

# Appendix

## A – Definition of Capability Area Types

### Summary of Capability Area (CA) Types

<u>CA Type Code</u>	<u>Vegetative Type</u>	<u>Land Form Modifier</u>
1 P	Southwestern Desertscrub	Plains
1 H/M	Southwestern Desertscrub	Hills and Mountains
1 M	Southwestern Desertscrub	Mountains
2 P	Desert Grassland	Plains
2 P/H	Desert Grassland	Plains and Hills
3 P	Plains Grassland	Plains
4 M	Mountain Grassland	Mountains
5 H	Chaparral	Hills
5 H/M	Chaparral	Hills and Mountains
6 P	Broadleaf Woodland	Plains
6 P/H	Broadleaf Woodland	Plains and Hills
6 H/M	Broadleaf Woodland	Hills and Mountains
6 M	Broadleaf Woodland	Mountains
6 P/S	Broadleaf Woodland	Plains Savannah
7 P	Coniferous Woodland	Plains
7 P/H	Coniferous Woodland	Plains and Hills
7 H/M	Coniferous Woodland	Hills and Mountains
7 M	Coniferous Woodland	Mountains
8 M	Deciduous Forest	Mountains
9 A H/M	Coniferous Forest Pine-Oak Juniper	Hills and Mountains
9 B H/M	Coniferous Forest Ponderosa Pine	Hills and Mountains
9 C H/M	Coniferous Forest Douglas Fir-Pine	Hills and Mountains
9 D H/M	Coniferous Forest Spruce-Fir	Hills and Mountains
10 R	Dry Desert Riparian	
11 AR	Wet Deciduous Riparian	
11 BR	Dry Oak Riparian	
12 R	Wet Coniferous Riparian	

## NARRATIVE DESCRIPTION OF CAPABILITY AREA TYPES

The 1P terrestrial ecosystem is characterized by nearly level to moderately sloping alluvial fans and piedmont plains (sometimes severely dissected) at elevations of about 2,100 to 4,900 feet. Dominant slopes range from 1 to 15 percent. The climate is steppe (hot). Mean annual air temperature ranges from about 62° to 72° F. Mean annual precipitation ranges from about 8 to 11 inches which comes as gentle rains in winter and high intensity localized thunderstorms in summer. The dominant native vegetation is saguaro, palo verde, creosote bush, ocotillo, mesquite, catclaw, and brittle bush. The foothills and plains below the Catalina Mountains are a good example of 1P.

The 1H/M terrestrial ecosystem is characterized by moderately sloping to steep hills and rough mountain slopes at elevations of about 3,000 to 5,100 feet. Dominant slopes range from 25 to 40 percent. 1H/M is otherwise similar to 1P. The footslopes of the front range of the Catalina Mountains is typical of 1H/M.

The 1M terrestrial ecosystem is characterized by moderately steep to steep rough mountain slopes at elevations of about 3,000 to 5,500 feet. Dominant slopes are 40 to 60 percent. 1M is otherwise similar to 1P. The mountain slopes of the front range of the Catalina Mountains are typical of 1M.

The 2P terrestrial ecosystem is characterized by nearly level to moderately sloping alluvial fans and piedmont plains at elevations of about 3,500 to 5,500 feet. Dominant slopes range from 1 to 15 percent. The climate is steppe (hot). Mean annual air temperature ranges from about 59° to 70° F. Mean annual precipitation ranges from about 11 to 14 inches which comes as gentle rains in winter and high intensity localized thunderstorms in summer. The dominant native vegetation are grasses including, but not necessarily limited to, bush muhly, cane beardgrass, Texas bluestem, tobosa in limited areas, curly mesquite, black, sideoats, and hairy grammas. Incidental to major overstory amounts of mesquite also occur. The exotic Lehmanns lovegrass also is common. The mesquite grassland type seen from I-19 between Tucson and Nogales is typical of 2P.

The 2P/H terrestrial ecosystem is characterized by a complex of gently sloping to moderately steep hills and valley plains at elevations of about 3,500 to 5,500 feet. Dominant slopes range from 5 to 40 percent. 2 P/H is otherwise similar to 2P. A good example of 2 P/H can be seen from I-19 between Tucson and Nogales.

