 National Register Determination Test
 - 2344 Monitoring
- **2500 WATERSHED
 - 2510 NON-STRUCTURAL IMPROVEMENTS FOR EROSION CONTROL & SOIL STABILIZATION
 - 2511 Seeding/Fertilization
 - 2512 Shrub & Tree Planting
 - 2513 Mulching, Netting, Tack, Burlap
 - 2514 Monitoring (Stabilization)
 - 2520 NON-STRUCTURAL IMPROVEMENTS FOR SITE PRODUCTIVITY
 - 2521 Rip or Till Compacted Soils
 - 2522 Place or Amend Top Soil
 - 2523 Monitoring (Productivity)
 - 2530 STRUCTURAL IMPROVEMENTS - IN CHANNEL
 - 2531 Drop Structures
 - 2532 Check Dams
 - 2533 Large Woody Debris Placement
 - 2534 Bridge/Culvert Replacement/Repair
 - 2535 Riprap, Gabion Placement
 - 2536 Channel Blockage Removal
 - 2537 Monitoring (In Channel Structures)
 - 2540 STRUCTURAL IMPROVEMENTS - ROADS
 - 2541 Rolling Dips
 - 2542 Cross Drains/Waterbars
 - 2543 Ditches
 - 2544 Slash Filter Windrows
 - 2545 Side-cast Material Removal
 - 2546 Monitoring (Road Structures)

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2550	STRUCTURAL IMPROVEMENTS FOR EROSION CONTROL & SOIL STABILIZATION
2551	Erosion Barriers
**2600	WILDLIFE, FISHERIES, and THREATENED, ENDANGERED, AND SENSITIVE (TES) SPECIES
2610	WILDLIFE HABITAT IMPROVEMENT
2611	Forage/Feeding/Nesting
2612	Cover/Security/Gates
2613	Wildlife Habitat Surveys, Inventories & Analyses
2614	Monitoring (WL Habitat Improvement)
2620	TES SPECIES HABITAT IMPROVEMENT
2621	Forage/Feeding/Nesting
2622	Cover/Security/Gates
2623	TES Habitat Surveys, Inventories & Analyses
2624	Monitoring (TES Habitat Improvement)
2650	FISHERIES HABITAT IMPROVEMENT
2651	Spawning/Rearing
2652	Cover/Security
2653	Water Quality/Quantity Improvement
2654	Aquatic Habitat Survey & Analyses
2655	Monitoring (Fish Habitat Improvement)
2660	INTERPRETATION OF MANAGEMENT ACTIVITIES

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**4000

TIMBER RESOURCE MANAGEMENT PLANNING AND
INVENTORIES PROGRAM MANAGEMENT

GENERAL CATEGORY

- 4001 Acquired Stand in Land Exchange
- 4002 Possible Safety Hazard in Stand
- 4003 Road Obliteration (For K-V, use K-V Other codes)

STEWARDSHIP FOREST VEGETATION MANAGEMENT
PROJECTS

- 4004 Goods for Services
- 4005 Service Contract
- 4006 Timber Sale Contract Modification

- 4009 Stand Disposed of in Land Exchange

4020 PHOTOGRAPHY

- 4021 Ground Camera Points

**4030

TIMBER RESOURCE GENERAL INVENTORY (TM
PLANNING)

- 4032 Forest Inventory and Analysis (FIA)
- 4034 Research Plots
- 4035 Staked Row Survey
- 4036 Permanent Plot Installation
- 4037 Permanent Plot Remeasurement
- 4038 Permanent Plot - Inactive

**4100

REGENERATION CUTTING

**4110

CLEARCUTTING

- 4111 Patch
- 4112 Strip
- 4113 Stand
- 4114 With Reserves

**4120

PREPARATORY CUT

- 4121 Shelterwood Preparatory Cut
- 4122 Seed Tree Preparatory Cut

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****4130****SEED CUT**

- 4131 Shelterwood Seed Cut
- 4132 Seed Tree Seed Cut
- 4133 Shelterwood Seed Cut with Reserves
- 4134 Seed Tree Seed Cut with Reserves

****4140****REMOVAL CUT**

- 4141 Shelterwood Removal Cut
- **4143 Overstory Removal Cut

****4145****FINAL CUT**

- 4146 Shelterwood Final Cut
- 4147 Seed Tree Final Cut
- 4148 Shelterwood Final Cut with Reserves
- 4149 Seed Tree Final Cut with Reserves

****4150****SELECTION CUT**

- 4151 Single Tree Selection Cut
- 4152 Group Selection Cut

****4200****INTERMEDIATE HARVEST METHODS**

- 4210 IMPROVEMENTS
- 4211 LIBERATION CUTTING
- 4220 THINNING
- 4230 SANITATION / SALVAGE
- 4231 MORTALITY CUT (DEAD TREES CUT - SALVAGE)
- 4232 SANITATION
- 4240 SPECIAL CUT
- 4241 SPECIAL PRODUCTS REMOVAL

OTHER CHANGES

- 4250 NATURAL CHANGES
- 4251 HIGH SEVERITY WILDFIRE
- 4252 MIXED SEVERITY WILDFIRE
- 4253 LOW SEVERITY WILDFIRE
- 4254 INSECT CAUSED CHANGES
- 4255 PATHOGEN CAUSED CHANGES
- 4256 WEATHER CAUSED CHANGES
- 4260 MAN-CAUSED FIRE DAMAGE

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4270	PERMANENT LAND CLEARING
4280	PERMANENT FLOODING
4290	ADMINISTRATIVE CHANGES
**4300	SILVICULTURAL EXAMINATION AND PRESCRIPTION
4301	Photo Stand Delineation
**4310	STAND SILVICULTURAL EXAMINATION (Field Data Collected)
4311	Compartment Inventory
4313	Preplanting Exam
4314	Pretreatment Exam for Reforestation
4315	Examination for Release and Precommercial Thinning
4316	Exam for Commercial Timber Harvest
4317	Posttreatment Exam for Refor
4318	Reforestation Maintenance Survey
4319	Sapl/Pole Bench Mark Exam
4320	Ref-TSI Animal Control Survey
4321	Special Products Inventory
4345	Posttreatment Exam for TSI
4346	Health and Vigor Monitoring Exam
4347	Postharvest Evaluation
4350	Ecodata Plot
**4330	DETAILED PRESCRIPTION PREPARED
4334	Prescription for Selected Treatment Need Following Exam and Diagnosis
**4400	REFORESTATION
**4410	Direct Seeding and Reseeding
4411	Seed
4412	Reseed
**4430	PLANTING AND REPLANTING
4431	Plant
4432	Replant

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- **4450 NATURAL REGENERATION
 - 4451 Initiate Natural Regeneration

- 4460 ANIMAL CONTROL FOR REFORESTATION
 - 4465 Slashing
 - 4466 Leave Tree Protection
 - 4468 Reforestation Enhancement Maintenance
 - 4469 Reforestation Enhancement

- **4470 SITE PREPARATION FOR PLANTING
 - 4471 Burning
 - 4472 Chemical
 - 4473 Mechanical
 - 4474 Manual

- **4480 SITE PREPARATION FOR DIRECT SEEDING
 - 4481 Burning
 - 4482 Chemical
 - 4483 Mechanical
 - 4484 Manual

- **4490 SITE PREPARATION FOR NATURAL REGENERATION
 - 4491 Burning
 - 4492 Chemical
 - 4493 Mechanical
 - 4494 Manual

- **4500 TIMBER STAND IMPROVEMENT AND OTHER WORK
 - **4510 RELEASE, WEEDING, AND CLEANING
 - 4511 Individual Tree
 - 4512 Area

 - **4520 PRECOMMERCIAL THINNING
 - 4521 Individual or Selected Trees
 - 4522 Strip

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4530	PRUNING
**4540	CONTROL OF UNDERSTORY VEGETATION
4541	Prescribed Burn
4542	Other
**4550	FERTILIZING
4551	Individual Trees
4552	Area
4560	ANIMAL CONTROL FOR TIMER STAND IMPROVEMENT
4570	INSECT CONTROL
4571	Mountain Pine Beetle Control
4572	Douglas-fir Beetle Control
4573	Spruce Beetle Control
4574	Other Bark Beetle Control
4575	Western Spruce Budworm Control
4576	Douglas-fir Tussock Moth Control
4577	Other Defoliator Control
4580	DISEASE CONTROL
4581	Root Rot Control
4582	Stem Rust Control
4583	Dwarf Mistletoe Control
4720	BACKBONE RADIO REPLACEMENT
4870	NURSERY TREE COOLER EXPANSION
**4900	GENETIC FOREST TREE IMPROVEMENT PROGRAM
4910	SELECTION AND CARE OF SUPERIOR TREES
4920	SEED COLLECTION FROM SUPERIOR TREES
4930	SEED PRODUCTION AREA ESTABLISHMENT
4931	Seed Production Area Maintenance
4932	Seed Collection from Seed Production Area

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**4950	GENETIC EVALUATION PLANTATIONS
4951	Progeny Test Plantation Examination
4952	Progeny Test Plantation Establish or Improve
4953	Seed Collection from Progeny Test Plantations
4957	TREE IMPROVEMENT-OTHER
**4960	FUELS TREATMENT
4961	Ecosystem Burning - Grassland
4962	Ecosystem Burning - Shrubland
4963	Ecosystem Burning - Stand Modification
4971	Interim Protection
4972	Indirect Treatment
4973	Isolation
4974	Firewood Removal
4975	Burn Dozer Piles
4976	Burn Hand Piles
4977	Burn Excavator or Grapple Piles
4978	Broadcast Burn
4979	Jackpot Burn
4980	Understory Burn
4981	Wildland Fire Not Managed for Resource Objectives
4982	Lopping
4983	Excavator Piling (Grapple)
4984	Dozer Piling
4985	Wildlife Burn
4986	Hand Piling
4987	Fireline Construction
4988	Trampling
4989	Chipping
4990	YUM
4991	Yarding
4992	Wildland Fire Managed for Resource Objectives
4993	Burning For Range Improvement
4994	Fuelbreak
4995	Shrubland/Grassland Burning
4996	Natural Abatement
4997	Burn Landings
4998	Fuels Inventory
4999	Posttreatment Exam for Fuels Management

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9998	PARENT STAND
9999	MICROFILM

146.4 - FY Planned

FY_PLANNED (Mandatory Field) (4-digit numeric code)

The fiscal year proposed for commencing the prescribed treatment.

Code Description

2002 Planned Fiscal Year 2002

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146.5 - Activity Fund

FUND_CODE (Mandatory Field) (2-digit numeric code)

The code for the type of funds used to plan and accomplish activities. See exhibit 01 of this section for a chart of allowable funds by activity category.

<u>Code</u>	<u>Description</u>
02	Ref-TSI Financed
03	K-V Financed
04	K-V Unfinanced
05	Brush Disposal (BD)
06	Cooperative Deposits
07	Insect & Disease
08	Other Federal (JC, YCCC, CETA, BPA, and so forth)
09	Contributed - Work accomplished with nonfederal funds, such as Challenge Grant when burning for wildlife habitat improvement. (Use also for site preparation activities when accomplished as incidental to fuels reduction.)
10	Salvage Sale Fund
11	Purchaser Requirement
12	Not Applicable (Use also for fuels reduction accomplished as a planned result of site preparation.)
13	Defaulted Contracts (Previous contract dollars or excess cost of reprocurement)
15	FFP 115 Financed (Fuels Management)
16	Multi-financed (Ecosystem Burning or Prescribed Natural Fire - Fuel Treatment Activity Codes 4961, 4962, 4963, and 4992 Only)
17	Gifts (Acceptance of Gifts Act)
18	Cooperative Agreements (Cooperative Funds Act, Act of 6/30/1914)
19	National Foundations (Forest Foundation, Arbor Day Foundation, Fish & Wildlife Foundation, and so forth.)
20	Goods for Services (contractor required)
32	P&M 032 Financed (Plans) (Not applicable as of 10/1/94 - FY 95)
37	P&M 037 Financed (Exams)
38	K-V Mt. Haggin (Beaverhead only)
40	Reforestation Carryover
41	Jobs Bill (1983) (Not Applicable)
42	Reforestation Trust Fund (Not applicable as of 10/1/84)
43	Excess Timber Receipts (RMTR) Only used during FY 1989
44	Vegetation Receipt Funds
45	Wildland Fire Emergency Funds (Title IV)
50	Ecosystem Management (Includes NFIM)
98	Other Resource Project Dollars
99	Land Exchange (Activities occurring prior to land acquisition)

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146.5 – Exhibit 01—Continued

Allowable Funds by Activity Categories--Continued

- 1/ Only special cone collections.
- 2/ Use only for planning. When work is accomplished, change to 02, 03, 08, or 11.
- 3/ Site preparation and leave tree protection only.
- 4/ Site preparation from logging or wildfire.
- 5/ Can be used as cleanup of precommercial thinning contracts and in rehabilitating areas.
- 6/ Can be fund 40 but not 02.
- 7/ Use fund 12 when Universities or experiment stations install research plots on National Forest.
- 8/ Use for Ecosystem Burning or Prescribed Natural Fire - Fuel Treatment Activity Codes 4961, 4962, 4963 or 4992 only.
- 9/ Exam gathering timber data and wildlife data with wildlife dollars.
- 10/ Fund code 02 can only be used for prescriptions written for precommercial thinning or reforestation projects.
- 11/ Can use fund code 09 with any I&D Control activity and methods of accomplishment 520-526.
- 12/ Can use fund codes 02, 03, 04, 08, 09, 11, 12, and 38 with any I&D Control activity and method of accomplishment 524. Can also use fund codes 03, 04, and 38 with any I&D Control activity and method of accomplishment 525. Can use fund codes 3 and 4 with I&D Control activity 4574 and method of accomplishment 759.
- 13/ Can use fund codes 02, 03, 04, 08, 09, 11, 12, and 38 with any I&D Control activity and method of accomplishment 524. Can also use fund codes 03, 04, 38, 09, 11, and 12 with Root Rot Control (4581) and method of accomplishment 770 (borax).
- 14/ Reference FSH 2409.19, Renewable Resource Uses For Knutson-Vandenberg (K-V) Fund Handbook for proper use of K-V dollars for hazard reduction.
- 15/ Leave tree protection only, activity code 4466.
- 16/ Other resource project dollars can be used to plan and accomplish K-V Other activities. K-V Other activities should be used when planting native species with other resource project dollars.
- 17/ Only in areas affected by a K-V project.
- 18/ Prescriptions written for burning projects with BPA funds.
- 19/ Fund code 12 can be recorded when a harvest activity is used to create or maintain a seed production area (activities 4930 and 4931).
- 20/ Harvest activities that are accomplished by service contracts which are funded by Challenge Cost Share. Harvest is accomplished when the contract is awarded.

For Information - When tree improvement cones are collected with WCF dollars, use fund code 02 or 03 depending on which funding will be used to plant the trees that are grown from that seed.

For Information - Excess timber receipts were for FY 1989 fire recovery. Exam funds were for determining reforestation status of burned over suitable ground (photo delineation, mapping, and examining). Funds were also allowed for planting (4431-4432), seeding (4411-4412), site prep for natural regeneration (4491-4494), and silviculture prescriptions relating to fire recovery.

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146.6 - Activity Sequence Number

ACT_SEQ (Mandatory Field) (1-digit numeric code)

Activity sequence number is the last field used to uniquely identify duplicate activity IDs (activities created with the same activity, planned year, and fund). The default activity sequence number is 1. When the activity code, planned year, and fund code are duplicated in a stand, the activity sequence number must be changed to 2, 3, and so forth. Valid activity sequence numbers are 1 through 9.

146.7 - Type of Exam

EXAM_TYPE_CODE (Mandatory Field) (1-digit numeric code)

The type of exam planned or accomplished in the stand. Type of exam represents the examination level of the tree information, as identified in the R1 Common Stand Exam (CSE) procedures.

<u>Code</u>	<u>Type of Exam</u>
-------------	---------------------

1	Photo Estimate Unsupported by Field Examination
2	Walk-Through
3	CSE Intensive Exam (Historic R1 Standard Plot Exam)
4	CSE Quick Plot Exam (Historic R1 Quick Plot Exam)
5	CSE Extensive Plot Exam
6	Strata Mean Estimate From Compartment Inventory
7	Regression Estimate From Compartment Inventory
8	Most Similar Neighbor

146.8 - Regeneration Status and Certification

REGEN_STATUS_CODE (Mandatory Field) (1-character alpha code)

The appropriate code to represent the current regeneration, TSI, or site preparation status. A status code must be entered with post-reforestation and post-TSI exams, and with site preparation activities. When planning post-reforestation exams, it is mandatory to enter an "X" to indicate the planned certifying exam. The status field can also be used to track awarded, completed, and defaulted contract work. Codes B, D, and E can be used to represent contract status unless the appropriate C, P, F, X, T, Y, S, A, or I code is required for the activity. Contract status codes are for optional use. If used, they must be updated accordingly. (See section 153.5 for examples of regeneration status.)

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<u>Code</u>	<u>Description</u>
A	Adequate - Site preparation is adequate for regeneration to proceed, but did not totally meet standards set in prescription (use with activities 4471-4494).
B	Contract awarded, but activity not yet accomplished on the ground.
C	Stand is well established with sturdy seedlings and will require no further regeneration treatments. The Staff Officer has signed off that regeneration is certified.
D	Defaulted contract.
E	Contracted activity is accomplished on the ground.
F	Failure.
I	Inadequate - Site preparation did not meet prescription standards (use with activities 4471-4494).
P	Regeneration material is present and the stand is considered to be progressing toward requirements for certification.
S	Satisfactory - Site preparation meets prescription standards (use with activities 4471-4494).
T	TSI work is certified as completed satisfactorily.
W	Regeneration status waived.
X	Used for planning certification of regeneration.
Y	Used for planning certification of TSI work.

146.9 - Regeneration Status Fiscal Year

REGEN_CERT_FY (Mandatory Field) (4-digit numeric code)

The fiscal year when the regeneration status is determined. This may be a different fiscal year than when the exam was accomplished. The current fiscal year will automatically be entered in the regeneration status fiscal year when the regeneration status is entered; however, the field can be manually updated if needed. Regeneration status fiscal year will only be automatically entered when the regeneration status is A, B, C, D, E, F, I, P, S, T, or W. Regeneration status fiscal year should be left blank when regeneration status is X or Y.

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<u>Code</u>	<u>Description</u>
2002	Regeneration Status Fiscal Year 2002

146.10 - Accomplishment Year

ACCOMP_YEAR (Mandatory Field) (4-digit numeric code)

Accomplishment year is recorded by fiscal year. Fiscal year begins October 1 and ends September 30 each year.

Enter the fiscal year in which the planned work is completed. Generally, for work that is contracted, record the fiscal year when the contract is awarded. Report accomplishments from "hourly contracts" as soon as the dollars are obligated; this may be when the contract is awarded or when the work is actually completed. Check with the contracting officer and/or finance officer to know when the dollars are obligated.

<u>Code</u>	<u>Description</u>
2002	Fiscal Year 2002 (October 1, 2001 through September 30, 2002)

146.11 - Plan/Accomplishment Month

ACCOMP_MONTH (Mandatory Field) (2-digit numeric code)

The calendar month in which work is planned. When work is completed, enter the month in which the planned work is accomplished.

<u>Code</u>	<u>Description</u>
1	January
12	December

146.12 - Unit of Measure

UNIT_OF_MEASURE_CODE (Mandatory Field) (1-character alpha code)

The unit of measure is identified as acres, chains, structures, or each, of treatment planned or accomplished. Miles of treatment can be entered for K-V Other activities (activities 2210 – 2660).

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<u>Code</u>	<u>Description</u>
A	Acres
C	Chains
E	Each
M	Miles (Only used with K-V Other activities.)
S	Structures

146.13 - Planned/Accomplished Units

ACTIVITY_UNITS (Mandatory Field) (3-digit numeric code)

The acres, chains, structures, and so forth, of treatment planned or accomplished.

<u>Code</u>	<u>Description</u>
050	50 acres
100	100 chains
005	5 structures

146.14 - Cost/Unit

COST_UNIT (5-digit numeric code)

The inflated project cost per unit to plan and accomplish the programmed treatment. The project cost includes inflation for outyear costs. Round costs to the nearest dollar for all activities. Percentages for District direct and indirect, Forest direct and indirect, RO direct and indirect, and WO direct and indirect assessment rates will be included in report processes. (Additional information for entering costs for special activity codes is in section 153.83, and additional information for entering costs with multiple activity funding is in section 153.84.)

<u>Code</u>	<u>Description</u>
1062	1,062 dollars per unit
75000	75,000 dollars per unit

146.15 - Percent of Total Activity Cost

PERCENT_COST (2-digit numeric code)

When the cost is split between two or more funds for two or more activities, the percent of the total project cost contributed by the specified fund is entered in this field. The total activity acres are reported with each activity. (If only one activity is financed from two or more funds, the acres are split according to the funds and this field is not filled out.) For example, \$280 per acre is the overall

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inflated project cost of both activities (hazard reduction and site preparation); \$112 per acre is the inflated project cost financed by K-V, and \$168 per acre is the inflated project cost financed by BD. The funding is split 40 percent K-V and 60 percent BD.

<u>Code</u>	<u>Description</u>
40	40 Percent
60	60 Percent

Example:

Activity	Fund	Acres	Cost	Percent of Cost
4471	03	20	112	40
4978	05	20	168	60

146.16 - Type of Work Force

WORK_FORCE_CODE (Mandatory Field) (1-digit numeric code)

The type of work force used to accomplish the treatment. This will consist of either contract, force account, purchaser, other (Human Resource Programs), or stewardship contracts. If more than one type of work force was used to accomplish the treatment, enter the type of work force that accomplished the majority of the units.

<u>Code</u>	<u>Description</u>
1	Contract
2	Force Account
3	Purchaser
4	Other (Human Resource Programs)
5	NA
6	Stewardship Contract

The following list shows how type of work force will automatically be entered in the data base for certain activities and funds. Activities crossing over from PLANZ will have the same default. Activities not listed here will default to type of work force "2" when crossed over from PLANZ. Those activities must be updated to the appropriate type of work force.

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<u>Activities</u>	<u>Description</u>	<u>Type of Work Force</u>
4111-4240	Harvest Activities	3
4250-4280	Other Changes	5
4334	Prescriptions	2
4451	Natural Regeneration	5
4471	Site Prep for Planting (Burning)	2
4481	Site Prep for Direct Seeding (Burning)	2
4491	Site Prep for Natural Regen (Burning)	2
4961	Ecosystem Burning - Grassland	2
4962	Ecosystem Burning - Shrubland	2
4963	Ecosystem Burning - Stand Modification	2
4973	Isolation	5
4975	Burn Dozer Piles	2
4978	Broadcast Burn	2
4979	Jackpot Burn	2
4980	Understory Burn	2
4981	Wildfire	5
4985	Wildlife Burn	2
4990	YUM	3
4991	Yarding	3
4992	Prescribed Natural Fire	5
4993	Burning for Range Improvement	2
4995	Shrubland/Grassland Burning	2
4996	Natural Abatement	5

<u>Fund</u>	<u>Description</u>	<u>Type of Work Force</u>
08	Other Federal (JC, YCCC, CETA)	4
11	Purchaser Requirement	3

146.17 - Timber Sale Contract Number

SALE_CNTR_NO (Mandatory Field) (6-digit numeric code)

The actual timber sale contract number when the sale is sold. The contract number must be recorded with the harvest activity and all other activities to be funded with K-V financed, K-V unfinanced, BD, or are part of the purchaser requirement. Other activities pertaining to the sale may also have the sale contract number recorded.

<u>Code</u>	<u>Description</u>
247238	Timber Sale Contract Number

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146.18 - Sale Unit Number 1

SALE_UNIT_NO_1 (3-character alpha-numeric code)

The timber sale unit number for the stand. The sale unit number should be entered with the harvest activity and can also be entered with other activities associated with that harvest. If two sale unit numbers are used in one stand in a given timber sale contract, the second sale unit number is entered in sale unit number 2.

<u>Code</u>	<u>Description</u>
21A	21A - Sale Unit Number 1

146.19- Sale Unit Number 2

SALE_UNIT_NO_2 (3-character alpha-numeric code)

Sale Unit Number 2 is entered when the stand has two sale unit numbers. The description for sale unit number 1 also applies to sale unit number 2.

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146.20 - Method of Accomplishment

METHOD_OF_ACCOMP_CODE (Mandatory Field) (3-digit numeric code)

This field describes, in general terms, the method used to accomplish the programmed treatment. This field is mandatory for reporting all insect and disease activities, and with all fuels activities. It is recommended that method of accomplishment be completed whenever it applies.

Method of Accomplishment

<u>Code</u>	<u>Description</u>
100	Manual
200	Mechanical
299	Dozer Terracing
301	Broadcast Burn
302	Piles
303	Jackpot Burn
304	Wildfire
305	Understory Burn
306	Insect and Disease
307	Wind
308	Primary Fuel Treatment - Activity Fuels \
309	Secondary Fuel Treatment - Activity Fuels \ Must Use With
310	Primary Fuel Treatment - Natural Fuels / Fuels Activities
311	Secondary Fuel Treatment - Natural Fuels /
318	Natural Ignition Wildfire (Use with activities 4251, 4252, and 4253)
319	Person Ignition Wildfire (Use with activities 4251, 4252, and 4253)
320	Old Growth (Use with exam activities.)
330	Winter Cold Damage
331	Red Belt
332	Ice and Snow Breakage
401	Christmas Tree Harvest
402	Fuelwood Harvest (Use with Sanitation/Salvage Harvest)
403	Post and Pole Harvest
404	Right-of-Way
405	Sawlog Decks
406	Salvage (Use with Regeneration Harvest Activities When Appropriate)

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Method of Accomplishment--Continued

- 440 Pacific Yew
- 441 Beargrass
- 442 Mushroom
- 443 Huckleberry
- 444 Boughs (Use With Activities 4241 and 4321)

Stewardship Contract Methods of Accomplishment

- 450 Ecosystem Health (Multi-Purpose)
- 451 Enhance Recreational Experiences
- 452 Fire, Fuels, Protection
- 453 Fisheries Habitat Restoration
- 454 Insect and Disease (Forest Health Protection)
- 455 Noxious Weeds
- 456 Visual Rehabilitation
- 457 Watershed Restoration and Maintenance
- 458 Wildlife Habitat Restoration

Insect and Disease Methods of Accomplishment

- 501 I&D Silviculture Prescription & Planning - Plan Development
- 502 I&D Permanent Plot Installation and Remeasurement
- 504 I&D Compartment Inventory (4311)
- 505 I&D Pretreatment Exam for Reforestation (4314)
- 506 I&D Exam for Release and Precommercial Thinning (4315)
- 507 I&D Exam for Commercial Timber Harvest (4316)
- 508 I&D TSI Posttreatment Monitoring Exam
- 520 I&D Aerial Photo Flights
- 521 I&D Ground Camera Points
- 522 I&D Site Preparation
- 523 I&D Slash Burning or Burning Trap Trees
- 524 I&D Slashing or Girdling Infected Trees
- 525 I&D Pruning, Excising Cankers
- 526 I&D Precommercial Thinning, Release, Weeding
- 527 I&D Ribes Eradication
- 530 I&D Sale Preparation Supplemental Funding (Not a Valid Code)

Insect and Pathogen Caused Changes Methods of Accomplishment

- 540 Other Inserts
- 541 Mountain Pine Beetle
- 542 Douglas-fir Beetle
- 543 Spruce Beetle
- 544 Other Bark Beetle
- 545 Western Spruce Budworm

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Method of Accomplishment—Continued

- 546 Douglas-fir Tussock Moth
- 547 Other Defoliator
- 550 Other Pathogen
- 551 Root Rot
- 552 Stem Rust
- 553 Dward Mistletoe

K-V Other Resource Methods of Accomplishment

- 600 Project Preimplementation Design/Planning (See Section 153.83)
- 601 Shrub Seeding
- 602 Shrub Planting
- 603 Tree Planting (Other Than Reforestation)
- 604 Spring Development
- 605 Wells
- 606 Grass & Forb Seeding/Planting

- 608 Road Ripping and Seeding
- 609 Road Obliteration - Recontouring
- 610 Perch/Roost Construction
- 611 Snag Creation
- 612 Nesting Platform Placement
- 613 Nest Box Placement
- 614 Structural Water Developments
- 615 Water Control/Storage Structures
- 616 Spring Fences
- 617 Brush Piling/Hedgerows
- 618 Road Closure - Gate
- 619 Road Closure - Barricade
- 620 Pothole Blasting
- 621 Pothole/Wallow Excavation
- 622 Non-structural Water Developments
- 623 Nesting Island Development
- 624 Browse Pruning
- 625 Aspen Treatment
- 626 Travel Corridor Development
- 627 Log Erosion Barriers
- 628 Straw Wattles

- 630 Boulder Placement
- 631 Gravel Placement
- 632 K-Dam Construction
- 633 Half-log Placement
- 634 Log Declectors, Wiers
- 635 Spawning Boxes/Reefs

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Method of Accomplishment—Continued

- 636 Spawning Platforms
- 637 Fish Attractor Structures
- 638 Cover Log Placement
- 639 Woody Debris Placement
- 640 Submerged Cover Structures
- 641 Sill Log Placement
- 642 Silt Traps
- 643 Wire Gabions
- 644 Fish Passage Structure
- 645 Upstream Migration Barrier
- 646 Channel Stability Structures

- 650 Spawning Channel Development
- 651 Rearing Channel Development
- 652 Rearing Pond Construction
- 653 Barrier Removal
- 654 Streambank Protection - Riprap
- 655 Fish Population Control
- 656 Sediment Removal

- 660 Developed Interpretive Sites
- 661 Developed Viewing Areas
- 662 Educational Materials
- 663 Informational Signs
- 664 Interpretive Signs
- 665 Recreation Summer Trails
- 666 Recreation Winter Trails
- 667 Trail Obliteration
- 690 Biological Control
- 691 Insects
- 692 Pathogens
- 695 Cultural Control

Chemical Methods of Accomplishment

- 700 Chemical

Herbicide Methods of Accomplishment

- 701 Amitrole-T
- 702 Atrazine
- 703 Azulam
- 704 Cacodylic Acid
- 705 Dalapon

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Method of Accomplishment--Continued

706	Dicamba
707	Glyphosate (Roundup, Rodeo, Accord)
708	Hexazinone (Velpar, Pronone)
709	AECP (Krenite)
710	MCPA
711	MSMA
712	Picloram (Tordon)
713	Silvex
714	Triclopyr (Garlon)
715	2,4-D
716	2,4-D + Picloram
717	2,4-D + Dicamba
718	2,4-D + Atrazine
719	2,4-D + Dalapon
720	2,4,5-T (This herbicide has been banned.)
721	2,4,5-T + 2,4-D (This herbicide has been banned.)
722	2,4-D + Clopyralid (Curtail)
723	2,4-D + Metsulfuron Methyl
724	Clopyralid (Transline, Stinger)
725	Metsulfuron Methyl (Escort)
726	Sulfometron (Oust)

Insecticide Methods of Accomplishment

750	Acephate (Orthene)
751	Bacillus thuringiensis
752	Carbaryl (Sevin)
753	NPV
754	Ethylene Dibromide (This insecticide has been banned.)
755	Lindane
756	Malathion
757	Pyrethroids
758	DDT (This insecticide has been banned.)
759	Pheromone

Fungicide Methods of Accomplishment

770	Borax
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Method of Accomplishment--Continued

Rodenticide Methods of Accomplishment

780 Strychnine
781 Zinc Phosphide

Other Methods of Accomplishment

790 Animal Repellant

800 Structures (Materials) (Not a valid code.)
801 Fencing
802 Seedling Protection (Examples - Plastic Tubing, Netting, Cages)
803 Shade Cards
804 Mulching
805 Bud Caps
806 Seed Traps
810 Animal Traps

900 Fertilizer

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146.21 - Cause of Failure

CAUSE_OF_FAILURE_CODE (Mandatory Field) (2-digit numeric code)

This field describes the cause of regeneration failure. This field is mandatory for reporting cause of failure with posttreatment reforestation exams (F in regeneration status with 4317 exams).

Cause of Failure

<u>Code</u>	<u>Description</u>
70	Animal
71	Livestock
72	Big game (deer, elk)
73	Pocket gophers
74	Porcupines
75	Mice or voles
76	Rabbits or hares
79	Human (other than logging damage)
80	Weather
81	Wind
82	Snow or ice (breakage and bending)
83	Frost
84	Frost heaving of soil
85	Winter cold damage
86	Moisture deficiency (drought)
87	Insolation or heat
89	Flood, high water table
90	Other or Unknown Causes of Failure
91	Logging damage
92	Fire
93	Improper planting technique
94	Lack of or improper site preparation
95	Poor planting stock quality
96	Lack of seed source
97	Vegetative competition
98	Insects
99	Disease

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146.22 - Equipment Type

EQUIPMENT_TYPE_CODE (3-digit numeric code)

This field indicates, in broad categories, the equipment used in accomplishing the treatment.

<u>Code</u>	<u>Description</u>	<u>Alternate Codes</u> (Use during conversion only)
101	Hand spray	100 Manual
103	Mobile ground spray	200 Power hand
105	Aerial spray	300 Mobile ground
106	Aerial Ignition Device (Helitorch, AIDS, etc.)	400 Aerial
107	Dozer	
108	Grapple piler	
109	Roller chopper	
110	Excavator	
111	Chain saw	
113	Hand tool	
115	Auger	
117	Plowing machine	
118	Ground lead yarder	
119	Ground base skidder	
120	Skyline	
121	Aerial logging (helicopter or balloon)	
122	Animal	
123	Feller buncher	
124	Harvester	
125	Forwarder	
126	Processor	
127	Mechanized (feller buncher, harvester, forwarder, processor)	
128	Chain Scarifier	
129	Patch Scarifier	

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146.23 - Trees Per Acre

TREES_PER_ACRE (Mandatory Field) (4-digit numeric code)

The actual number of trees per acre. This field is used in conjunction with several activities. For regeneration harvest prescriptions, enter the minimum number of potential crop trees per acre desired to meet the silvicultural objective of the stand. For planting activities, enter the actual number of trees per acre planted. With postreforestation exams, enter the actual number of potential crop trees per acre counted or estimated in the stockable area from the exam. (Mandatory for certified stands; see FSH 2409.26b - Reforestation Handbook, Chapter 200.) Trees per acre may also be recorded with a pretreatment reforestation exam (4314) that shows that a reforestation treatment is not needed. For example, a wildfire burns through a stand. A 4314 exam is accomplished with fund code 02. Enough trees are still alive so the stand does not require a regeneration treatment. The trees per acre can be entered with the 4314 exam as well as with the components data.

<u>Code</u>	<u>Description</u>
1025	1025 Trees per Acre
435	435 Trees per Acre

146.24 - Ounces of Seed Per Acre

OZ_SEED_PER_ACRE (4-digit numeric code)

For seeding activities, enter the actual ounces of seed per acre.

<u>Code</u>	<u>Description</u>
25	25 Ounces of Seed per Acre

146.25 - Percent Stocked Area

PERCENT_STOCK_AREA (3-digit numeric code)

The percent of the stockable area that is stocked to the minimum stocking guides for the stand. Percent stocked area is estimated from a gridded map, following a formal or walk-through examination. For example, if a stand is only 80 percent stockable because of rock, water, and so forth, and that same 80 percent of the stand is minimumly stocked, then 100 is entered in percent stocked area. See section 153.5 for examples.

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Enter percent stocked area to the nearest percent for all posttreatment reforestation exams (4317).

<u>Code</u>	<u>Description</u>
83	83 Percent Stocked Area

146.26 - Merchantable Cubic Foot Volume Per Acre – Sawtimber

SAWTMBR_VOL_CF (5-digit numeric code)

The merchantable cubic foot volume of sawtimber per acre removed from the stand. This includes live and dead trees down to current merchantability standards.

Record the actual merchantable cubic foot volume per acre removed from the stand.

<u>Code</u>	<u>Description</u>
1025	1025 Merchantable Cubic Foot Volume Per Acre

146.27 - Merchantable Cubic Foot Volume Per Acre – Other

OTHER_VOL_CF (4-digit numeric code)

The volume per acre in merchantable cubic feet of all products, other than sawtimber, removed from the stand.

Record the actual merchantable cubic foot volume per acre removed from the stand.

<u>Code</u>	<u>Description</u>
375	375 Merchantable Cubic Foot Volume Per Acre

146.28 – Update Date

UPDATE_DATE (Date dd-mon-yyyy)

The update date is automatically entered when data is inserted or updated. This field is not updateable.

<u>Code</u>	<u>Description</u>
01-may-2002	May 1, 2002

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The following fields are located in the Seedlot Data Form, TSMRS_ALL_SEEDLOTS Table.

146.29 – Forest

FOREST_NO (Mandatory Field) (2-digit numeric code)

See Forest on the Basic Stand Data Form.

146.30 - Stand ID

STAND_ID (Mandatory Field) (8-character numeric code)

See Stand ID on the Basic Stand Data Form.

146.31 – Activity

ACTIVITY_CODE (Mandatory Field) (4-digit numeric code)

See Activity on the Activity Data Form.

146.32 - FY Planned

FY_PLANNED (Mandatory Field) (4-digit numeric code)

See FY Planned on the Activity Data Form.

146.33 - Activity Fund

FUND_CODE (Mandatory Field) (2-digit numeric code)

See Activity Fund on the Activity Data Form.

146.34 - Activity Sequence Number

ACT_SEQ (Mandatory Field) (1-digit numeric code)

See Activity Sequence Number on the Activity Data Form.

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146.35 – Species

SPECIES_CODE (Mandatory Field) (2-character alpha code)

The corresponding species for the seedlot.

Code - Use the same species codes as identified in Stand Component Data Form, Major Species field.

146.36 - Seedlot Number

SEEDLOT_NO (5-character alpha-numeric code)

Seedlot numbers are entered with activities 4431 and 4432, plant and replant. When seedlot numbers are entered, species and stock type must also be entered.

<u>Code</u>	<u>Description</u>
33906	Seedlot Number 33906

146.37 - Stock Type

STOCK_TYPE_CODE (1-digit numeric code)

Enter the stock type for the corresponding seedlot and species.

<u>Code</u>	<u>Description</u>
0	No Entry
1	Bareroot
2	Container
3	Mixed Bareroot & Container
4	Natural Regeneration
5	Plug-one Transplant
6	2-1 Transplant

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146.38 - Trees Per Acre

TREES_PER_ACRE (4-digit numeric code)

Enter the exact number of trees per acre planted from each seedlot, species, and stock type.

<u>Code</u>	<u>Description</u>
365	365 Trees Per Acre

146.39 – Update Date

UPDATE_DATE (Date dd-mon-yyyy)

The update date is automatically entered when data is inserted or updated. This field is not updateable.

<u>Code</u>	<u>Description</u>
01-may-2002	May 1, 2002

The following fields are located in the Plus Tree Data Form, TSMRS_ALL_PLUS_TREES Table.

146.40 – Forest

FOREST_NO (Mandatory Field) (2-digit numeric code)

See Forest on the Basic Stand Data Form.

146.41 - Stand ID

STAND_ID (Mandatory Field) (8-character numeric code)

See Stand ID on the Basic Stand Data Form.