The 3P terrestrial ecosystem is characterized by grassed level to moderately sloping alluvial fans, valley and piedmont plains, tableland, and interspersed moderately sloping low hills at elevations of about 5,000 to 5,500 feet. Dominant slopes range from 1 to 15 percent with hills ranging up to 25 percent. The climate is humid subtropical. Mean annual air temperature ranges from about 56° to 64° F. Mean annual precipitation ranges from about 14 to 18 inches which comes as gentle rains in winter and high intensity localized thunderstorms in summer. The dominant vegetation is plains lovegrass, curly mesquite, vine mesquite, cane beardgrass, and hairy sideoats, little bluestem, and blue grama. The exotic weeping lovegrass commonly occurs. The valley plains (the main drainage ways) may have an overstory of emory oak. The grassland of the San Rafael Valley is typical of 3P.

4M is characterized by level to gently sloping basins and valley plains at elevations above 7,500 feet. Dominant slopes range from 0 to 5 percent. The climate is temperate continental. Mean annual air temperature ranges from 45° to 50° F. Mean annual precipitation ranges from about 24 to 30 inches which comes as snow in winter and thunderstorms in the summer. The dominant native vegetation is wheatgrass species, long tongue muhly, deer grass, bullgrass, pine drop seed, june grass, and sedge species. The open meadow area just below Rustler Park in the Chiricahuas is a good example of 4M.

5H is characterized by moderately sloping to moderately steep hills at elevations of about 4,800 to 5,500 feet. Dominant slopes range from 15 to 40 percent. The climate is humid subtropical. The temperature ranges from 52° to 58° F. Mean annual precipitation ranges from 16 to 21 inches which comes as gentle rains and some snow in winter, and high intensity localized thunderstorms in summer. The dominant native vegetation is mountain mahogany, desert ceanothus, manzanita, toumey, emory, silver leaf, and Arizona white oak and a scattering of Chihuahuas, pinyon, and ponderosa pine. Turbinella oak may also be present. Much of the Santa Teresa Mountains have good examples of 5H.

5H/M is characterized by a complex of moderately sloping to steep hills and mountains at elevations of about 4,800 to 6,300 feet. Dominant slopes range from 25 to over 60 percent. 5H/M is otherwise similar to 5H. Much of the Santa Teresa Mountains are typical of 5H/M.

6P/S is characterized by nearly level to moderately steep sided tableland and piedmont plains at elevations of about 5,000 to 5,400 feet. Dominant slopes are 1 to 35 percent. The climate is humid subtropical. Mean annual air temperature ranges from 57° to 65° F. Mean annual precipitation ranges from about 14 to 18 inches which comes as low intensity rains in winter and high intensity localized thunderstorms in summer. The dominant native vegetation is characteristic of an oak savannah which is

#### NARRATIVE DESCRIPTION OF CAPABILITY AREA TYPES (Continued)

what 6P/S is. Tree canopy cover is less than 5 percent. Grasses include plains lovegrass, curly mesquite, vine mesquite, little bluestem, cane beardgrass, hairy sideoats, and blue grama. The area north of the Mexico border to the Canelo Hills and Huachuca Mountains are good examples of 6P/S.

6P is characterized by nearly level to moderately sloping alluvial fans and piedmont plains at elevations of about 4,800 to 5,400 feet. Dominant slopes range from 1 to 15 percent. The climate is humid subtropical. Mean annual air temperature ranges from about 52° to 58° F. Mean annual precipitation ranges from about 16 to 19 inches which comes as low intensity rains in winter and high intensity localized thunderstorms in summer. The dominant native vegetation is emory and Arizona white oak, alligator juniper, manzanita, and Juniperus Erythrocarpa. The flat wooded areas surrounding the San Rafael Valley is typical of 6P.

6P/H is characterized by a complex of gently sloping to moderately steep hills and piedmont plains at elevations of about 4,800 to 5,800 feet. Dominant slopes range from about 5 to 35 percent. 6P/H is otherwise similar to 6P. Much of the Canelo Hills area is representative of 6P/H.

6H/M is characterized by moderately sloping to moderately steep hills and mountains at elevations of about 4,800 to 6,300 feet. Dominant slopes are 25 to 40 percent. Good examples of 6H/M are found in any of the more mountainous oak types on the Coronado.