146.42 – Activity

ACTIVITY_CODE (Mandatory Field) (4-digit numeric code)

See Activity on the Activity Data Form.

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146.43 - FY Planned

FY_PLANNED (Mandatory Field) (4-digit numeric code)

See FY Planned on the Activity Data Form.

146.44 - Activity Fund

FUND_CODE (Mandatory Field) (2-digit numeric code)

See Activity Fund on the Activity Data Form.

146.45 - Activity Sequence Number

ACT_SEQ (Mandatory Field) (1-digit numeric code)

See Activity Sequence Number on the Activity Data Form.

146.46 – Species

SPECIES_CODE (Mandatory Field) (2-character alpha code)

Enter the corresponding species for the plus tree.

Code - Use the same species codes as identified in Stand Component Data Form, Major Species field.

146.47 - Plus Tree Number

PLUS_TREE_NO (Mandatory Field) (5-character alpha-numeric code)

Plus tree numbers are entered with activities 4910 and 4920, selection and care of superior trees and seed collection from superior trees. When a plus tree number is entered, species must also be entered.

<u>Code</u>	<u>Description</u>
13257	Plus Tree Number 13257

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146.48 – Update Date

UPDATE_DATE (Date dd-mon-yyyy)

The update date is automatically entered when data is inserted or updated. This field is not updateable.

<u>Code</u>	<u>Description</u>
01-may-2002	May 1, 2002

147 - DESCRIPTION OF FIELDS IN THE PARENT DATA FORM (TSMRS_ALL_PARENTS TABLE)

The following fields are located in the Parent Data Form, TSMRS_ALL_PARENTS Table. See Section 270 for further information concerning parent stands.

147.1 – Forest

FOREST_NO (Mandatory Field) (2-digit numeric code)

See Forest on the Basic Stand Data Form.

147.2 - Stand ID

STAND_ID (Mandatory Field) (8-character numeric code)

See Stand ID on the Basic Stand Data Form.

147.3 - Parent Date

PARENT_DATE (Date dd-mon-yy)

Enter the calendar date (dd-mon-yyyy) a stand was split from its parent stand.

<u>Code</u>	<u>Description</u>
15-apr-2002	April 15, 2002

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147.4 - Parent Stand

PARENT_STAND (3-digit numeric code)

The parent stand number the child stand was created from. The compartment number and sub compartment number will always be the same as the child stand, so only the 3-digit stand number is entered.

<u>Code</u>	<u>Description</u>
013	Stand Number 013

147.5 – Update Date

UPDATE_DATE (Date dd-mon-yyyy)

The update date is automatically entered when data is inserted or updated. This field is not updateable.

<u>Code</u>	<u>Description</u>
01-may-2002	May 1, 2002

148 - DESCRIPTION OF FIELDS IN THE SALE NAME DATA FORM (TSMRS_SALE_NAMES TABLE)

The following fields are located in the Sale Name Data Form, TSMRS_SALE_NAMES Table.

148.1 – Forest

FOREST_NO (Mandatory Field) (2-digit numeric code)

See Forest on the Basic Stand Data Form.

148.2 – District

DISTRICT_NO (Mandatory Field) (1-digit numeric code)

See District on the Basic Stand Data Form.

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148.3 - Timber Sale Contract Number

CONTRACT_NO (6-digit numeric code)

Timber sale contract numbers in the TSMRS_SALE_NAMES Table act as a lookup, or edit table, for timber sale contract numbers entered in the TSMRS_ALL_ACTIVITIES Table. Enter only valid timber sale contract numbers. Timber sale contract numbers must be entered in the TSMRS_SALE_NAMES Table before they can be entered in the TSMRS_ALL_ACTIVITIES Table.

<u>Code</u>	<u>Description</u>
123456	Timber Sale Contract Number 123456

148.4 - Timber Sale Name

SALE_NAME (20-character alpha-numeric code)

Enter the timber sale name associated with the timber sale contract number. Timber sale name will automatically appear in the TSMRS_ALL_ACTIVITIES Table when the timber sale contract number is entered. Timber sale names can only be entered or updated in the TSMRS_SALE_NAMES Table.

<u>Code</u>	<u>Description</u>
Big Creek Salvage	Timber Sale Name

148.5 – Sale Closure Date

CLOSURE_DATE (Date dd-mon-yyyy)

The date the sale has been closed on the record by Contracting Officer Documentation. All obligations have been completed. All outstanding debts have been settled by the Contracting Officer, or suspended or ended by the appropriate Debt Collection Official. TSA record is closed.

<u>Code</u>	<u>Description</u>
01-apr-2002	April 1, 2002

**FSH 2409.21e - TIMBER MANAGEMENT CONTROL HANDBOOK
CHAPTER 100 – TIMBER STAND MANAGEMENT RECORD SYSTEM**

148.6 – Update Date

UPDATE_DATE (Date dd-mon-yyyy)

The update date is automatically entered when data is inserted or updated. This field is not updateable.

<u>Code</u>	<u>Description</u>
01-may-2002	May 1, 2002

FSH 2409.21e - TIMBER MANAGEMENT CONTROL HANDBOOK
R1 AMENDMENT 2409.21e-96-1
EFFECTIVE August 5, 1996

150 - STAND RECORDS

151 - Basic Stand Information. The stand is the basic record unit for the R-1 Timber Stand Management Record System. Before a stand record can be added to the data base, its boundaries must be delineated on the index map.

When a stand is identified on the index map, it is assigned a unique stand number. The automated data base will not accept duplicate stand numbers.

A stand record is entered in the data base by coding the Stand ID (district, compartment, subcompartment, and stand number), forest, state, congressional district, county, and stand acres on the STANDS table. Coding these fields will initiate a stand record on the automated data base. It is advisable to enter any other known information about the stand when the stand is initiated. Some information on the STANDS table and all of the information on the STAND_COMPONENTS table requires a complete stand examination and diagnosis of the stand.

It is recommended that a stand examination be scheduled on the STAND_ACTIVITIES table at the time a stand record is initiated. The minimum entries for scheduling activities on the STAND_ACTIVITIES table are in activity, FY planned, activity fund, activity sequence number, unit of measure, and activity units.

Except for stand exams, all activities planned on the STAND_ACTIVITIES table of the data base should be preceded by a prescription. If activities require an early obligation of funds such as collection of seed or ordering planting stock, the activity must be preceded by a prescription prior to entry in the data base.

When parent stands are created, accomplished activities must be carried forward to the new stand(s). If the parent stand becomes an inactive stand (meaning it does not exist any longer because it is completely within new stand boundaries), it should be deleted from the data base after its activities have been carried forward to the new stand(s).

It is advantageous for users to supply the parent stand information and the date on the STAND_PARENTS table when a stand is newly created. This information can also be entered if an existing stand is being redefined to include a part or all of other stands which have not previously been recognized. (See information on parent stands - Section 270.)

PI Stratum and PI Habitat Type are located on the STANDS table. These fields are identified during photo interpretation and must not be changed if the stand is selected as a sample stand for compartment inventory. The compartment must be completely restratified if there is a need to change any of the PI stratum codes.

Certain fields are identified as being mandatory in the data base. These fields are either ID fields, or are necessary for National or Regional reports. All fields in the data base supply important information about the stands. If a field applies to a stand, it should be filled out, to help maintain complete information about the stand.

152 - Stand Components - STAND_COMPONENTS Table. None of the stand component information on the STAND_COMPONENTS table is required for National or Regional reports. However, it is important information for the field use and should be coded as soon as it is available from a stand examination. This information is calculated in R1-Edit and can be crossed over to the data base. Extracting information from the data base often depends upon a stand component description. It is the part of the automated data base where information is recorded for stand attributes; for example, dbh, trees per acre, basal area per acre, and damaging agents. This part of the data base is intended to describe the current stand condition. It will not provide a record of stand conditions over a period of time.

The standard diameter breakdown is composed of seven classes, 0-.9, 1-2.9, 3-4.9, 5-6.9, 7-8.9, 9-13.9, and 14 +. In addition to the seven diameter classes there are five other standard components, total live, total dead, total cull, herb, and bush. For each of the 10 tree standard components the following data elements will be described: major species, average dbh, average height, trees per acre, basal area per acre, board foot volume per acre, cubic foot volume per acre, growth (average height increment for trees 0-2.9 inches dbh or gross periodic accretion in cubic feet for trees 3 and greater dbh), component year of origin, the most prevalent damage and severity, and the second most prevalent damage and severity. For the herb and bush components, the major species for the cover type is recorded; if the component is BUSH, the average height of the shrub is entered, and the percent cover for both HERB and BUSH is entered. The year and the type of exam are also entered for each component, so as to describe the date and reliability of the information.

153 - Activities - STAND_ACTIVITIES Table. Activities are recorded as either planned or accomplished in the automated data base.

Each activity is identified by information recorded in activity, FY (fiscal year) planned, activity fund, and activity sequence number. These four fields constitute the Activity ID. Unit of measure and activity units must also be completed.

To assist in programming and project scheduling, all applicable fields should be completed when an activity is planned. The only field not available for use when an activity is planned is accomplishment year.

When an activity has been accomplished, accomplishment year is completed. At that time, changes to other information already coded or new information about the activity should be entered. The Activity ID may change if a fund other than that planned is used to accomplish the activity. Likewise, the planned FY is subject to updating if planned work is not accomplished on time. It is important to increment the planned FY when an activity is not accomplished as planned, so the stand is not forgotten about for future treatment and so reports querying for planned treatments are accurate. There is no limit on the number of activities that can be

recorded for each stand. However, many reports only allow a maximum of 50 activities per stand.

If an activity is accomplished prior to the planned year, it is recommended that the planned year be changed to agree with the accomplishment year. If the planned year is not changed, it may require an extra clause in some queries to make sure the accomplishment year is zero (0).

Use net acres in activity units for planning and accomplishing activities.

Following is a brief definition of the Special and Timber activity codes:

2200 - RANGE. This is a general code for range activities which are funded with K-V dollars. Range projects funded with K-V dollars must be located within a sale area boundary. Range activities other than those funded by K-V dollars can also be recorded in the TSMRS. Fund codes 03, 04 and 98 are the only acceptable fund codes for 2200 category activities, unless otherwise specified. Activity code 2200 is not a valid code to enter in the data base. Utilize the more specific codes to identify the specific activity. Method of accomplishment should be coded to more specifically identify the activity. These general instructions apply to all the specific range activity codes.

2210 - Structural Range Improvements. Construction or reconstruction of all range improvements planned with K-V or other resource project dollars. (Note: This does not include maintenance.) Utilize specific codes to better detail scope of activity.

2211 - Fences. Installation or reconstruction of administrative fences, right-of-way fences, enclosure fences and grazing allotment interior and boundary fences. (Note: This does not include boundary fences between National Forest lands and private lands.)

2212 - Water Source Development. Development of various types of water sources with a primary purpose being for livestock watering. Sources developed using K-V or other resource project dollars may include: springs, wells, dams, pit tanks, or trick tanks.

2213 - Water Systems. Installation or construction of water delivery systems financed with K-V or other resource project funds. For K-V funding, the systems must be located within the sale area boundary and may include: pumps, intake pipelines, distribution pipelines, ditches or water storage tanks intended to water livestock.

2214 - Cattleguard. Includes installation of all cattleguards associated with range management fences within the sale area boundary and financed with K-V funds. Cattleguards may also be reported with other resource project dollars.

2215 - Other Range Improvements or Facilities. Includes restoration and construction of livestock driftways or other livestock management routes across or through natural barriers, with K-V funds within the sale area boundary. (These trailways are not a part of the National Forest road or trail system.) Other resource project dollars can also be used with activity code 2215.

2220 - Non-structural Range Improvements. Range activities associated with manipulation or management of vegetation, funded with K-V or other resource project dollars. Utilize specific codes to better detail scope of activity.

2221 - Cover Manipulation-Tall Shrubs. The control or manipulation of high shrub/brush species with K-V funds within the sale area boundary. Tall shrub classification is dictated by the target species, not the vegetative-type classification. Treatment methods may include: mechanical, prescribed burning, chemical, seeding, biological or manual. Other resource project dollars can also be used with activity code 2221.

2222 - Cover Manipulation-Short Shrubs. The control or manipulation of short shrub/low brush species such as sage brush or rabbit brush with K-V funds, within the sale area boundary, or other resource project dollars. Short shrub classification is dictated by the dominant target species, not the vegetative-type classification. Cover manipulation includes all the methods described for tall shrubs.

2223 - Undesirable Herbaceous Plant Control. The control of herbaceous, non-poisonous plants with K-V funds, within the sale area boundary, or other resource project dollars. Included are such plants as wyethia, coneflower, tarweed, cheatgrass brome, and medusahead. Control methods are the same as described for tall shrubs.

2224 - Poisonous Plant Control. The control of herbaceous, poisonous species with K-V funds, within the sale area boundary, or other resource project dollars. Included are such plants as larkspur, false-hellebore, some locoweeds, water hemlock, and sneezeweed.

2225 - Forage Improvement. Treatment directed to improve quality, quantity, and/or availability of established vegetation with K-V funds, within the sale area boundary, or other resource project dollars. Specific types of treatment may include: seeding, fertilization, mechanical, prescribed burning, control of range damaging insects, rodent control, and disease control.

2226 - Noxious Weeds - First Treatment. Treatment with the objective of controlling noxious farm weeds using K-V funds, within the sale area boundary, or other resource project dollars. Noxious farm weeds are classified in cooperation with local counties. Treatments may include: mowing, plowing, disking, prescribed burning, chemical, seeding, biological, and manual.

2227 - Noxious Weeds - Retreatment. This includes all additional treatments of an infestation beyond the initial treatment, funded with K-V dollars, within the sale area, or other resource project dollars. All treatment methods described in 2226 apply.

2228 - TES - Plants. Activities necessary to protect or enhance growth of TES plants. These activities are funded with K-V dollars, within the sale area boundary, or other resource project dollars.

2229 - Monitoring (Non-structural Range Improvements). Work necessary to monitor non-structural range improvement projects funded with K-V dollars or other resource project dollars.

2300 - RECREATION. This is the general code for recreation activities which are funded with K-V dollars. Other resource project dollars (fund code 98) can also be used with recreation activities. Fund codes 03, 04, and 98 are the only acceptable fund codes for 2300 category activities. Activity code 2300 itself, is not a valid code to enter in the data base. Utilize the more specific codes to identify the specific activity planned. Method of accomplishment should be coded to more specifically identify the activity. These general instructions apply to all the specific recreation activity codes.

2310 - Visual Resources Protection and Improvement. Activities associated with manipulation or management of vegetation to protect, improve, or rehabilitate the visual resource and funded with K-V dollars, or other resource project dollars. Utilize specific codes to better detail scope of activity.

2311 - Visual Enhancement. Activities planned to improve the visual resources of an area. These activities may include provision of visual diversity, vistas, screening, and other improvements.

2312 - Visual Rehabilitation. Activities planned to rehabilitate the visual resources of an area.

2313 - Monitoring (Achievement of Visual Objectives, Effectiveness of Improvement & Protection Measures). Work necessary to monitor visual management projects funded from K-V, or other resource project dollars.

2320 - Outdoor Recreation Activity Enhancement. Activities associated with enhancement and/or provision of outdoor recreation opportunities funded with K-V, or other resource project dollars. Utilize specific codes to better detail scope of activity.

2321 - Provision of Consumptive Recreation Opportunities. Utilize planting, thinning, plant propagation, marking, signing, or other methods to provide opportunities for Christmas tree cutting, berry picking, firewood gathering, and similar activities. K-V dollars or other resource project dollars may be used with activity code 2321.

2322 - Provision of Non-consumptive Recreation Opportunities. Provide opportunities for activities such as wildlife viewing, plant identification, cross-country skiing, telemarking, hiking, mountain biking, horseback use, and so forth, by establishing and signing routes, establishment of dispersed sites, and similar improvements.

2323 - Management & Control of Recreation to Protect Resources. Provide signs, maps, brochures, information, routes, and so forth, where management and control of recreation use is necessary to protect resources or improvements. An example would be a sign closure of a plantation to prevent snowmobile damage to tree tops.

2324 - Promotion of Public Information. Use of interpretive signs or other media to improve public understanding of resource management activities.

2325 - Monitoring (Activity Enhancement). Work necessary to monitor K-V funded recreation enhancement projects. Other resource project dollars can also be used with activity code 2325.

2330 - Outdoor Recreation Facilities. Activities to replace, relocate, improve, develop, or establish recreational facilities which are appropriately funded with K-V dollars, or other resource project dollars. Utilize specific codes to better detail scope of activity. (K-V funds may not be used to purchase improvements such as tables or fireplaces for new recreation sites or to replace existing facilities in poor maintenance condition.)

2331 - Relocation of Disturbed Facilities. Where the utility of existing recreation facilities has been negated or greatly diminished as the result of timber sale activities, relocation within the sale area of the facility may be necessitated, using K-V dollars. Other resource project dollars may also be used with activity code 2331.

2332 - Replacement of Disturbed Facilities. K-V dollars may be used where the utility of existing recreation facilities has been negated or greatly diminished as the result of timber sale activities, replacement within the sale area of the facility may be necessitated. For example: When timber sale activities have changed road mileage, use restrictions, site identity, or other recreation-related information, replacement and installation of recreation signs is necessary. Other resource project dollars may also be used with activity code 2332.

2333 - Monitoring (Facilities). Work necessary to monitor recreation facility projects funded from K-V. Other resource project dollars may also be used to monitor projects.

2340 - Cultural Resources. K-V funds may be utilized to evaluate and protect cultural resources discovered on the sale area during timber harvesting or during K-V activities. The SAI plan must be revised and justified on the basis that immediate evaluation of the site and removal or protection of the artifacts will facilitate timely completion of silvicultural activities and/or benefit timber production on the sale area. Other resource project dollars may also be recorded with activity code 2340.

2341 - Cultural Site Evaluation. Activities to evaluate cultural resources discovered during sale activity or accomplishment of K-V funded activities. Other resource project dollars may also be recorded with activity code 2341.

2342 - Cultural Site Protection. Activities to protect cultural resources discovered during sale activity or accomplishment of projects funded from K-V. Other resource project dollars may also be recorded with activity code 2342.

2343 - National Register Determination Test. The test for determination of eligibility and listing on the National Register of Historic Places consists of the application of the eligibility criteria listed at 36 CFR 800 part 60.4 to discovered cultural properties by a trained Cultural Resource Specialist. Eligible or listed properties must be afforded the consideration required at 36 CFR 800, Section 106 of the National Historic Preservation Act.

2344 - Monitoring (Sale Activity Impact on Known Site). Work necessary to monitor impacts on known sites by either sale activity or accomplishment of projects funded from K-V. Other resource project dollars may also be used when monitoring projects.

2500 - WATERSHED. This is a general code for watershed activities which are funded with K-V dollars. Watershed activities, other than those funded with K-V dollars, may also be recorded in TSMRS. Fund codes 03, 04, and 98 are the only acceptable fund codes with 2500 category activities. Activity code 2500 itself, is not a valid code to enter in the data base. Utilize the more specific codes to identify the specific activity planned. These general instructions apply to all the specific 2500 series activity codes.

2510 - Non-Structural Improvements For Erosion Control & Soil Stabilization. Utilization or promotion of vegetative growth to control erosion and stabilize disturbed soil within the sale area and funded with K-V dollars. Other resource project funds may also be used with activity code 2510. Utilize specific codes to better detail scope of activity.

2511 - Seeding/Fertilization. Application of seed and fertilizer on disturbed areas within the sale area, funded with K-V dollars, to control erosion and stabilize soils. Other resource project dollars may also be used with activity code 2511.

2512 - Shrub & Tree Planting. Planting of trees and shrubs with K-V funds on disturbed areas within the sale area. Other resource project dollars may also be used with activity code 2512. The purpose of the planting is to stabilize soils.

2513 - Mulching, Netting, Tack. Application of mulch, netting, or tack to stabilize soils, control erosion, and promote revegetation within the sale area and financed with K-V funds. Other resource project dollars may also be used with activity code 2513.

2514 - Monitoring (Stabilization). Work necessary to monitor non-structural stabilization projects funded from K-V. Other resource project dollars may also be used with activity code 2514.

2520 - Non-Structural Improvements For Site Productivity. Utilization of mechanical techniques to improve soil productivity or placement or amendment of top soil to improve site productivity and funded with K-V dollars. Other resource project dollars may also be recorded with activity code 2520. Utilize specific codes to better detail scope of activity.

2521 - Rip or Till Compacted Soils. Ripping or tillage of soils to break-up compaction to improve or restore site productivity within the sale area, and funded with K-V dollars. Other resource project dollars may also be used with activity code 2521.

2522 - Place or Amend Topsoil. Placement of topsoil or addition of soil amendments to promote soil productivity within the sale area, and financed with K-V funds. Other resource project dollars may also be used with activity code 2522.

2523 - Monitoring (Productivity). Work necessary to monitor non-structural productivity projects funded from K-V. Other resource project dollars may also fund monitoring activities.

2530 - Structural Improvements - In Channel. Placement, replacement, repair, or removal of in channel structures funded with K-V or other resource project dollars. Utilize specific codes to better detail scope of activity.

2531 - Drop Structures. Structures placed in a stream to prevent downcutting, regulate gravel movement, or create pools. This work can be financed with K-V or other resource project dollars.

2532 - Check Dams. Structures placed in intermittent or ephemeral channels or gullies to prevent further downcutting and stabilize channels. This work can be funded with K-V or other resource project dollars.

2533 - Large Woody Debris Placement. Placement of logs in a stream channel to regulate gravel movement and add pools to the stream's profile. This work can be financed with K-V or other resource project dollars.

2534 - Bridge/Culvert Replacement/Repair. Replacement, repair, or removal of bridges or culverts, financed with K-V or other resource project dollars.

2535 - Riprap, Gabion Placement. Placement of riprap or gabions to stabilize streambanks or protect bridges and culverts. This work can be financed with K-V or other resource project dollars.

2536 - Channel Blockage Removal. Removal of floatable debris or bedload material which is diverting streamflow into streambanks or threatening crossing structures. The activity can be funded with K-V or other resource project dollars.

2537 - Monitoring (In Channel Structures). Work necessary to monitor in channel structure projects, funded with K-V or other resource project dollars.

2540 - Structural Improvements - Roads. Placement, replacement, or repair of structural improvements for erosion control from roads. Activities are funded with K-V or other resource project dollars. Utilize specific codes to better detail scope of activity.

2541 - Rolling Dips. Design and installation of drivable dips into a roadbed to drain surface water from the road. This activity can be financed with K-V or other resource project dollars.

2542 - Cross Drains/Waterbars. Installation of open tops, road drainage culverts, or construction of waterbars to prevent road surface erosion, funded with K-V or other resource project dollars.

2543 - Ditches. Construction or repair and cleaning of ditches to prevent road surface erosion or restore road drainage, funded with K-V or other resource project dollars.

2544 - Slash Filter Windrows. Construction, replacement or repair of slash filter windrows to control fill slope erosion on roads, funded with K-V or other resource project dollars.

2545 - Side-cast Material Removal. Removal of excess side-cast material from road fills to a location where the material can be stabilized. The work can be financed with K-V or other resource project dollars.

2546 - Monitoring (Road Structures). Work necessary to monitor road structure projects, funded with K-V or other resource project dollars.

2600 - WILDLIFE, FISHERIES, AND THREATENED, ENDANGERED AND SENSITIVE (TES) SPECIES. This is a general code for wildlife, fisheries, and TES activities which are funded with K-V dollars. Other resource project dollars (fund code 98) may also be used with 2600 activities. Fund codes 03, 04, and 98 are the only acceptable fund codes for 2600 activities. Activity code 2600 itself, is not a valid code to enter in the data base. Utilize the more specific codes to identify the specific activity planned. Codes for further definition of habitat improvement objectives can be noted using method of accomplishment. These general instructions apply to all the specific 2600 activity codes.

2610 - Wildlife Habitat Improvement. Activities funded with K-V or other resource project dollars, to plan and/or execute improvement of wildlife habitat. Utilize specific codes to better detail scope of activity.

2611 - Forage/Feeding/Nesting. Includes wildlife habitat projects targeted at improving quality/quantity of forage, feeding, and nesting habitat. Examples of projects include wildlife tree creation, nesting structure placement, water developments, vegetative improvements such as wildlife burning, seeding, fertilization, and forage planting.

2612 - Cover/Security/Gates. Includes projects targeted at maintaining or increasing wildlife security. Examples of projects include earthen or gate road closures, signing, construction of brush piles, travel lanes, windbreaks, and exclusion fences.

2613 - Wildlife Habitat Surveys, Inventories & Analyses. Pertains to administrative studies developed to analyze the specific impacts of timber harvest on wildlife and wildlife habitat. Refer to FSM 1991 for further information on administrative studies.

2614 - Monitoring (Wildlife Habitat Improvement). Work necessary to monitor wildlife habitat improvement projects, funded with K-V or other resource project dollars.

2620 - TES Species Habitat Improvement. Activities to plan and/or execute improvement of TES species habitat, funded with K-V or other resource project dollars. Utilize specific codes to better detail scope of activity.

2621 - Forage/Feeding/Nesting. Includes habitat projects targeted at improving quality/quantity of forage, feeding, and nesting habitat for TES species. Examples of projects include perch tree creation, nesting structure placement, water developments, vegetative improvements such as wildlife burning, seeding, fertilization, forage planting, and so forth.

2622 - Cover/Security/Gates. Includes projects targeted at maintaining or increasing security and protection of TES species and habitats. Examples of projects include earthen or gate road closures, signing, construction of brush piles, travel lanes, windbreaks, exclusion fences, and so forth.

2623 - TES Habitat Surveys, Inventories & Analyses. Pertains to administrative studies developed to analyze the specific impacts of timber harvest on TES species habitat. Refer to FSM 1991 for further information on administrative studies.

2624 - Monitoring (TES Habitat Improvement). Work necessary to monitor TES habitat improvement projects, funded with K-V or other resource project dollars.

2650 - Fisheries Habitat Improvement. Activities to plan and/or execute improvement of fisheries and aquatic habitat, funded with K-V or other resource project dollars. Utilize specific codes to better detail scope of activity.

2651 - Spawning/Rearing. Includes habitat improvements intended to improve the quality/quantity of spawning and rearing habitat. Examples of projects include instream habitat improvements such as placement of boulders, log weirs, deflectors, rearing or spawning channel development, barrier removal, spawning reef development, fish passage structures, gravel placements, and so forth.

2652 - Cover/Security. Includes habitat improvements intended to maintain or increase cover/security of fish habitat. Examples include placement of large woody debris, boulders, submergible cover structures, bank cover structures, placement of barriers to prevent upstream movement by undesirable fish species, and so forth.

2653 - Water Quality/Quantity Improvement. Includes habitat improvements intended to maintain or increase water quality. Examples of project work include riparian protection and restoration, bank protection and stabilization, sediment removal, sediment traps, and so forth.

2654 - Aquatic Habitat Survey & Analyses. Pertains to administrative studies developed to analyze the specific impacts of timber harvest on aquatic habitat. Refer to FSM 1991 for further information on administrative studies.

2655 - Monitoring (Fish Habitat Improvement). Work necessary to monitor fish habitat improvement projects, funded with K-V or other resource project dollars.

2660 - Interpretation of Management Activities. Includes the development of on-site public information through interpretive signing and viewing, and access structures.

4001 - Acquired Stand in Land Exchange. Land acquired from a land exchange. Accomplishment year will indicate when the land became National Forest Land.

4002 - Possible Safety Hazard in Stand. Indicates the existence of a possible safety hazard in the stand. Details concerning the possible safety hazard should be kept in the stand folder.

4003 - Road Obliteration (Closure). Closing roads that have been left open for post sale activities, such as gaining access to a site for regeneration or hazard reduction purposes. These roads are typically spur roads gaining access to areas for logging, and could have been closed through contractor requirements if it weren't for the post sale activities. Use method of accomplishment codes to specify what type of road obliteration occurs, such as rip and seeding or recontouring. If road closure is on pre-existing roads and is being closed for other than timber or hazard reduction reasons, use the K-V Other activity codes and method of accomplishment combinations for activities within the sale area boundary.

4020 - Photography. Special photography flown after an area has been harvested. This does not include complete district and Forest flights.

4021 - Ground Camera Points. An identifiable point from which photographs are taken at periodic intervals for purposes of visual comparison.

4032 - Forest Inventory and Analysis (FIA). Extensive inventories of National Forest Land using sampling locations on a 5,000 meter grid.

4034 - Research Plots. Plots installed by experiment stations, universities, and so forth. They are always reported with fund code 12.

4035 - Staked Row Survey. Surveys on staked rows in plantations; used to determine seedling survival percentage. Accomplishment for the first survey is reported after the survey is taken, not when the staked row is established. Staked row surveys do not replace posttreatment exams for reforestation (4317). Regeneration status is not recorded with staked row survey accomplishments. Unit of measure should be "E" (each) to represent the number of stakes. Cost must be entered as a per stake cost.

4036 - Permanent Plot Installation. Includes plot installation and first measurement of permanent plots. Accomplishment for permanent plot installation is not reported until the first measurement is complete. Record "E" (each) for the unit of measure. Report the number of large plots (1/20th acre plots) accomplished with the permanent plot. For example, four clusters with three 1/20th acre plots each, equals 12 plots.

4037 - Permanent Plot Remeasurement. Subsequent remeasurements of the original permanent plot installation and measurement.

4100 - REGENERATION CUTTING. Any removal of trees intended to assist regeneration already present or to make regeneration possible.

4110 - CLEARCUTTING.

4111 - Patch Clearcut. A modification of the clearcutting method (the removal of the entire standing crop, live and/or dead) where patches out of an individual stand boundary are clearcut. Patch clearcuts often enable for regenerating even-aged stands which cannot be reproduced by natural seeding if all the timber is removed in a single cutting. Only a portion of the stand's acres are reported as accomplished following a patch clearcut. If a patch clearcut is 10 acres or larger, consideration should be given to creating a new stand.

4112 - Strip Clearcut. A modification of the clearcutting method (the removal of the entire standing crop - live and/or dead), where alternate or progressive strips are clearcut in an individual stand boundary. Only a portion of the stand's acres are reported as accomplished following a strip clearcut.

4113 - Stand Clearcut. Removal of the entire standing crop (live and/or dead) within a delineated stand boundary for the purpose of creating a new, even-aged stand. The entire stand acres are generally reported as accomplished for a stand clearcut.

4114 - Clearcut with Reserves. A clearcutting method in which varying numbers of reserve trees (live trees, pole-sized or larger) are not harvested to attain goals other than regeneration.

4120 - PREPARATORY CUT.

4121 - Shelterwood Preparatory Cut. Removing trees near the end of a rotation so as to permanently open the canopy and enlarge the crowns of seed bearers, with a view to improving conditions for seed production and natural regeneration in a shelterwood system.

4122 - Seed Tree Preparatory Cut. Removing trees near the end of a rotation so as to permanently open the canopy and enlarge the crowns of seed bearers, with a view to improving conditions for seed production and natural regeneration in a seed tree system.

4130 - SEED CUT.

4131 - Shelterwood Seed Cut. Removing trees in a mature stand so as to effect permanent opening of its canopy (if there was no preparatory cutting to do this) and so provide conditions for securing regeneration from the seed of trees retained for that purpose in a shelterwood system.

4132 - Seed Tree Seed Cut. Removing trees in a mature stand so as to effect permanent opening of its canopy (if there was no preparatory cutting to do this) and so provide conditions for securing regeneration from the seed of trees retained for that purpose in a seed tree system.

4133 - Shelterwood Seed Cut with Reserves. Removing trees in a mature stand so as to effect permanent opening of its canopy (if there was not preparatory cutting to do this) and so provide conditions for securing regeneration from the seed of trees retained for that purpose in a shelterwood system. Any tree or group of trees left unfelled and kept for part of or the entire next rotation are reserves. (In other words, if there is no intention to remove the overstory, the shelterwood seed cut with reserves is the appropriate code. If part of the overstory will be removed at a later date, shelterwood seed cut is the appropriate code. A shelterwood final cut with reserves will be scheduled.)

4134 - Seed Tree Seed Cut with Reserves. Removing trees in a mature stand so as to effect permanent opening of its canopy (if there was not preparatory cutting to do this) and so provide conditions for securing regeneration from the seed of trees retained for that purpose in a seed tree system. Any tree or group of trees left unfelled and kept for part of or the entire next rotation are reserves. (In other words, if there is no intention to remove the seed trees as part of the seed tree seed cut system, seed tree seed cut with reserves is the appropriate code. If part of the seed trees will be removed at a later date, seed tree seed cut is the appropriate code. A seed tree final cut with reserves will be scheduled.)

4140 - REMOVAL CUT.

4141 - Shelterwood Removal Cut. Removing trees between the seed cutting and the final cutting under a shelterwood system, so as to gradually reduce the shelter and admit more light to aid the regenerated crop to secure further recruitment.

4143 - Overstory Removal Cut. This title is not a recognized forestry term and was deleted from the Timber Stand Data Base and the TM Control Handbook in the fall of 1989. At the present time, this code can only be updated to represent the appropriate cutting method, it can not be added as a new code, or can not be accomplished.

4145 - FINAL CUT.

4146 - Shelterwood Final Cut. Removal of the last seed bearers and shelter trees after regeneration is considered to be established under a shelterwood system.

4147 - Seed Tree Final Cut. Removal of the last seed bearers after regeneration is considered to be established under a seed tree system.
(This code replaces Seed Tree Removal Cut.)

4148 - Shelterwood Final Cut with Reserves. Removal of seed bearers and shelter trees after regeneration is considered to be established under a shelterwood system. Any tree or group of trees left unfelled and kept for part of or the entire next rotation are reserves.

4149 - Seed Tree Final Cut with Reserves. Removal of the seed bearers after regeneration is considered to be established under a seed tree system. Any tree or group of trees left unfelled and kept for part of or the entire next rotation are reserves.

4150 - SELECTION CUT. Applies only to those areas where the yield is to be regulated on an uneven-aged basis.

4151 - Individual Tree Selection Cut. The annual or periodic removal of trees (particularly the mature), individually, from an uneven-aged forest in order to realize the yield and establish a new crop of irregular constitution. This code should be used for all cuttings made to establish and maintain an uneven-aged stand. An individual tree selection cut generally covers an entire stand; report stand acres as accomplished.

4152 - Group Selection Cut. The annual or periodic removal of trees (particularly the mature), in small groups, from an uneven-aged forest in order to realize the yield and establish a new crop of irregular constitution. This code should be used for all cuttings made to establish and maintain an uneven-aged stand. Report the acres actually cut.

4200 - INTERMEDIATE HARVEST METHODS AND OTHER CHANGES. Applies only to stands where the yield is to be regulated on an even-aged basis.

4210 - Improvement Cut. A cutting made in a stand past the sapling stage, primarily to improve composition and quality by removing less desirable trees of any species.

4211 - Liberation Cutting. A cutting that relieves young growth, mainly trees not past the sapling stage, from overhead competition.

4220 - Thinning. A felling made in an immature stand in order to accelerate diameter increment but also, by suitable selection, to improve the average form of the trees that remain, without permanently breaking the canopy. Commercial thinnings are those in which all or part of the felled trees are extracted for useful products, regardless of whether their value or size is great enough to defray the cost of the operation.

4230 - Sanitation/Salvage Cut. Sanitation cutting is the removal of dead, damaged or susceptible trees, essentially to prevent the spread of pests or pathogens and so promote forest hygiene. Salvage cutting is the exploitation of trees that are dead, dying, or deteriorating (for example, because overmature or materially damaged by fire, wind, insects, fungi, or other injurious agencies) before their timber becomes worthless. Also included are trees cut to salvage imminent mortality such as prelogging to capture smaller sized products that would otherwise be destroyed in later logging. Frequently, the objectives of sanitation and salvage are accomplished in other intermediate cuttings or regeneration cuttings. A manageable stand remains following a sanitation/salvage harvest.

4231 - Salvage (Dead Trees Cut). The removal of dead trees or trees being damaged or killed by injurious agents other than competition, to recover value that would otherwise be lost.

4232 - Sanitation. The removal of trees to improve stand health and to reduce actual or anticipated spread of insects and disease.

4240 - Special Cut. The removal of trees for other than timber management purposes. This applies to suitable and unsuitable areas such as developed recreation and administrative sites where other uses or other values are overriding.

4241 - Special Products Removal. The removal of special products for other than timber management purposes. This applies to suitable and unsuitable areas. Applicable fund codes are 09, 12, 17, 18, and 99. Applicable methods of accomplishment are 440 - Pacific Yew; 441 - beargrass; 442 - mushroom; and 443 - huckleberry. Accomplishment of this activity will not be included in the harvest or other drain reports.

4250 - Natural Changes. Changes in vegetative character or volume (generally resulting in new stand delineations) due to natural occurrences such as floods, landslides, insect epidemic, fire, and so forth. This does not include changes to inventory due to normal mortality. Method of accomplishment must always be coded with activity code 4250. Valid codes are 304 - wildfire; 306 - insect and disease; and 307 - wind. Natural changes are included on the "Needs Report" when they are followed by a planned regeneration treatment.

4260 - Man-Caused Fire Damage. The loss, expressed in monetary or other terms due to man-caused fires. Includes both direct losses such as timber, installations, and wildlife damaged or destroyed, and indirect losses such as a reduction in the future productive-capacity of the soil, and impairment of the water economy. Man-caused fires are added to the "Needs Report" when they are followed by a planned regeneration treatment.

4270 - Permanent Land Clearing. Changes that result from a change in land classification due to clearing for system roads (roads at least 120 feet wide), electronic sites, and so forth.

4280 - Permanent Flooding. Changes that result from a change in land classification due to flooding such as reservoir construction. All lands below the high water line of a reservoir are considered permanently flooded.

4290 - Administrative Changes. Changes that result from a change in land classification by statute, proclamation, or administrative decision such as new wilderness classification or a change in timber land use. Report the number of acres removed from the commercial forest land base.

4300 - SILVICULTURAL EXAMINATION AND PRESCRIPTION. Exams, prescriptions, and other planning work accomplished for insect and disease control purposes must be coded with activities 4570-4583, with fund code 07, and with method of accomplishment 501-507.

4301 - Photo Stand Delineation. This code is used to report accomplishments for PI compartment work. Several jobs must be completed before this code is reported: 1) photo interpretation and delineation; 2) stand strata labeling; 3) transfer to base maps; 4) gather known stand data; 5) number all stands (nonforest and water included); and 6) enter data into the Timber Stand Data Base. (Stand ID, stand acres, strata ID, OREG or OREG and UREG components, and any stand variables being used in the regression estimate must be entered in the data base. The strata ID must be entered exactly as it is entered in the R1-Edit.) Fund codes 03, 04, 13, 17,

18, 38, 50, and 99 are the only acceptable fund codes with activity 4301. Photo stand delineation is not an exam in itself, so type of exam is not recorded with activity 4301. This activity should not be confused with the normal stand delineation which is part of the project exam process, and is not reported in the data base.