6M is characterized by moderately steep to steep mountains at elevations of about 5,000 to 6,300 feet. Dominant slopes are 40 to over 60 percent. Good examples of 6M are found in almost all of the Coronado's mountain ranges.

7P is characterized by nearly level to moderately sloping alluvial fans and piedmont plains at elevations of about 5,000 to 6,000 feet. Dominant slopes range from 1 to 15 percent. The climate is humid subtropical. Mean annual air temperature ranges from about 50° to 58° F. Mean annual precipitation ranges from about 17 to 22 inches which comes as gentle rains and snow in winter and high intensity localized thunderstorms in summer. The dominant native vegetation is pinyon pine (mostly Mexican), alligator juniper, Arizona white oak, emory oak, and may have some Chihuahua pine.

7P/H is characterized by a complex of gently sloping to moderately steep hills and valley plains at elevations of about 5,000 to 6,200 feet. Dominant slopes range from 5 to 40 percent. 7P/H is otherwise similar to 7P.

7H/M is characterized by moderately sloping to moderately steep hills and rough mountain slopes at elevations of about 5,500 to 7,000 feet. Dominant slopes range from 25 to 40 percent. 7H/M is otherwise similar to 7P.

7M is characterized by moderately steep to steep rough mountain slopes at elevations of about 6,000 to 7,000 feet. Dominant slopes are 40 to 60 percent. 7M is otherwise similar to 7P.

8M is characterized by moderately sloping to moderately steep or steeper canyons and mountain slopes at elevations of about 7,500 to 9,300 feet. Dominant slopes are 15 to 40 percent. The climate is temperate continental. Mean annual air temperature ranges from about 44° to 50° F. Mean annual precipitation ranges from about 26 to 32 inches which comes as gentle rains and perhaps heavy snows in winter and high intensity localized thunderstorms in summer. The dominant native vegetation is aspen, Rocky Mountain maple, box elder, ash, and New Mexican locust.

9AH/M is characterized by moderately sloping to moderately steep hills and rough mountain slopes at elevations of about 6,500 to 7,700 feet. Dominant slopes are 25 to 40 percent. The climate is on the border between humid subtropical and temperate continental. Mean annual air temperature ranges from about 49° to 55° F. Mean annual precipitation ranges from about 20 to 26 inches which comes as gentle rains and perhaps heavy snows in winter and high intensity localized thunderstorms in summer. The dominant native vegetation is a mix of manzanita, Arizona white oak, silver leaf oak, alligator juniper, pinyon pine (dominantly Mexican), Chihuahua pine, and ponderosa pine.

9BH/M is characterized by moderately sloping to very steep mountain slopes at elevations of about 7,000 to 9,000 feet. Dominant slopes are 25 to 80 percent. The climate is temperate continental. Mean annual air temperature ranges from about 45° to 52° F. Mean annual precipitation ranges from about 22 to 26 inches which comes mostly as snow in the winter and high intensity thunderstorms in summer. The dominant native vegetation is ponderosa pine, alligator juniper, some gambel oak, and madrone. Good examples of 9BH/M occur in the Pinaleno, Santa Catalina, Chiricahua, and Huachuca Mountains.

NARRATIVE DESCRIPTION OF CAPABILITY AREA TYPES (Continued)

9CH/M is characterized by moderately sloping to very steep mountain slopes at elevations of about 6,800 to 9,000 feet. Dominant slopes are 25 to 80 percent. The climate is temperate continental. Mean annual air temperature ranges from about 45° to 50° F. Mean annual precipitation ranges from about 28 to 32 inches which comes as snow in the winter and high intensity thunderstorms in summer. The dominant native vegetation is Douglas fir and ponderosa pine. Good examples of this type occur in the Chiricahua, Huachuca, Pinaleno, and Santa Catalina Mountains.

9DH/M is characterized by moderately sloping to moderately steep mountain slopes at elevations of about 8,000 to 9,800 feet. Dominant slopes are 15 to 40 percent. The climate is boreal. Mean annual air temperature ranges from about 38° to 44° F. Mean annual precipitation ranges from about 30 to 35 inches which comes in winter as heavy snows and high intensity thunderstorms in summer. The dominant native vegetation is white fir, Douglas fir, scattered aspen, and in a few areas, high densities of Engelmann spruce and corkbark fir. Good examples of this type occur at the top of the Chiricahua, Santa Catalina, and Pinaleno Mountains.