4311 - Compartment Inventory. Examinations done for the purpose of compartment inventory as opposed to project exams. These can be field exams (4314, 4315, or 4316) done by standard plots. (Even though the exam may represent a 4314, 4315, or 4316, if the exam is done for compartment inventory, it is coded as a 4311.) They can also be extrapolated exams done by strata mean estimate, regression estimate, or most similar neighbor. (When strata mean estimates or regression estimates are loaded into the data base, a 4311 exam will automatically be loaded with type of exam 6 or 7 for the accomplishment.)

4313 - Preplanting Exam. Examinations done for the purpose of preparing planting contracts. Funding for these exams is identified as part of the planting cost. Districts may prefer to recognize the need for these exams through the planting activity itself. In which case, the actual preplanting exam (4313) is not coded in the data base. There is no target accomplishment counted for these exams.

4314 - Pretreatment Examination for Reforestation. The process of gathering in-place field data for a forest stand to determine its current condition and to provide a basis for silvicultural and other management decisions. These exams are taken in areas of unknown stocking. These exams may be used to determine if a regeneration treatment is needed following a natural change and so forth. This code is not used for reforestation monitoring.

4315 - Examination for Release and Precommercial Thinning. The process of gathering in-place field data for a forest stand to determine its current condition and to provide a basis for silvicultural and other management decisions. These exams are taken to prepare silvicultural prescriptions for timber stand improvement (TSI) work.

4316 - Examination for Commercial Timber Harvest. Gathering in-place field data for a forest stand to determine its current condition and to provide a basis for silvicultural and other management decisions. These exams are taken in stands where some type of commercial timber harvest is the next logical treatment.

4317 - Posttreatment Examination for Reforestation. Gathering in-place field data for a forest stand to monitor stocking following a reforestation treatment (plant, seed, or natural regeneration). These exams are generally not used for prescription purposes, but can be used to prepare prescriptions if the exam indicates a reforestation failure and there is a need for additional reforestation treatments. Regeneration status and certification, percent stocked area, and trees per acre must always be coded with 4317 exams.

4318 - Reforestation Maintenance Survey. This code is used to monitor stands that have been certified, but are not ready for thinning or release exams. For example, a stand had a seed tree seed cut and was certified. A couple years later, the seed trees are removed. After the removal of the seed trees, it may be necessary to examine the stand to make sure the regeneration wasn't

destroyed during the seed tree final cut. This maintenance survey is coded as 4318. Regeneration status is not coded with a 4318 exam. However, a "C" will be accepted with the 4318 exam to verify the stand is still stocked. The 4318 with a "C" will not be a credited accomplishment for regeneration status. This exam is also used where a potential hazard for animal damage exists, for example, winter range, cattle allotments, and gopher concern. This exam should only be used 2 to 3 years following the regeneration certification.

4319 - Sap/Pole Bench Mark Exam. This code is used to monitor stands following past timber stand improvement (TSI) treatments. Monitoring will be done on selected stands (generally 10 percent of the stands thinned each year) every 10 years following certification of TSI treatments, to see how the stand is progressing (growth, insect and disease, animal damage, and so forth). Sap/pole bench mark exams must be accomplished with standard exams. Valid fund codes are 02, 13, 17, 18, and 99. These exams will appear on a separate line on the stand exam accomplishment report, and they will not be used toward meeting the stand exam target.

4320 - Ref-TSI Animal Control Survey. This code is used when surveying for animal control to protect reforestation, as opposed to surveying for regeneration stocking or survival. This exam may result in writing a prescription for treating animals to protect reforestation.

4321 - Special Products Inventory. This code is used for surveying special products, such as, Pacific yew, beargrass, mushrooms, and huckleberries. Accomplishments with this activity are not part of the stand examination program and will not be included on the stand examination accomplishment report. Valid fund codes are 08, 09, 12, 13, 17, 18, 37, and 99. Applicable methods of accomplishment are 440, 441, 442, and 443. Whenever activity 4321 is used, method of accomplishment must also be filled in.

4334 - Prescription for Selected Treatment Need Following Exam and Diagnosis. A written document that describes management activities needed to implement silvicultural treatment or treatment sequence. The prescription documents the results of an analysis of present and anticipated site conditions and management direction. It also describes the desired future vegetation conditions in measurable terms. The desired condition is a basis for treatment, monitoring, and evaluation.

4345 - Posttreatment Exam for TSI. Examinations done for the purpose of monitoring or evaluating on-going or completed timber stand improvement (TSI) work. When examinations are accomplished following completed TSI work, the TSI status should be entered in the regeneration status field. Valid fund codes are 02, 03, 04, 13, 17, 18, 38, 40, and 99.

4347 - Postharvest Evaluation. This code is used when visiting the site following a harvest, to verify or modify the next treatment needs. Site visits following the harvest may result in changes in site preparation, reforestation, slashing, TSI treatments, and so forth. These evaluations are usually done by walk-through exams and there is generally no data collected to update stand components. Valid fund codes are 02, 03, 04, 13, 17, 18, 38, 40, and 99. Accomplishments for postharvest evaluation will appear on a separate line on the stand exam accomplishment report, but they will not be counted toward meeting the stand exam target.

4350 - Ecodata Plot. Data collected to provide basic and/or detailed ecosystem information. Sampling methods include recon, fastplot, ocular macroplot, cover microplot, and nested microplot. Valid fund codes are 13, 17, 18, 50, 98, and 99.

4400 - REFORESTATION.

4411 - Seed. Artificially applying seeds to an area either by hand or by aircraft. The seed may be broadcast or applied in rows or spots.

4412 - Reseed. Reapplying seeds to an area. After an area has been seeded, any further seed applications on the same area are recorded as reseed.

4431 - Plant. The formation of a forest by setting out wild or nursery-grown plants. Planting may be done with bare-root stock, container stock, rooted cuttings, or material raised from tissue culture.

4432 - Replant. Anytime an area is planted after initially being planted, the activity is coded as a replant.

4451 - Natural Regeneration. The renewal of a tree crop by volunteer growth. The process results in restocking of the area concerned.

4460 - Animal Control for Reforestation. The control of animals to protect planted, seeded, or naturally regenerating stands from damage. This control may occur prior to the reforestation and up until the stand is established. Examples of control treatment are: fencing, trapping, killing and removing animals, poison baiting, Vexar tubing, and placing repellents. The accomplishment is reported in the number of acres protected by the treatment.

4465 - Slashing. Cutting back unwanted, competing vegetation in an area. Slashing is a step toward site preparation, but is not itself, a site preparation activity. It includes mistletoe whip removal unless the mistletoe whip removal is accomplished with I&D funds (fund code 07). If I&D finances mistletoe whip removal, the activity is 4583, dwarf mistletoe control, with method of accomplishment 524, slashing.

4466 - Leave Tree Protection. Providing protection by clearing around trees left for seed or shade in a harvest method. The leave trees are protected from damage during hazard reduction or site preparation; for example, burning, and so forth. If leave tree clearing is part of the hazard reduction or site preparation, it is not necessary to identify it separately unless it is financed from a different fund. Report the acres of protection.

4468 - Reforestation Enhancement Maintenance. Maintenance of the existing structures from the original animal control or enhancement project. For example, maintenance of fencing, plastic tubes, and so forth. Report the acres of protection.

4469 - Reforestation Enhancement. Activities done to enhance the survival of regeneration; for example, shade cards. Report the number of acres protected by the activity.

4471 - Site Preparation for Planting-Burning. A general term for removing unwanted vegetation, slash, stumps, roots, and stones, from a site. Site preparation is accomplished by prescribed burning for the purpose of planting the area.

4472 - Site Preparation for Planting-Chemical. Same as 4471 except site preparation is accomplished by chemical manipulation of the vegetative cover to reduce plant competition for the purpose of planting the area.

4473 - Site Preparation for Planting-Mechanical. Same as 4471 except site preparation is accomplished by mechanical manipulation of the vegetative cover to reduce plant competition for the purpose of planting the area.

4474 - Site Preparation for Planting-Manual. Same as 4471 except site preparation is accomplished by manual manipulation of the vegetative cover to reduce plant competition for the purpose of planting the area.

4481 - Site Preparation for Direct Seeding-Burning. Same as 4471 except site preparation is done for the purpose of direct seeding.

4482 - Site Preparation for Direct Seeding-Chemical. Same as 4472 except site preparation is done for the purpose of direct seeding.

4483 - Site Preparation for Direct Seeding-Mechanical. Same as 4473 except site preparation is done for the purpose of direct seeding.

4484 - Site Preparation for Direct Seeding-Manual. Same as 4474 except site preparation is done for the purpose of direct seeding.

4491 - Site Preparation for Natural Regeneration-Burning. Same as 4471 except site preparation is done for the purpose of natural regeneration.

4492 - Site Preparation for Natural Regeneration-Chemical. Same as 4472 except site preparation is done for the purpose of natural regeneration.

4493 - Site Preparation for Natural Regeneration-Mechanical. Same as 4473 except site preparation is done for the purpose of natural regeneration.

4494 - Site Preparation for Natural Regeneration-Manual. Same as 4474 except site preparation is done for the purpose of natural regeneration.

4500 - TIMBER STAND IMPROVEMENT AND OTHER WORK.

4511 - Release and Weeding-Individual Tree. Release is freeing a tree from immediate competition by cutting, or otherwise eliminating, growth that is overtopping or closely surrounding the tree. Weeding is eliminating or suppressing undesirable vegetation, mainly herbaceous, during the seedling stage of a forest crop so as to reduce competition with the seedling stand. Release and weeding includes incidental disease control work, release of natural and artificial regeneration, and accompanying work to eliminate related fuel accumulations.

4512 - Release and Weeding-Area. Same as 4511 except the treatment is being done for an area rather than for individual trees.

4521 - Precommercial Thinning-Individual or Selected Trees. A felling made in an immature stand in order primarily to accelerate diameter increment but also, by suitable selection, to improve the average form of the trees that remain. Thinning is done on an individual or selected tree basis in the stand.

4522 - Precommercial Thinning-Strip. Same as 4521 except thinning is done on a strip basis in the stand.

4530 - Pruning. The removal, close to or flush with the stem, of side branches, live or dead, and of multiple leaders, from a standing, generally plantation-grown, tree, for the improvement of the tree or improvement of the quality of its timber.

4541 - Control of Understory Vegetation-Prescribed Burn. Treatment of the understory vegetation by means of a prescribed burn, to control, deaden, or reduce the growth of undesirable species found in even-aged stands. Report the total acres affected by the treatment. (This does not include burning for browse production.)

4542 - Control of Understory Vegetation-Other. Treatment of the understory vegetation by means of other than prescribed burn, to control, deaden, or reduce the growth of undesirable species found in even-aged stands. Report the total acres affected by the treatment.

4551 - Fertilizing-Individual Trees. The enrichment of forest soils, around individual trees, with commercial or chemical nutrients or manures for the purpose of increasing or maintaining tree growth and vigor.

4552 - Fertilizing-Area. The enrichment of forest soils in an area, with commercial or chemical nutrients or manures for the purpose of increasing or maintaining tree growth and vigor.

4560 - Animal Control for Timber Stand Improvement. The control of animals such as porcupines, gophers, or deer in natural stands or plantations (after they have been classified as established); trapping, killing, fencing, placing of repellents, and so forth.

4570 - Insect Control. This is a general code for insect control activities. It should only be used if the insect is not covered under one of the more specific codes (4571-4577). Method of accomplishment must be entered to describe the type of project funded with insect and disease dollars. Acceptable codes for method of accomplishment include 501-526 and 750-759. Valid fund codes are 07, 13, 17, 18 and 99. Other fund codes are valid when certain conditions are met; see section 146.5, Exhibit 01.

4571 - Mountain Pine Beetle Control. Any work for control of mountain pine beetle accomplished with insect and disease funds. Valid fund codes are 07, 13, 17, 18, and 99. Other fund codes are valid when certain conditions are met; see section 146.5, Exhibit 01. Method of Accomplishment must be entered to describe the specific project planned or accomplished. Acceptable codes for method of accomplishment are 501-526 and 750-759.

4572 - Douglas-fir Beetle Control. Any work for control of Douglas-fir beetle accomplished with insect and disease funds. Valid fund codes are 07, 13, 17, 18, and 99. Other fund codes are valid when certain conditions are met; see section 146.5, Exhibit 01. Method of accomplishment must be entered to describe the specific project planned or accomplished. Acceptable codes for method of accomplishment are 501-526 and 750-759.

4573 - Spruce Beetle Control. Any work for control of spruce beetle accomplished with insect and disease funds. Valid fund codes are 07, 13, 17, 18, and 99. Other fund codes are valid when certain conditions are met; see section 146.5, Exhibit 01. Method of accomplishment must be entered to describe the specific project planned or accomplished. Acceptable codes for method of accomplishment are 501-526 and 750-759.

4574 - Other Bark Beetle Control. A general code for bark beetles not identified by a more specific code. Any work for control of bark beetles accomplished with insect and disease funds. Valid fund codes are 07, 13, 17, 18, and 99. Other fund codes are valid when certain conditions are met; see section 146.5, Exhibit 01. Method of accomplishment must be entered to describe the specific project planned or accomplished. Acceptable codes for method of accomplishment are 501-526 and 750-759.

4575 - Western Spruce Budworm Control. Any work for control of western spruce budworm accomplished with insect and disease funds. Valid fund codes are 07, 13, 17, 18, and 99. Other fund codes are valid when certain conditions are met; see section 146.5, Exhibit 01. Method of accomplishment must be entered to describe the specific project planned or accomplished. Acceptable codes for method of accomplishment are 501-526 and 750-759.

4576 - Douglas-fir Tussock Moth Control. Any work for control of Douglas-fir tussock moth accomplished with insect and disease funds. Valid fund codes are 07, 13, 17, 18, and 99. Other fund codes are valid when certain conditions are met; see section 146.5, Exhibit 01. Method of accomplishment must be entered to describe the specific project planned or accomplished. Acceptable codes for method of accomplishment are 501-526 and 750-759.

4577 - Other Defoliator Control. A general code for defoliators not identified by a more specific code. Any work for control of defoliators accomplished with insect and disease funds. Valid fund codes are 07, 13, 17, 18, and 99. Other fund codes are valid when certain conditions are met; see section 146.5, Exhibit 01. Method of accomplishment must be entered to describe the specific project planned or accomplished. Acceptable codes for method of accomplishment are 501-526 and 750-759.

4580 - Disease Control. A general code for disease control activities. This code should only be used if the disease is not covered under one of the more specific codes (4581-4583). Method of accomplishment must be entered to describe the type of project funded with insect and disease dollars. Acceptable codes for method of accomplishment include 501-527 and 770. Valid fund codes are 07, 13, 17, 18, and 99. Other fund codes are valid when certain conditions are met; see section 146.5, Exhibit 01.

4581 - Root Rot Control. Any work for control of root rot accomplished with insect and disease funds. Method of accomplishment must be entered to describe the type of project funded with insect and disease dollars. Acceptable codes for method of accomplishment include 501-526 and 770. Valid fund codes are 07, 13, 17, 18, and 99. Other fund codes are valid when certain conditions are met; see section 146.5, Exhibit 01.

4582 - Stem Rust Control. Any work for control of stem rust accomplished with insect and disease funds. Method of accomplishment must be entered to describe the type of project funded with insect and disease dollars. Acceptable codes for method of accomplishment include 501-527. Valid fund codes are 07, 13, 17, 18, and 99. Other fund codes are valid when certain conditions are met; see section 146.5, Exhibit 01.

4583 - Dwarf Mistletoe Control. Any work for control of dwarf mistletoe accomplished with insect and disease funds. Method of accomplishment must be entered to describe the type of project funded with insect and disease dollars. Acceptable codes for method of accomplishment include 501-526. Valid fund codes are 07, 13, 17, 18, and 99. Other fund codes are valid when certain conditions are met; see section 146.5, Exhibit 01.

4870 - Nursery Tree Cooler Expansion. Expansion of the Coeur'd Alene Nursery with K-V dollars. Unit of measure should be "S" structures, and planned/accomplished units should be "1" for one structure. Nursery Tree Cooler Expansion only needs to be entered on one stand per sale. The activity is reported as accomplished as soon as the purchaser starts harvesting on the timber sale.

4910 - Selection and Care of Superior Trees. All types of work associated with selecting and caring for genetically superior seed-producing trees, not included in designated seed orchards, seed production areas, or seed collection stands. This involves selection and marking of such trees and such practices as fertilizing and protection from insects and rodents. Report the number of superior trees being maintained in the stand.

4920 - Seed Collection from Superior Trees. The collection and handling of cones and scions from superior trees. Report the number of trees from which collections are made.

4930 - Seed Production Area Establishment. The establishment of a seed production area by roguing and treating the stand in such a manner as to produce large quantities of seed. Report the acres of seed production area established.

4931 - Seed Production Area Maintenance. Operation and maintenance of the seed production area which requires such practices as fertilization, protection from rodents that feed on seed, and control of insects. Report the acres of seed production area maintained.

4932 - Seed Collection from Seed Production Area. Collecting seed from a designated seed production area. Report the acres of the seed production area from which the seed is collected.

4951 - Progeny Test Plantation Examination. Examinations done in progeny test plantations to evaluate parents by comparing the performance of their offspring.

4952 - Progeny Test Plantation Establish or Improve. Plantations established to evaluate parents by comparing the performance of their offspring. This includes maintenance of the plantation. Report the number of acres of the plantation established or maintained.

4953 - Seed Collection from Progeny Test Plantations. Collecting seed from a designated progeny test plantation. Report the number of acres of progeny test plantation from which the seed is collected.

4957 - Tree Improvement-Other. All other tree improvement work not reported under codes 4910 through 4953.

4961 - 4999 -- Fuels Treatment activities are defined in section 153.4.

9998 - Parent Stand. The parent stand activity was created to identify "inactive parent stands" (stands with 0 stand acres). The original stand acres were entered with the parent stand activity. Since the concept of "inactive parent stands" is no longer valid, this activity should not be used. Activities must be carried forward to the new stands when they are created. Activity 9998 will be removed from the list of valid activities as soon as all "inactive parent stands" have been deleted.

9999 - Microfilm. This code is used to identify stands that have had data from the stand folder or the stand map (orthophoto) microfilmed. Valid fund codes are 12, 13, and 99.

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R1 AMENDMENT 2409.21e-96-1
EFFECTIVE August 5, 1996

153.1 - Stand Examination and Prescription. Each silvicultural prescription must be written to fill a treatment need that has been developed from a stand diagnosis. The diagnosis must be based on stand data from a stand examination. For regeneration harvest prescriptions, the prescription must include the minimum number of potential crop trees desired to meet the silvicultural objectives of the stand. This number is recorded in the trees per acre field, when the prescription accomplishment is entered.

Stand examinations and detailed silvicultural prescriptions are activities to be recorded on the STAND_ACTIVITIES table. The accomplishment of the stand examination is reported after the exam data has been entered in the R1-Edit and the stand component data has been crossed over to the Timber Stand Management Record System (TSMRS). The treatment need from the diagnosis step of the prescription process must be recorded on the STANDS table. The diagnosis step itself will not be carried as an activity on the automated data base.

Prior to Fiscal Year 1995, all stand examinations to gather data for preparing a silvicultural prescription were reported with fund code 37. When additional stand examinations were necessary to gather data for a treatment step after a prescription had been prepared, these exams were accomplished with reforestation or timber stand improvement (TSI) project dollars (fund code 02).

Beginning with FY 1995, fund code 37 should only be used to report stand examinations and prescriptions related to timber sales. It is no longer appropriate to gather stand examination data nor to prepare silvicultural prescriptions for reforestation or TSI projects with fund code 37.

With these changes in budget direction, fund code 02 is the correct fund code to use for reforestation and TSI stand examinations to gather data for preparing silvicultural prescriptions. The following paragraphs describe examinations for different purposes.

Activity codes for reforestation stand examinations are 4313 - preplanting exam, 4314 - pretreatment exams (areas of unknown stocking), 4317 - posttreatment exams, and 4318 - reforestation maintenance survey. When data is gathered to prepare a silvicultural prescription for an area of unknown stocking, it must be coded as a 4314, pretreatment exam, with fund code 02. When data is gathered to prepare a planting contract, it must be coded as 4313, preplanting exam, funded from REF/TSI or K-V (codes 02, 03, or 04). When data is gathered for monitoring stocking after a reforestation treatment has been applied, it must be coded as a 4317, posttreatment exam, funded from REF/TSI or K-V (codes 02, 03, or 04). Regeneration status must also be reported with posttreatment reforestation exams. When examining a stand to verify stocking after certification, activity code 4318 is used. For example, a stand is harvested by a shelterwood seed cut and the stand is certified. A few years later, a shelterwood final cut removes the last seed bearers and shelter trees. After the final harvest, an exam is taken to see if the stand is still stocked. This exam is coded as a 4318; it is generally accomplished with fund code 02, 03, or 40.

Stand examinations to prepare a silvicultural prescription for timber stand improvement (TSI) work must be coded as a 4315 exam, with fund code 02. If an examination is needed to monitor or evaluate on-going or completed TSI work, it should be coded as 4345, TSI posttreatment exam, funded from REF/TSI (code 02) or K-V (code 03 or 04). Generally, once TSI projects are certified, the next exam is a 4316 since some form of commercial harvest would be the next logical activity in the sequence. However, if additional monitoring or evaluation exams are needed following TSI certification, these exams should be coded as 4345 with fund code 02 or 40. If stands are set up on a regular schedule (every 10 years) for monitoring and evaluation following certification of TSI treatments, the exam is coded as 4319 (sap/pole bench mark exam) with fund code 02. These exams are always done following the standard examination procedures. If an exam is funded from insect and disease dollars (I&D, fund code 07), use the appropriate I&D activity code, identifying the insect or disease of concern, and I&D method of accomplishment, identifying the purpose of the exam.

Stand examinations to prepare a silvicultural prescription for commercial harvest must be coded as a 4316 exam with fund code 37. If a preparatory cut or seed cut is accomplished and 5 to 10 years later another exam is done prior to a final harvest, the exam activity is also 4316, and the fund code is 37. K-V dollars cannot be used to fund a 4316 exam.

A postharvest evaluation, activity code 4347, can be accomplished with fund code 02, 03, or 40, following a harvest activity. The exam is done to verify or modify the next treatment needs. Generally, no tree data is collected.

The diagnosis identifies a treatment need before a detailed silvicultural prescription is prepared. The stand treatment need should be entered on the STANDS table. Preparation of the detailed prescription must be coded as a 4334 activity, with fund code 37 or 02, depending on how the exam was funded. If the detailed prescription is funded from I&D (fund code 07), use the appropriate I&D activity code and method of accomplishment 501, I&D silviculture prescription.

Exams for compartment inventory (activity code 4311) are funded with ecosystem planning, inventory, and monitoring dollars (fund code 50). In previous years, funding for compartment inventory was from timber planning dollars (fund code 32). Fund code 32 is no longer a valid fund code since there are currently no timber planning dollars. Both field exams, and regression estimate and strata average should be coded with fund code 50.

Permanent plot exams (activity codes 4036 and 4037) and forest inventory and analysis (activity code 4032) should also be coded with fund code 50, ecosystem management, since timber planning dollars (fund code 32) are no longer available.

153.2 - Harvest. Reporting planned and accomplished harvest treatments follows the general sequence outlined for all activities.

When a timber sale contract is awarded, the scheduled activities for each stand are entered in the Timber Stand Data Base. The timber sale contract number must be recorded with the harvest activity and all other activities that are funded with K-V and BD, or are part of the purchaser requirement. This will provide a tie to the timber sale records. It is optional for the user to record the sale contract number with other activities tied to the sale, but financed from a different fund. Sale unit numbers are optional fields that can be used to identify cutting units. Activities should not be split based on different sale unit numbers in one stand. The stand is the basic unit for recordkeeping. If the user wishes to split activities based on sale unit number, consideration should be given to creating separate stands.

Harvest accomplishment is generally reported when the last log leaves the stand. The reforestation need is identified at this time. For group selection harvests, report the acres actually cut. For single tree selection harvests, report the best estimate of acres harvested. Generally, a single tree selection harvest covers an entire stand, so the entire stand acres are reported.

Merchantable Cubic Foot Volume Per Acre - Sawtimber and Merchantable Cubic Foot Volume Per Acre - Other, are provided to report volume removed by stand number. Although the present volume accounting system does not insure the availability or accuracy of this data, it is recommended to record the best estimate of volume harvested as an historical record for the stand. Cruise data and the Timber Sale Administrator's reports may be the best estimate of the merchantable cubic foot volume removed from a stand.

A harvest will undoubtedly alter the stand components described on the STAND_COMPONENTS table. A stand exam and diagnosis may be needed to update the stand components.

153.3 - Site Preparation. Reporting planned and accomplished site preparation for reforestation follows the general sequence outlined for all activities.

However, site preparation is unique due to accomplishment and funding complexities arising from fuel treatments and sale work. Site preparation can be directly funded only with REF/TSI (code 02) or K-V (code 03 or 04). Site preparation can also be accomplished as a purchaser requirement (fund code 11). If site preparation is funded from I&D, enter the appropriate I&D activity code and method of accomplishment 522 with fund code 07. Site preparation may, however, be obtained as a result of funding and accomplishing other activities such as logging, wildfire, or fuel treatment. If such site preparation is significant to the management of the stand, it should be entered in the automated data base as a site preparation activity (series 4470 through 4490) with the fund coded as contributed (code 09).

Site preparation must be monitored to allow Districts to better track the adequacy of the site preparation and to determine if site preparation prescriptions are being followed. Monitoring of site preparation is best accomplished by the sale administrator immediately following the site preparation. Site preparation can also be monitored during a preplanting exam or during the first reforestation posttreatment exam.

The regeneration status field must be completed with an accomplished site preparation activity to indicate if the site preparation met the prescription standards. Acceptable status codes for site preparation are S - Satisfactory (site preparation meets prescription standards), A - Adequate (site preparation is adequate for regeneration to proceed, but did not totally meet standards set in the prescription), and I - Inadequate (site preparation did not meet prescription standards).

Slashing, activity code 4465, is not a site preparation activity per se and, therefore, must not be planned as a site preparation target. Slashing includes mistletoe whip removal if it is not funded from I&D dollars. If I&D dollars finance mistletoe whip removal, record activity 4583 and method of accomplishment 524 with fund code 07.

153.4 - Fuel Treatment. Reporting planned and accomplished fuel treatment follows the general sequence outlined for all activities. This portion of the data base is used to report fuel treatment accomplishments and for work planning of fuels activities. Both purchaser and Forest Service work must be reported.

Fuel treatment methods of accomplishment are used to identify activity and natural fuels as to primary fuel treatment or secondary fuel treatment. A primary treatment is the final treatment made on the site for fuels management purposes. Only primary treatments are reported as accomplishments in the Management Attainment Reporting System (MARS) and these figures will be pulled from the TSMRS. A secondary treatment is any intermediate treatment that will eventually lead to a primary treatment. Secondary treatments will be included in TSMRS, but will not be reported in MARS.

Method of accomplishment codes 308 through 311 are the only valid codes for fuel treatment activities. Following is a brief description of the fuels method of accomplishment codes:

<u>Code</u>	<u>Description</u>
308 and 310	Primary fuel treatments. Use with activities that represent primary treatments. Code 308 is used for activity fuels and code 310 is used for natural fuels.
309 and 311	Secondary fuel treatment. Use with activities that represent secondary treatments. Code 309 is used for activity fuels and code 311 is used for natural fuels.

The following list of funding codes are acceptable to use with fuel treatment activity codes:

Code Description

- 02 Ref-TSI Financed
- 03 K-V Financed
- 04 K-V Unfinanced
- 05 Brush Disposal
- 06 Cooperative Deposits (Used when FS co-ops backwork from a purchaser)
- 08 Other Federal (JC, YCCC, CETA, BPA, and so forth)
- 09 Contributed - Work accomplished with non-Federal funds, such as Challenge Grant when burning for wildlife habitat improvement. (Use also for site preparation activities when accomplished as incidental to fuels reduction. If an area does not need fuels reduction, but does need site preparation, do not take credit for fuels reduction.
- 11 Purchaser Requirement
- 12 Not Applicable (Use for indirect treatment, isolation, wildfires, range and wildlife burns, and where hazard reduction is accomplished as a planned result of site preparation.)
- 13 Defaulted Contracts (Previous contract dollars or excess cost of procurement)
- 15 FFP 115 Financed (Fuels Management)
- 16 Multi-financed (Ecosystem or Prescribed Natural Fire - Fuel Treatment Activity Codes 4961, 4962, 4963, or 4992 only)
- 17 Gifts (Acceptance of Gifts Act)
- 18 Cooperative Agreements (Cooperative Funds Act, Act of 6/30/1914)
- 38 K-V Mt Haggin (Beaverhead NF)
- 99 Land Exchange (Activities occurring prior to land acquisition)

Following is a brief definition of the fuel activity codes:

<u>Code</u>	<u>Title</u>	<u>Description</u>	<u>Pri/ Sec</u>	<u>Fund Code</u>
4961	Ecosystem Burning (Grassland)	Treatment of fire dependent ecosystems to meet multi resource objectives identified in Forest Land Management Plans. Use fund code 16 for the acres paid for by other than appropriated fuel dollars. When fuel treatment acres are also accomplished with an ecosystem burn, report the ecosystem burn code twice to separate accomplishments between fund codes 15 and 16. Split the acres according to the target and planned funding. Fund code 09 should be used for any portion of the activity paid for by challenge grant funds. At least two entries are required when the acres are split.	P	03 04 08 09 15 16

<u>Code</u>	<u>Title</u>	<u>Description</u>	<u>Pri/ Sec</u>	<u>Fund Code</u>
4962	Ecosystem Burning (Shrubland)	Same as 4961 only ecosystem burning is done in shrubland.	P	03 04 08 09 15 16
4963	Ecosystem Burning (Stand Modification)	Same as 4961 only ecosystem burning is done for stand modification. If ecosystem burning for stand modification is accomplished with reforestation dollars, control of understory vegetation by prescribed burning (code 4541) must also be coded.	P	03 04 08 09 15 16
4971	Interim Protection	Extra protection in lieu of physical treatment.	S	05
4972	Indirect Treatment	Acres of created fuels that can be considered as treated because a direct treatment was applied to some part of the total area.	P	12
4973	Isolation	Areas occupying an isolated location that are relatively fire proof and have a low fire incidence. No direct treatment is prescribed and natural abatement of fuel loading may occur. This does not pertain to areas that are scheduled for treatment, but are not accomplished, resulting in backlog. Isolation may only be used when it is assigned as part of the cutting prescription.	P	12
4974	Firewood Removal	Use this code as a primary treatment where the only prescribed treatment for fuel reduction is physical removal for firewood utilization. This code could also be used as a secondary treatment prior to understory burning.	P/S	12
4975	Burn Dozer Piles	Physically burning the dozer piles.	P	Any
4976	Burn Hand Piles	Physically burning the hand piles.	P	Any

4977	Burn Grapple Piles	Physically burning the grapple piles.	P	Any
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<u>Code</u>	<u>Title</u>	<u>Description</u>	<u>Pri/ Sec</u>	<u>Fund Code</u>
4978	Broadcast Burn	A prescribed fire burning through a continuous fuel cover that is designed to treat one or more land management objectives.	P	Any
4979	Jackpot Burn	A prescribed fire designed to treat fuel accumulations in small concentrations. This is a spotty treatment which can achieve objectives such as hazard reduction or disease control.	P	Any
4980	Understory Burn	A type of broadcast burn designed to reduce fuel accumulations beneath an overstory tree canopy (natural stand, shelterwood, seed tree, and so forth) and be designed to achieve specified levels of site preparation.	P	Any
4981	Wildfire	Any wildland fire not designed and managed as a prescribed fire within an approved prescription. A wildfire that effectively reduces existing fuels, but does not change the character of the existing stand should be coded 4981. A stand replacing wildfire will result in a new stand delineation and will be coded as 4250 (Natural Change).	P	12
4982	Lopping	A method of reducing average fuel height to an acceptable level, thereby reducing fire intensity and increasing natural fuels abatement.	P/S	Any
4983	Mechanical Piling	Any mechanical piling of fuels, other than dozer piling. This includes piling cable landings or piling in cable corridors as a fuel treatment.	P/S	Any
4984	Dozer Piling	Fuel treated by dozer piling slash, includes landings.	P/S	Any
4985	Wildlife Burn	Areas treated by fire to improve wildlife habitat. If fuel reduction acres are also accomplished with a wildlife burn, these acres must be accounted for with one of the other	P	12 08

codes in this series. Code 4985 is
used to keep track of acres

<u>Code</u>	<u>Title</u>	<u>Description</u>	<u>Pri/ Sec</u>	<u>Fund Code</u>
		burned for wildlife, and is always used with method of accomplishment codes 308 or 310.		
4986	Hand Piling	Fuel treated by hand piling slash.	P/S	Any
4987	Fireline Construction	This code is used to record chains of fireline built around an area that is to be treated for fuel reduction by burning.	S	Any
4988	Trampling	Fuels are treated by trampling through various methods, walk down, Roller Chopper, Tomahawk.	P/S	Any
4989	Chipping	Fuels are treated by chipping through various methods - chippers, Hydroaxe, Clearway, and so forth.	P	Any
4990	YUM	Fuel accumulations are reduced by yarding unmerchantable material that does not meet sawlog utilization requirements of the contract, but may be utilized for some other product - pulp, firewood, cedar products, post or pole material.	P/S	Any
4991	Yarding	Fuel accumulations are treated through removal of specified quantities and sizes of debris.	P/S	Any
4992	Prescribed Natural Fire	Any unplanned ignition that is allowed to burn as a prescribed fire inside or outside wilderness.	P	16
4993	Burning for Range Improvement	Areas treated by fire for range improvement. If fuel reduction acres are also accomplished with a range improvement burn, these acres must be accounted for with one of the other codes in this series. Code 4993 is used to keep track of acres burned for range improvement, and will always be used with method of accomplishment codes 308 or 310.	P	08 12

<u>Code</u>	<u>Title</u>	<u>Description</u>	<u>Pri/ Sec</u>	<u>Fund Code</u>
4994	Fuelbreak	A strategically located strip or block of land on which the fuels have been modified by appropriate treatment methods to reduce fire behavior potential. The methods used to create the fuelbreak will be used in the Fuel Accomplishment Report, the fuel break itself will not. Code 4994 will be used to keep track of fuelbreaks created, and will always be used with method of accomplishment codes 308 and 310; however, the accomplishment is not counted in the total acreage accomplishments.	P	15 12
4995	Shrubland/ Grassland Burning	Use this code for hazard reduction that occurs in burning shrubland/grassland plant communities.	P	Any
4996	Natural Abatement	Use this code when a predetermined fuel treatment is no longer needed because natural processes have reduced the fire hazard of a fuel bed.	P	12
4997	Burn Landings	The burning of debris at landings that has been created as a result of the logging method used.	P	05
4998	Fuels Inventory	The inventory of fuel loading on a site.	S	Any
4999	Posttreatment Exam for Fuels Management	Monitoring to evaluate the results obtained from fuel treatment projects. Observations or data collection may be conducted to monitor specific project goals such as hazard reduction, or to assess broader goals tied to ecosystem management.	S	Any

Following are examples of how to code fuel treatment and site preparation activities. Method of accomplishment (accomp) demonstrates the use of primary and secondary fuel treatments.

1. A broadcast burn is done for hazard reduction. Site preparation for planting (burning) is accomplished as a result of the hazard reduction.

<u>Activity</u>	<u>Fund</u>	<u>Acres</u>	<u>Method of Accomp</u>
4978	05	20	308

4471 09 20 301

2. If the purchaser is required to do the hazard reduction and site preparation work, both activities are recorded with fund code 11 for the total acres of each activity. The piles are burned later with BD funds.

<u>Activity</u>	<u>Fund</u>	<u>Acres</u>	<u>Method of Accomp</u>
4984	11	20	309
4473	11	20	200
4975	05	20	308

3. The purchaser is required to do hazard reduction, but no additional work is required to achieve site preparation. The silviculture prescription specifies that site preparation will be accomplished as a result of hazard reduction. The hazard reduction is recorded with fund code 11, purchaser required, and the site preparation is recorded as contributed from the hazard reduction, fund code 09. Total activity acres are reported with each activity. The piles are burned later with BD funds.

<u>Activity</u>	<u>Fund</u>	<u>Acres</u>	<u>Method of Accomp</u>
4984	11	20	309
4493	09	20	200
4975	05	20	308

4. The stand is dozer piled and the piles are burned with BD dollars to achieve hazard reduction. Site preparation for planting is contributed from the dozer piling. Since site preparation is contributed, it is reported with fund code 09.

<u>Activity</u>	<u>Fund</u>	<u>Acres</u>	<u>Method of Accomp</u>
4984	05	20	309
4473	09	20	200
4975	05	20	308

5. Understory burning for site preparation is planned for in the SAI plan. Hazard reduction has also been accomplished as a result of the understory burning for site preparation. Site preparation is reported with K-V dollars (fund code 03) and hazard reduction is reported as a primary treatment, accomplished with fund code 12 (not applicable).

<u>Activity</u>	<u>Fund</u>	<u>Acres</u>	<u>Method of Accomp</u>
4491	03	20	305
4980	12	20	308

6. A wildfire went through an area and effectively reduced natural fuels, but it did not change the character of the stand. The wildfire is reported as a fuels treatment, activity code 4981.

<u>Activity</u>	<u>Fund</u>	<u>Acres</u>	<u>Method of Accomp</u>
498	12	20	310

7. A stand replacing wildfire burned through an area and severely changed the character of the stand. The fire is reported as natural changes, activity code 4250, with wildfire (code 304) as the method of accomplishment.

<u>Activity</u>	<u>Fund</u>	<u>Acres</u>	<u>Method of Accomp</u>
4250	12	20	304

8. Part of a 20 acre stand of backlog fuels was hand piled and the piles were burned with appropriated dollars. A small part of the stand is considered treated by indirect treatment because of the piling and burning of piles.

<u>Activity</u>	<u>Fund</u>	<u>Acres</u>	<u>Method of Accomp</u>
4986	15	15	309
4976	15	15	308
4972	12	5	308

9. Natural fuels are burned in a 20 acre stand for range improvement. At the same time, fuels FFP dollars are contributed to the project to reduce the hazard in the stand. Burning for range improvement and shrubland/grassland burning are both reported with the total accomplishment acres. The cost field represents the cost per acre contributed from each fund. The percent of cost field represents the percent of the total cost that each fund is contributing. Fund code 12 indicates that range dollars financed the burning for range improvement.

<u>Activity</u>	<u>Fund</u>	<u>Acres</u>	<u>Cost/Unit</u>	<u>% Cost</u>	<u>Method of Accomp</u>
4993	12	20	60	75	310
4995	15	20	20	25	310

10. A 3-acre portion of a larger stand is clearcut. The unit can be regenerated artificially without further site preparation. Since the unit is a small, isolated area, no treatment (isolation) is prescribed as the fuel treatment for the 3-acre portion of the stand.

<u>Activity</u>	<u>Fund</u>	<u>Acres</u>	<u>Method of Accomp</u>
4973	12	3	308

11. A 22-acre stand is harvested with a shelterwood seed cut. The entire stand was lopped by the purchaser and 15 acres were understory burned by force account. Due to moist soils, 4 acres were hand piled by the purchaser and 3 acres were dozer piled. Burning of the piles was done by force account with BD dollars. Cost per unit is left blank for the purchaser required activities.