10R is characterized by nearly level to gently sloping intermittent streams at elevations of about 4,300 to 4,800 feet. Dominant slopes are 0 to 5 percent. The climate is steppe (hot). Mean annual air temperature ranges from about 66° to 72° F. Mean annual precipitation ranges from about 8 to 10 inches which comes from gentle rains in winter and high intensity localized thunderstorms in summer. Because of its position, significantly larger amounts of moisture are available. 10R is a riparian zone whose native vegetation includes mesquite, desert and seep willow, and desert broom. Gardner Canyon or the lower part of Cave Creek near Portal (off the Forest) is a good example of 10R.

11AR is characterized by nearly level to gently sloping intermittent streams at elevations of about 4,800 to 5,600 feet. Dominant slopes are 0 to 5 percent. The climate is steppe (hot). Mean annual air temperature ranges from about 56° to 64° F. Mean annual precipitation ranges from about 12 to 16 inches which comes from gentle rains in winter and high intensity localized thunderstorms in summer. Because of its position, significantly larger amounts of moisture are available. 11AR is a riparian zone whose native vegetation includes Fremont cottonwood, Arizona sycamore, a few emory oak and Arizona walnut, wolfberry, and Texas mulberry. Cave Creek, just south of Portal, is a good example of 11AR.

11BR is characterized by nearly level to gently sloping intermittent streams at elevations of about 4,600 to 5,600 feet. Dominant slopes are 0 to 5 percent. The climate is humid subtropical. Mean annual air temperature ranges from about 54° to 58° F. Mean annual precipitation ranges from about 16 to 19 inches which comes as gentle rains in winter and high intensity localized thunderstorms in summer. Because of its position, significantly larger amounts of moisture are available. 11BR is a riparian zone whose native vegetation is primarily large diameter emory oak, Arizona walnut, and alligator juniper. 11BR, especially on the Douglas District, is an extremely good fuelwood area.

12R is characterized by nearly level to gently to moderately sloping perennial, and frequently flowing intermittent streams at elevations of about 5,000 to 7,200 feet. Dominant slopes are 0 to 10 percent. The climate is humid subtropical to temperate continental. Mean annual air temperature ranges from about 46° to 52° F. Mean annual precipitation ranges from about 18 to 24 inches which comes as gentle rains and some snow in winter and high intensity localized thunderstorms in summer. Because of its position, significantly larger amounts of moisture are available. 12R is a riparian zone whose native vegetation primarily includes Arizona cypress, pinyon pine, apache pine, Chihuahuan pine, ponderosa pine, Arizona white oak, Douglas fir, Arizona sycamore, silverleaf oak, aspen, emory oak, and Rocky Mountain maple. The South Fork of Cave Creek is a good example of 12R.

## B - Definition of Management Practices and Activities

### Practices

DU-1	Dispersed recreation operation, administration, and maintenance.
DU-2	Visual resource inventory and planning.
DU-3	Cultural resource management.
DU-4	Non-wilderness trail construction or reconstruction.
Du-5	Developed recreation operation, administration, and maintenance.
DU-6	Recreation site construction.
DU-8	Wilderness management.
DU-9	Wilderness trail construction or reconstruction.
DU-10	Wildlife and fish plans and management.
DU-11	Wildlife habitat maintenance.
DU-12	Threatened and endangered plant habitat improvement.
DU-13	Fish habitat improvement.
DU-14	Game habitat improvement.
DU-15	Non-game habitat improvement.
DU-16	Range management operation, maintenance, and protection.
DU-17&18	Range improvement.
DU-19	Timber sale preparation.
DU-21	Timber sale administration.
DU-32	Timber management and plans.
DU-33	Water resource improvement.
DU-34	Water resource operation, maintenance, and protection.
DU-36	Management of mining activities.
DU-38	All human resource programs.
DU-39	Land classification.
DU-40	Land management planning.
DU-41	Special uses management (non-recreation).
DU-42	Lands administration.
DU-43	Land line location.
DU-44	Rights-of-Way.
DU-45	Soil resource improvements.
DU-46	Soils management operation, maintenance, and protection.
DU-47	Transportation system planning.
DU-48	Road maintenance for arterial and collector roads.
DU-49	Trail construction and reconstruction.
DU-50	Trail system management.
DU-51	Road construction.
DU-52	Fire, administration, and operation facility construction.
DU-53	Fire aviation and other facility maintenance.
DU-54	Dam administration and management.
DU-55	General administration.
DU-56	Fire, aviation, air quality management, and fuel management.
DU-57	Fuel treatment and maintenance.
DU-58	Cooperative search, rescue, and law enforcement.
DU-60	Timber stand improvement from KV funds.
DU-61	Wildlife habitat improvement from KV funds.