<u>Activity</u>	<u>Fund</u>	<u>Acres</u>	<u>Cost/Unit</u>	<u>Method of Accomp</u>
4982	11	22		309
4986	11	4		309
4984	11	3		309
4976	5	4	50	308
4975	5	3	50	308
4980	5	15	150	308

12. Ecosystem burning for stand modification is accomplished in a 20-acre stand. Fuel treatment acres are also accomplished with the burn, so appropriated fuels dollars finance 30 percent of the project. Other resources finance 70 percent of the cost of the project. Since one activity is accomplished with multiple funding, the activity is reported twice and the acres are split according to the funding. Percent of total cost is not coded because only one activity is being reported with the acres split according to the funding. The total cost of the burn is \$1,600.

<u>Activity</u>	<u>Fund</u>	<u>Acres</u>	<u>Cost/Unit</u>	<u>Method of Accomp</u>
4963	16	14	80	310
4963	15	6	80	310

153.5 - Reforestation. Reporting planned and accomplished reforestation work follows the general sequence of steps already outlined for all activities. However, there are some special items to note.

1. Scheduling Treatments. When scheduling site preparation for planting (series 4470), site preparation for seeding (series 4480), and site preparation for natural regeneration (series 4490), always schedule the appropriate 4431-4432 code for planting, 4411-4412 for seeding, or 4451 for natural regeneration.

Planting done concurrent with site preparation, by National definition, will be recorded as planting only. An activity of scalping and planting done concurrently is not a site preparation target.

When shade cards are used to protect seedlings, the method of accomplishment 803, shade cards, is recorded with activity 4469, reforestation enhancement. Any maintenance done to the shade cards following the initial installation is coded as activity 4468, reforestation enhancement maintenance, with method of accomplishment, code 803.

Pretreatment reforestation surveys (4314) may be scheduled for original stocking determination (with fund code 02). For preplanting surveys (activity code 4313), K-V or Ref/TSI appropriated dollars can be used. Posttreatment reforestation (4317) surveys are always financed from K-V or Ref/TSI funds, and the regeneration status must be coded. Staked row surveys can be planned and accomplished using activity code 4035. Results of these surveys are not recorded in the Timber Stand Data Base, and these surveys are not used to progress, certify, or fail stands. Regeneration status is tracked using reforestation stand examination codes and codes in the regeneration status field.

Generally, contracted reforestation activities are coded as accomplished when the contract is awarded. The award date should be entered as the accomplished fiscal year and calendar month. Activities in hourly contracts may be reported as accomplished when the contract is awarded or when the work is actually completed, depending on when the dollars are obligated. When using hourly contracts, check with the contracting officer and/or finance officer to know when the dollars are obligated and the accomplishments can be reported. Report accomplishments from hourly contracts as soon as the dollars are obligated.

2. Reforestation Monitoring. Regeneration status must be coded with reforestation monitoring exams (4317). Regeneration status C, P, or F must describe the stand as a whole. A portion of a stand cannot be certified until the whole stand can be certified. When scheduling surveys, a 4317 survey should be specifically identified as having potential to result in the stand being certified as stocked by entering an "X" in the regeneration status field with the planned exam.

Stands of varying degrees of success will be encountered in posttreatment stocking surveys. Stands not requiring retreatment must be listed as progressing until certified. Stands requiring retreatment should generally be listed as failures. The user may divide stands with partial failures into two separate stands (one certified and one failing) only if two stands with different treatment needs beyond the regeneration phase of the stand will, in fact, develop. For further discussion on regeneration status and certification requirements, see Chapter 200 of the Reforestation Handbook, FSH 2409.26b. Site preparation monitoring is also a part of reforestation monitoring. See Section 153.3 of this handbook for a description of site preparation monitoring.

For District convenience when examining stands of unknown stocking, the regeneration status field may be coded with pretreatment reforestation surveys (4314), if the stand is found to be stocked. Use code "C" for certification only. Do not use P, F, or X codes with a 4314 exam. If the stand is not stocked, the prescription and treatment process is then initiated. Natural regeneration may be an alternative consideration of treatment.

In order to monitor reforestation, the following data entry process must be used in the proper sequence.

- a. Prescription Activity. With the prescription accomplishment, the minimum number of potential crop trees per acre to meet the silvicultural objectives for the stand must be entered in the trees per acre field. The trees per acre are listed with the prescription activity, code 4334. It is realized that a few stands will be certified at less than this number, but the number of stands should be only a small percentage of the District's reforestation program. When a lesser number than that prescribed is accepted for certification, it must be based on a documented revision of the silvicultural prescription. Do not change the number entered in the data base with the original prescription.
- b. Planned Activity. When entering a planned planting activity, enter the actual number of trees per acre planned for planting, in the trees per acre field. The number of trees per acre planned for planting is normally more than the number prescribed to meet the silvicultural objective for the stand. An entry for trees per acre is not needed for planned natural regeneration, as the number of trees listed with the prescription activity is sufficient.
- c. Accomplished Activity. Update the number of trees planted, in the trees per acre field, when accomplishing the planting activity. Trees per acre should not be listed with the accomplishment of natural regeneration, as they will be recorded with the posttreatment reforestation examination activity (4317).

d. Posttreatment Exam Activities. When accomplishing posttreatment reforestation surveys, the following fields must be reported on the STAND_ACTIVITIES table with the posttreatment reforestation examination (4317):

Type of Exam - Exam_Type_Code

Regeneration Status and Certification - Regen_Status_Code

Trees per Acre - Trees_Per_Acre

Trees per acre should be zero or blank when there are no countable-size trees per acre for a progressing or failed stand. For certified stands, a zero or blank will not be accepted in the trees per acre field.

Tree count criteria for progressing and certifying stands is listed in Chapter 200 of the Reforestation Handbook, FSH 2409.26b. A trees per acre estimate must accompany the reforestation certification exam. Some certification surveys are walk-throughs and the trees per acre listed must be estimated without taking plots. Plot exams are to be taken only when there is a question of whether the stand should be certified as is, or retreated.

Estimates in early progressing exams of natural regeneration and seeding projects with seedlings less than 2 years old are of minimum value, and many times no countable-size seedlings exist at the time of the exam. In early progressing exams with no countable-size seedlings, enter a zero in the trees per acre field, or leave it blank. However, all progressing stands with countable-size regeneration must have an estimate of trees per acre entered.

It often takes lodgepole pine germinates up to three or four growing seasons following the initiating action, to appear from serotinous cones present on the site at the time of the initiating activity. When the second and third year exams reveal no germinates, but the site preparation and cone dispersion on the site are known to be adequate, the stand's status can be coded as "W" (waived), to meet status coding requirements. Regeneration status of "W" cannot be used for exams following the fourth growing season. If no seedlings are present after the fourth growing season, the stand must be failed and scheduled for planting.

Following are examples of filling in trees per acre for different situations:

	<u>Example Stands</u>					
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>
Prescription	500	400	400	300	450	200
Planned Plant	650	600	-	-	500	-
Accomplished	600	600	-	-	475	-
Survey 1st Yr	450P	400P	0P	0W	300P	0P
2nd Yr	-	-	400P	0W	285P	-
3rd Yr	800C	380P	-	-	250F	150P
4th Yr	-	-	1000C	400P	-	160P
5th Yr	-	425C	-	650C	-	175C*

C = Certified P = Progressing F = Failed W = Waived

Regeneration status is recorded in the regen_status_code field.

- Stand 1. Full planting with significant natural fill in.
- Stand 2. Full planting with little natural fill in.
- Stand 3. Natural regeneration on good productive site.
- Stand 4. Lodgepole pine natural regeneration on slow growing, high elevation site.
- Stand 5. Planting failure.
- Stand 6. Natural regeneration problem on poor site.
(*Needs prescription revision to certify.)

3. Natural Regeneration. Whenever a stand is reforested by natural regeneration, the natural regeneration activity must be planned and accomplished in the data base. Fund code 12 is the only fund code which can be used with natural regeneration.

Natural regeneration is entered as "Initiate Natural Regeneration". The same general logic as for artificial regeneration is used to enter and monitor initiate natural regeneration. Generally, initiate natural regeneration is planned and accomplished at the same time as the site preparation or hazard reduction. If there is no site preparation or hazard reduction, initiate natural regeneration is accomplished at the same time as the harvest. The stand is then monitored with 4317 exams through certification. If the stand fails, another treatment is scheduled and monitored.

Often silviculture prescriptions call for both artificial and natural regeneration. If distinct acres are recognized for artificial and natural regeneration, enter both activities in the data base with their respective acres. If the artificial and natural regeneration are both scattered throughout the stand, only enter the artificial regeneration activity in the data base.

Following are some examples for the percent stocked area field:

Percent of stockable stand area that is stocked to the minimum stocking guides for the stand.

Nonstockable

Stockable, but
does not presently
meet prescription
standards.

Stocked to the
minimum stocking
guides in the
prescription.

$\frac{40}{50} = 80\%$ Stockable Area Stocked
20% Needs Treatment or
Longer Period to Fill In

Nonstockable

Stockable, but
does not presently
meet prescription
standards.

Stocked to the minimum
stocking guides in the
prescription.

$\frac{53}{58} = 91\%$ Stockable Area Stocked

9% Needs Treatment or
Longer Period to Fill In

Since each plot usually represents at least 1 acre, areas less than 1 acre are generally not identified on the stand diagram.

Estimate From Walk-through Survey

$\frac{35}{45} = 78\%$ Stockable Area Stocked

22% Needs Treatment of
Longer Period to Fill In

The following examples illustrate some of the principles discussed in sections 153.1 through 153.5. The examples are presented on a sample from the Stand_Activities data screen.

153.5 - EXHIBIT 01

**SEE THE PAPER COPY OF THE MASTER SET
FOR SECTION 153.5 - EXHIBIT 01**

FSH 2409.21e - TIMBER MANAGEMENT CONTROL HANDBOOK
R1 AMENDMENT 2409.21e-96-1
EFFECTIVE August 5, 1996

153.6 - Timber Stand Improvement. Reporting planned and accomplished activities follows the same general sequence outlined for all activities, with some exceptions.

Certification of TSI projects is reported with the posttreatment stand examination (code 4345 in the activities field). This can usually be accomplished by a walk-through exam following completion of the project. For contracted TSI work, the last contract examination (final inspection) of the area can suffice for the certifying exam.

Contracted TSI work is generally reported as accomplished when the contract is awarded, since the dollars are obligated at that time. For hourly contracts, contact the District Finance Officer or Contracting Officer to know when the dollars are obligated and the accomplishments can be reported.

Following is an example of coding a TSI project through the certification step.

Step 1. A silvicultural prescription calls for precommercial thinning. A walk-through exam is scheduled following the planned thinning to monitor the TSI project. A "Y" is coded in the regeneration status field with the planned exam to indicate that certification of the thinning is anticipated at that time.

Step 2. The thinning project is completed and the accomplishment year and month are entered. The walk-through exam is completed concurrent with the thinning project and the "Y" in the

regeneration status field is changed to a "T", indicating the stand is certified as meeting thinning requirements. The accomplishment year and month are also entered for the exam.

153.7 - Insect and Disease Control. Reporting planned and accomplished insect and disease control activities follows the general sequence outlined for all activities. However, there are a few differences that must be recognized.

Insect and disease control activities require identification of the target pest in the activity field, codes 4570-4583, and a description of the control project in method of accomplishment. Acceptable codes for method of accomplishment include 501-527, 750-759, and 770. The activity fund can be coded as 07, 13, 17, 18, or 99. Other fund codes apply depending on the method of accomplishment (the allowable codes are identified on the fund chart in section 146.5, and explained by a footnote). All applicable fields should be filled out when insect and disease control activities are entered. When the activity involves treating individual trees, such as spraying in campgrounds, report the unit of measure as "E" for each.

When insect and disease control funds are used for sale preparation activities, Gates 1-3, the activity accomplishments will be reported in STARS (Sales Tracking and Reporting System).

When insect and disease control funds supplement regular project funds, each activity must be reported with the appropriate fund code and the acres must be split according to the funding split.

This is where I&D activities differ from other activities. Since the method of accomplishment for the I&D activity matches the other activity that is being reported, the acres being reported for each activity must be split according to how the project is funded. This contradicts the description of multiple activity funding and accomplishments in section 153.84 because the actual activity codes being reported are different, but based on the method of accomplishment, they are actually the same activity.

For example, stands are examined for a commercial timber harvest. Insect and disease dollars are used to supplement the stand exam dollars, for collecting data for mountain pine beetle risk rating. Timber dollars are financing 75 percent of the total exam cost and insect and disease dollars are financing 25 percent of the total exam cost. If the stand is 60 acres in size, 45 acres are reported with the 4316 exam activity and 15 acres are reported with the 4571 activity (mountain pine beetle control) and method of accomplishment 507 (I&D exam for commercial timber harvest - 4316). The percent of total activity cost field is not filled out because, in actuality, the same activity is being reported and the acres are split.

<u>Activity</u>	<u>Fund Code</u>	<u>Type of Exam</u>	<u>Activity Units</u>	<u>Cost/ Unit</u>	<u>Method of Accomplish</u>
4316	37	3	45	7	100
4571	07	3	15	7	507

Following are some examples of coding insect and disease control activities:

Example of silviculture exams for insect and disease monitoring, risk rating, or project planning.

<u>Field</u>	<u>Code</u>
Activity	4570-4583
Fund	07
Type of Exam	1-7
Accomplishment Year	as usual
Accomplishment Month	as usual
Unit of Measure	as usual
Units	as usual
Cost/Unit	as usual
Percent of Total Cost	as usual
Type of Work Force	as usual
Method of Accomp	504-507 - according to exam objectives

A stand diagnosis should be prepared and stand treatment needs, stand size class, stand size class year of origin, and stand risk rating should be completed. The stand exam components should be entered on the STAND_COMPONENTS table. If the I&D funds supplement regular project exam funds, an activity for the silviculture exam (4311-4316) with the appropriate fund code must also be reported, with the acres split according to the fund codes.

Example of silviculture prescriptions and insect and disease control plan development.

<u>Field</u>	<u>Code</u>
Activity	4570-4583
Fund	07
Accomplishment Year	as usual
Accomplishment Month	as usual
Unit of Measure	as usual
Units	as usual
Cost/Unit	as usual
Percent of Total Cost	as usual
Type of Work Force	as usual
Method of Accomp	501

A stand diagnosis should be prepared and stand treatment needs, stand size class, stand size class year of origin, and stand risk rating should be completed. If the I&D funds supplement regular project funds, an activity for the silviculture prescription with the appropriate fund code must also be reported, with the acres split according to the fund codes.

Example of timber stand improvement, site preparation, and sanitation activities.

<u>Field</u>	<u>Code</u>
Activity	4570-4583
Fund	07
Accomplishment Year	as usual
Accomplishment Month	as usual
Unit of Measure	as usual
Units	as usual
Cost/Unit	as usual
Percent of Total Cost	as usual
Type of Work Force	as usual
Method of Accomp	522-526
Equipment Type	equipment type used

If the I&D funds supplement regular project funds, an activity for the TSI or site prep work with the appropriate fund code must also be reported, with the acres split according to the funding.

Example of chemical treatment of insects or disease.

<u>Field</u>	<u>Code</u>
Activity	4570-4583
Fund	07
Accomplishment Year	as usual
Accomplishment Month	as usual
Unit of Measure	as usual
Units	as usual
Cost/Unit	as usual
Percent of Total Cost	as usual
Type of Work Force	as usual
Method of Accomp	750-759, 770
Equipment Type	equipment type used

153.8 - Control of Funds.

153.81 - K-V Projects. The sale contract number must be coded for every K-V financed and K-V unfinanced activity. This will allow for easy reference of K-V projects to the appropriate K-V plan.

153.82 - Allowable Funds by Activity Categories. Refer to the table of allowable funds by activity categories in section 146.5 for the correct coding of funding. The data base will only accept codes as shown in this table.

153.83 - Special Activity Codes. Special activity codes are provided to allow control of projects for resources other than timber, which are funded with K-V dollars. Other resource activities

that are funded with other resource project dollars may also be maintained in the Timber Stand Data Base. See section 146.3 for a list of the special activity codes.

These activities will be recorded in the stand closest or central to the work being done. If work is scheduled for an area where a stand does not exist on the index map, a new stand must be delineated. A stand designated for this purpose must be based on a forest cover type that can be examined and prescribed for silvicultural treatment. For purposes of resources other than timber, the Stand ID is intended to denote a general map point. Only one stand should be used for each treatment in a locale even though the treatment may extend to several stands. The total treatment acres must be reported for the planned/accomplished units as opposed to the number of acres in the stand (even though the treatment acres may exceed total stand acres). Costs for special activity codes are entered as a per unit cost to the nearest dollar.

Method of accomplishment code 600, Project Preimplementation Design/Planning, should be used for any preproject planning work. Preproject planning work can include exams, prescriptions, and so forth. By using method of accomplishment code 600, preproject planning work can be scheduled and accomplished prior to implementation of the project.

When a timber sale is sold, K-V projects planned for resources other than timber, are scheduled and accomplished in the Timber Stand Data Base in the same manner as timber activities. Any field on the STAND_ACTIVITIES table that applies to a certain special activity code should be completed. All activities should be listed individually (activities should no longer be grouped). It is preferred that the specific, special activity codes be used rather than the semi-general codes (2210, 2220, 2310, and so forth). However, the semi-general codes are available for use if needed. The general codes (2200, 2300, 2500, and 2600) are no longer available for use with new activities. Where general codes already exist in the data base, they can only be updated or deleted. In the cost/unit field, costs for special activity codes must be entered as a per unit cost to the nearest dollar. (Costs are no longer reported as the total direct project cost rounded to the nearest 100 dollars.) It is highly recommended that Districts enter costs with the special activities for K-V funded activities. The costs are used in the K-V Balance Report. It is difficult and sometimes impossible to fill in an average cost on the K-V Balance Report for a special activity code when costs are missing in the data base.

If K-V Other activities are planned with fund code 04 (K-V unfinanced) and are later financed, the fund code must be updated to fund code 03 (K-V financed). If the activities end up being financed from the particular resource's project dollars, the fund code must be changed to code 98.

It is mandatory to enter the sale contract number with special activity codes that are funded with K-V dollars. The sale contract number identifies the approved K-V plan supporting the work.

Planting native species and monitoring those projects should be tracked in TSMRS. The primary special activity codes for use with these projects are 2225, 2229, 2511-2514, 2611, 2612, 2621, 2622, and 2624. Other fields should be filled out as appropriate. The STAND_SEEDLOTS table is not available for use with the special activity codes, so species cannot be entered.

153.84 - Multiple Activity Funding and Accomplishments. Following are examples of how to report multiple activity and funding accomplishments:

1. Two activities, one fund; for example, 40 acres of fuel treatment using BD funding also accomplishes site preparation.

Report full acreage and fund code for funded activity (the fuel treatment in this example). Report full acreage with fund code 09 for the contributed site preparation activity.

<u>Activity</u>	<u>Fund Code</u>	<u>Unit of Measure</u>	<u>Units</u>
4978 Broadcast Burn	05 BD	A	40 Acres
4471 Site Prep by Burn	09 Contrib.	A	40 Acres

2. Two activities, two funds; for example, 40 acres of site prep and fuel treatment using 40/60 K-V and BD funds.

Report full acreage for both activities with the applicable fund code for each activity. Show the cost per unit planned from each fund in the cost per unit field and the percent of total activity cost that each fund contributed in the percent of total activity cost field. In this example, \$300 is the total cost per unit for both activities.

<u>Activity</u>	<u>Fund Code</u>	<u>Unit of Measure</u>	<u>Units</u>	<u>Cost/ Unit</u>	<u>% of Total Act. Cost</u>
4473 Site Prep-Mech.	03 K-V	A	40	120	40
4984 Dozer Piling	05 BD	A	40	180	60

3. One activity, two funds; for example, 40 acres of planting accomplished with 75 percent K-V and 25 percent reforestation funds.

Split the acres according to the funding.

<u>Activity</u>	<u>Fund Code</u>	<u>Unit of Measure</u>	<u>Units</u>	<u>Cost/ Unit</u>
4431 Plant	03 K-V	A	30 Acres	325
4431 Plant	02 refor	A	10 Acres	325

153.9 - Research Plots. If the stand contains research plots, this should be noted in the data base by coding activity 4034 on the STAND_ACTIVITIES table. When using this code, the accomplishment month and year should be filled out since the plots are existing. Any planning for research plots is the responsibility of Research, so the appropriate fund code is always 12, not applicable.

FSH 2409.21e - TIMBER MANAGEMENT CONTROL HANDBOOK
R1 AMENDMENT 2409.21e-96-1
EFFECTIVE 8/5/96

141.20 - Exhibit 01

Standard ADP Codes for Habitat Types of Montana and Northern Idaho

<u>NON-FOREST AND HARDWOOD HABITAT TYPES</u> ¹			
001	WATER -----	Aquatic environments	
010	SCREE -----	Scree rocklands	
<u>015 Grassland Steppe</u>			
016	STCO series	Stipa comata	needlegrass
017	AGSP series	Agropyron spicatum	bluebunch wheatgrass
018	FEID series	Festuca idahoensis	Idaho fescue
019	FESC series	Festuca scabrella	rough fescue
020	AND series	Andropogon spp	bluestem
021	DECA series	Deschampsia caespitosa	hair-grass
<u>030 Shrubland Steppe</u>			
031	ARAR series	Artemesia arbuscula	low sagebrush
032	ARTR series	Artemesia tridentata	big sagebrush
033	ARTI series	Artemesia tripartita	threetip sagebrush
034	POFR series	Potentilla fruticosa	cinquefoil
035	PUTR series	Purshia tridentata	bitterbrush
036	CELE series	Cercocarpus ledifolius	curleaf mtn. mahogany
037	RHTR series	Rhus trilobata	skunk brush sumac
038	SAVE series	Sarcobatus vermiculatus	greasewood
039	ERI series	Eriognum spp.	erognum
<u>050 Hardwood Forest and Woodland Draws</u> (includes poplars, green ash, oaks, and paper birch)			
<u>060 Mountain Bottomlands and Meadows</u>			
061	CAR series	CAREX spp.	sedges
065	GRASS types	-----	grasses
070	TFORB types	-----	tall forbs
071	CRA series	Crataegus spp.	hawthorns
072	CEL series	Celtis spp.	hackberries
073	ALN series	Alnus spp.	alders
074	SAL series	Salix spp.	willows
078	POTRE series	Populus tremuloides	quaking aspen
079	POTRI series	Populus trichocarpa	black cottonwood
<u>080 Alpine Meadows and Scrub</u>			
081	SG types	-----	sedge/grass
084	FORB types	-----	forbs
087	SHRUB types	-----	shrubs
<u>FOREST HABITAT TYPES</u> ²			
<u>090 PIFL series</u>			
091	PIFL/AGSP h.t.	/Pinus flexilis	Limber pine
092	PIFL/FEID h.t.	/Agropyron spicatum	/bluebunch wheatgrass
	093 -FEID phase	/Festuca idahoensis	/Idaho fescue
	094 -FESC phase	-Festuca idahoensis	-Idaho fescue
		-Festuca scabrella	-rough fescue
095	PIFL/JUCO h.t.	/Juniperous communis	/common juniper

141.20 - Exhibit 01--Continued

Standard ADP Codes for Habitat Types of Montana and Northern Idaho--Cont.

100	PIPO series	Pinus ponderosa	ponderosa pine
110	PIPO/AND h.t.	/Andropogon spp.	/bluestem
120	PIPO/STCO h.t.	/Stipa comata	/needlegrass
130	PIPO/AGSP h.t.	/Agropyron spicatum	/bluebunch wheatgrass
140	PIPO/FEID h.t.	/Festuca idahoensis	/Idaho fescue
141	-FEID phase	-Festuca idahoensis	-Idaho fescue
142	-FESC phase	-Festuca scabrella	-rough fescue
150	PIPO/SYOC h.t.	/Symphoricarpos occidentalis	/western snowberry
155	PIPO/RHTR h.t.	/Rhus trilobata	/skunkbrush sumac
160	PIPO/PUTR h.t.	/Purshia tridentata	/bitterbrush
161	-AGSP phase	-Agropyron spicatum	-bluebunch wheatgrass
162	-FEID phase	-Festuca idahoensis	-Idaho fescue
170	PIPO/SYAL h.t.	/Symphoricarpos albus	/snowberry
171	-SYAL phase	-Symphoricarpos albus	-snowberry
172	-BERE phase	-Berberis repens	-creeping Oregon grape
180	PIPO/PRVI h.t.	/Prunus virginiana	/chokecherry
181	-PRVI phase	-Prunus virginiana	-chokecherry
182	-SHCA phase	-Shepherdia canadensis	-buffaloberry
190	PIPO/PHMA h.t.	/Physocarpus malvaceus	/ninebark
200	PSME series	Pseudotsuga menziesii	Douglas-fir
210	PSME/AGSP h.t.	/Agropyron spicatum	/bluebunch wheatgrass
220	PSME/FEID h.t.	/Festuca idahoensis	/Idaho fescue
230	PSME/FESC h.t.	/Festuca scabrella	/rough fescue
250	PSME/VACA h.t.	/Vaccinium caespitosum	/dwarf huckleberry
260	PSME/PHMA h.t.	/Physocarpus malvaceus	/ninebark
261	-PHMA phase	-Physocarpus malvaceus	-ninebark
262	-CARU phase	-Calamagrostis rubescens	-pinegrass
263	-SMST phase	-Smilacina stellata	-starry Solomon's seal
280	PSME/VAGL h.t.	/Vaccinium globulare	/blue huckleberry
281	-VAGL phase	-Vaccinium globulare	-blue huckleberry
282	-ARUV phase	-Arctostaphylos uva-ursi	-kinnikinnick
283	-XETE phase	-Xerophyllum tenax	-beargrass
290	PSME/LIBO h.t.	/Linnaea borealis	/twinline
291	-SYAL phase	-Symphoricarpos albus	-snowberry
292	-CARU phase	-Calamagrostis rubescens	-pinegrass
293	-VAGL phase	-Vaccinium globulare	-blue huckleberry
310	PSME/SYAL h.t.	/Symphoricarpos albus	/snowberry
311	-AGSP phase	-Agropyron spicatum	-bluebunch wheatgrass
312	-CARU phase	-Calamagrostis rubescens	-pinegrass
313	-SYAL phase	-Symphoricarpos albus	-snowberry
320	PSME/CARU h.t.	/Calamagrostis rubescens	/pinegrass
321	-AGSP phase	-Agropyron spicatum	-bluebunch wheatgrass
322	-ARUV phase	-Arctostaphylos uva-ursi	-kinnikinnick
323	-CARU phase	-Calamagrostis rubescens	-pinegrass
324	-PIPO phase	-Pinus ponderosa	-ponderosa pine
325	-PAMY phase	-Pachistima myrsinites	-pachistima
330	PSME/CAGE h.t.	/Carex geyeri	/elk sedge
340	PSME/SPBE h.t.	/Spiraea betulifolia	/white spiraea
350	PSME/ARUV h.t.	/Arctostaphylos uva-ursi	/kinnikinnick
360	PSME/JUCO h.t.	/Juniperus communis	/common juniper
365	PSME/COCA h.t.	/Cornus canadensis	/bunchberry dogwood
370	PSME/ARCO h.t.	/Arnica cordifolia	/heartleaf arnica
380	PSME/SYOR h.t.	/Symphoricarpos oreophilus	/mountain snowberry

141.20 - Exhibit 01--Continued

Standard ADP Codes for Habitat Types of Montana and Northern Idaho--Cont.

400	PICEA series	Picea spp.	Spruce
410	PICEA/EQAR h.t.	/Equisetum arvense	/common horsetail
420	PICEA/CLUN h.t.	/Clintonia uniflora	/queencup beadlily
421	-VACA phase	-Vaccinium caespitosum	-dwarf huckleberry
422	-CLUN phase	-Clintonia uniflora	-queencup beadlily
430	PICEA/PHMA h.t.	/Physocarpus malvaceus	/ninebark
440	PICEA/GATR h.t.	/Galium triflorum	/sweetscented bedstraw
450	PICEA/VACA h.t.	/Vaccinium caespitosum	/dwarf huckleberry
460	PICEA/SEST h.t.	/Senecio streptanthifolius	/cleft-leaf groundsel
461	-PSME phase	-Pseudotsuga menziesii	-Douglas-fir
462	-PICEA phase	-Picea	-spruce
470	PICEA/LIBO h.t.	/Linnaea borealis	/twinflower
480	PICEA/SMST h.t.	/Smilacina stellata	/starry Solomon's seal
500	ABGR series	Abies grandis	Grand fir
505	ABGR/SPBE h.t.	/Spiraea betulifolia	/white spirea
506	ABGR/PHMA h.t.	/Physocarpus malvaceus	/ninebark
507	-COOC phase	-Coptis occidentalis	-western gold thread
508	-PHMA phase	-Physocarpus malvaceus	-ninebark
510	ABGR/XETE h.t.	/Xerophyllum tenax	/beargrass
511	-COOC phase	-Coptis occidentalis	-western gold thread
512	-VAGL phase	-Vaccinium globulare	-blue huckleberry
515	ABGR/VAGL h.t.	/Vaccinium globulare	/blue huckleberry
516	ABGR/ASCA h.t.	/Asarum caudatum	/wild ginger
517	-ASCA phase	-Asarum caudatum	-wild ginger
518	-MEFE phase	-Menziesia ferruginea	-menziesia
519	-TABR phase	-Taxus brevifolia	-Pacific yew
520	ABGR/CLUN h.t.	/Clintonia uniflora	/queencup beadlily
521	-CLUN phase	-Clintonia uniflora	-queencup beadlily
522	-ARNU phase	-Aralia nudicaulis	-wild sarsaparilla
523	-XETE phase	-Xerophyllum tenax	-beargrass
524	-PHMA phase	-Physocarpus malvaceus	-ninebark
525	-MEFE phase	-Menziesia ferruginea	-menziesia
526	-TABR phase	-Taxus brevifolia	-Pacific yew
529	ABGR/SETR h.t.	/Senecio triangularis	-arrowleaf groundsel
590	ABGR/LIBO h.t.	/Linnaea borealis	/twinflower
591	-LIBO phase	-Linnaea borealis	-twinflower
592	-XETE phase	-xerophyllum tenax	-beargrass
501	THPL series	Thuja Plicata	Western redcedar
530	THPL/CLUN h.t.	/Clintonia uniflora	/queencup beadlily
531	-CLUN phase	-Clintonia uniflora	-queencup beadlily
532	-ARNU phase	-Aralia nudicaulis	-wild sarsaparilla
533	-MEFE phase	-Menziesia ferruginea	-menziesia
534	-XETE phase	-Xerophyllum tenax	-beargrass
535	-TABR phase	-Taxus brevifolia	-Pacific yew
540	THPL/ATFI h.t.	/Athyrium filix-femina	/lady fern
541	-ADPE phase	-Adiantum pedatum	-maidenhair fern
542	-ATFI phase	-Athyrium filix-femina	-lady fern
545	THPL/ASCA h.t.	/Asarum caudatum	/wild ginger
546	-ASCA phase	-Asarum caudatum	-wild ginger
547	-MEFE phase	-Menziesia	-menziesia
548	-TABR phase	-Taxus brevifolia	-Pacific yew
550	THPL/OPHO h.t.	/Oplonax horridum	/devil's club
555	THPL/GYDR h.t.	/Gymnocarpium dryopteris	/oak fern
560	THPL/ADPE h.t.	/Adiantum pedatum	/maidenhair fern

141.20 - Exhibit 01--Continued

Standard ADP Codes for Habitat Types of Montana and Northern Idaho--Cont.

502	TSHE series	Tsuga heterophylla	Western hemlock
565	TSHE/GYDR h.t.	/Gymnocarpium dryopteris h.t.	/oak fern
570	TSHE/CLUN h.t.	/Clintonia uniflora	/queencup beadlily
571	-CLUN phase	-Clintonia uniflora	-queencup beadlily
572	-ARNU phase	-Aralia nudicaulis	-wild sarsaparilla
573	-XETE phase	-Xerophyllum tenax	-beargrass
574	-MEFE phase	-Menziesia ferruginea	-menziesia
575	TSHE/ASCA h.t.	/Asarum cadatum	/wild ginger
576	-ARNU phase	-Aralia nudicaulis	-wild sarsaparilla
577	-MEFE phase	-Menziesia ferruginea	-menziesia
578	-ASCA phase	-Asarum caudatum	-wild ginger
579	TSHE/MEFE h.t.	/Menziesia ferruginea	/menziesia
600	ABLA series	Abies lasiocarpa	Subalpine fir
LOWER SUBALPINE TYPES			
610	ABLA/OPHO h.t.	/Oplopanax horridum	/devil's club
620	ABLA/CLUN h.t.	/Clintonia uniflora	/queencup beadlily
621	-CLUN phase	-Clintonia uniflora	-queencup beadlily
622	-ARNU phase	-Aralia nudicaulis	-wild sarsaparilla
623	-VACA phase	-Vaccinium caespitosum	-dwarf huckleberry
624	-XETE phase	-Xerophyllum tenax	-beargrass
625	-MEFE phase	-Menziesia ferruginea	-menziesia
630	ABLA/GATR h.t.	/Galium triflorum	/sweetscented bedstraw
635	ABLA/STAM h.t.	/Streptopus amplexifolius	/twisted stalk
636	-MEFE phase	-Menziesia ferruginea	-menziesia
637	-LICA phase	-Ligusticum canbyi	-Canby's ligusticum
640	ABLA-VACA h.t.	/Vaccinium caespitosum	/dwarf huckleberry
650	ABLA/CACA h.t.	/Calamagrostis canadensis	/bluejoint
651	-CACA phase	-Calamagrostis canadensis	-bluejoint
652	-LICA phase	-Ligusticum canbyi	-Canby's ligusticum
653	-GATR phase	-Galium triflorum	-sweetscented bedstraw
654	-VACA phase	-Vaccinium caespitosum	-dwarf huckleberry
655	-LEGL phase	-Ledum glandulosum	-Labrador tea
660	ABLA/LIBO h.t.	/Linnaea borealis	/twinflower
661	-LIBO phase	-Linnaea borealis	-twinflower
662	-XETE phase	-Xerophyllum tenax	-beargrass
663	-VASC phase	-Vaccinium scoparium	-grouse whortleberry
670	ABLA/MEFE h.t.	/Menziesia ferruginea	/menziesia
671	-COOC phase	-Coptis occidentalis	-western gold thread
672	-LUHI phase	-Luzula hitchcockii	-smooth woodrush
673	-XETE phase	-Xerophyllum tenax	-beargrass
674	-VASC phase	-Vaccinium scoparium	-grouse whortleberry
690	ABLA/XETE h.t.	/Xerophyllum tenax	/beargrass
691	-VAGL phase	-Vaccinium globulare	-blue huckleberry
692	-VASC phase	-Vaccinium scoparium	-grouse whortleberry
693	-COOC phase	-Coptis occidentalis	-western gold thread
694	-LUHI phase	-Luzula hitchcockii	-smooth woodrush
720	ABLA/VAGL h.t.	/Vaccinium globulare	/Blue huckleberry
730	ABLA/VASC h.t.	/Vaccinium scoparium	/grouse whortleberry
731	-CARU phase	-Calamagrostis rubescens	-pinegrass phase
732	-VASC phase	-Vaccinium scoparium	-grouse whortleberry
733	-THOC phase	-Thalictrum occidentale	-western meadowrue
740	ABLA/ALSI h.t.	/Alnus sinuata	/Sitka alder
750	ABLA/CARU h.t.	/Calamagrostis rubescens	/pinegrass
770	ABLA/CLPS h.t.	/Clematis pseudoalpine	/virgin's bower
780	ABLA/ARCO h.t.	/Arnica cordifolia	/heartleaf arnica
790	ABLA/CAGE h.t.	/Carex geyeri	/elk sedge
791	-CAGE phase	-Carex geyeri	-elk sedge
792	-PSME phase	-Pseudotsuga menziesii	-Douglas-fir

141.20 - Exhibit 01--Continued

Standard ADP Codes for Habitat Types of Montana and Northern Idaho--Cont.

UPPER SUBALPINE TYPES

810	ABLA/RIMO h.t.	/Ribes montigenum	/mountain gooseberry
820	ABLA-PIAL/VASC h.t.	Abies lasiocarpa-	/subalpine fir-whitebark
		Pinus albicaulis/ vaccinium scoparium	pine/grouse whortleberry
830	ABLA/LUHI h.t.	/Luzula hitchcockii	/smooth woodrush
831	-VASC phase	-Vaccinium scoparium	-grouse whortleberry
832	-MEFE phase	-Menziesia ferruginea	-menziesia

TIMBERLINE TYPES

850	PIAL-ABLA h.t.s	/Pinus albicaulis-Abies lasiocarpa	whitebark pine- subalpine fir
860	LALY-ABLA h.t.s	/Larix lyallii-Abies lasiocarpa	subalpine larch- subalpine fir
870	PIAL h.t.s	/Pinus albicaulis	whitebark pine
700	TSME series	Tsuga mertensiana	mountain hemlock

LOWER SUBALPINE TYPES

675	TSME/STAM h.t.	/Streptopus amplexifolius	/twisted stalk
676	-LUHI phase	-Luzula hitchcockii	-smooth woodrush
677	-MEFE phase	-Menziesia ferruginea	-menziesia
680	TSME/MEFE h.t.	/Menziesia ferruginea	/menziesia
681	-LUHI phase	-Luzula hitchcockii	-smooth woodrush
682	-XETE phase	-Xerophyllum tenax	-beargrass
685	TSME/CLUN h.t.	/Clintonia uniflora	/queencup beadlily
686	-MEFE phase	-Menziesia ferruginea	-menziesia
687	-XETE phase	-Xerophyllum tenax	-beargrass
710	TSME/XETE h.t.	/Xerophyllum tenax	/beargrass
711	-LUHI phase	-Luzula hitchcockii	-smooth woodrush
712	-VAGL phase	-Vaccinium globulare	-blue huckleberry
713	-VASC phase	-Vaccinium scoparium	-grouse whortleberry

UPPER SUBALPINE TYPES

840	TSME/LUHI h.t.	/Luzula hitchcockii h.t.	/smooth woodrush
841	-VASC phase	-Vaccinium scoparium	-grouse whortleberry
842	-MEFE phase	-Menziesia ferruginea	-menziesia
900	PICO series	Pinus contorta	Lodgepole pine
910	PICO/PUTR h.t.	/Purshia tridentata h.t.	/bitterbrush
920	PICO/VACA c.t.	/Vaccinium caespitosum c.t.	/dwarf huckleberry
925	PICO/XETE c.t.	/Xerophyllum tenax c.t.	/beargrass
930	PICO/LIBO c.t.	/Linnaea borealis c.t.	/twinflower
940	PICO/VASC h.t.	/Vaccinium scoparium h.t.	/grouse whortleberry
950	PICO/CARU c.t.	/Calamagrostis rubescens c.t.	/pinegrass

1/ References for Non-forest and Steppe Habitat types:

Mueggler, W.F. and W.L. Stewart.
1980 Grassland and shrubland habitat types of Western Montana
GTR-INT-66 Intermountain Forest and Range Experiment Station, USDA Forest Service.

2/ References for Forest Habitat Types:

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