### Activities

A01	Recreation planning and inventory.
A02	Cultural Resource Management.
A03	Visual resource inventory and planning.
A05	Recreation site construction.
A06	Recreation site rehabilitation.
A07	Visitor information services planning.
A08	Visitor information services--full service management.
A09	Visitor information services--reduced service management.
A11	Developed recreation sites--full service management.
A13	Developed recreation sites--reduced service management.
A14	Dispersed recreation--full service management.
A15	Dispersed recreation--reduced service management.
A16	Recreation management--private and other public sector.
B01	Wilderness planning and inventory.
B02	Wilderness area--standard service management.
B03	Wilderness area--less than standard service management.

B - Definition of Management Practices and Activities (Continued)

Activities

C01 Fish and wildlife prescriptions.  
C02 Wildlife surveys and coordination.  
C03 Non-structural wildlife habitat improvement.  
C04 Non-structural fish habitat improvement.  
C05 Non-structural threatened or endangered plant habitat improvement.  
C06 Structural wildlife habitat improvement.  
C07 Structural fish habitat improvement.  
C08 Structural threatened or endangered plant habitat improvement.  
C09 Wildlife habitat maintenance.  
C10 Fish habitat maintenance.  
C11 Threatened and endangered plant habitat maintenance.  
C12 Wildlife and fish cooperation with other agencies and groups.  
D01 Range resource planning and inventory.  
D02 Range resource management.  
D03 Range forage improvement.  
D04 Range forage improvement maintenance.  
D05 Range structural improvements.  
D06 Maintenance of range structural improvements.  
E00 Timber resource management planning and inventory.  
E05 Timber stand improvement.  
E06 Timber sale preparation.  
E07 Timber harvest administration.  
F01 Water resource planning.  
F02 Water resource inventory.  
F03 Water resource monitoring.  
F04 Water uses management.  
F05 Water resource improvement.  
F06 Water resource improvement maintenance.  
G01 Mining law compliance and administration.  
G02 Minerals management - oil and gas.  
G04 Minerals management - geothermal.  
G05 Minerals management - uranium.  
G06 Minerals management - non-energy.  
G07 Minerals management - common minerals material.  
H02 Youth conservation corps program.  
H03 Young adult conservation corps program.  
H04 Senior community service employment program.  
H06 Volunteers in the National Forests.  
H07 Other human resource programs.  
J01 Special use management (non-recreation).  
J04 Withdrawals, modifications, and revocations.  
J05 Land status maintenance.  
J06 Property boundary location.  
J07 Property boundary and corner maintenance.  
J10 Encroachment.  
J11 Land ownership planning.  
J12 Land adjustment planning.  
J13 Land exchange.  
J15 Land acquisition.  
J18 Rights-of-Way acquisition.  
J22 Forest land and resource planning.  
K01 Soil resource inventory.  
K03 Soil resource planning.  
K04 Soil monitoring.  
K05 Soil Resource Improvement  
K06 Soil resource improvement maintenance.  
L01 Transportation system planning and inventory.  
L05 Arterial road reconstruction.  
L09 Collector road reconstruction.  
L10 Local road preconstruction.  
L11 Local road construction engineering.

B - Definition of Management Practices and Activities (Continued)

Activities

L12 Local road construction.  
L13 Local road reconstruction.  
L19 Road maintenance.  
L20 Trail inventory and planning.  
L21 Trail preconstruction.  
L22 Trail construction and reconstruction.  
L23 Trail system management.  
L24 Fire, aviation, and other construction and reconstruction.  
L25 Fire, aviation and other facility maintenance.  
L28 Dam administration and management.  
P01 Fire management planning and analysis.  
P02 Fire prevention.  
P03 Fire detection.  
P04 Initial attack forces.  
P07 Forest fire support and facilitating services.  
P08 Initial attack fire suppression action.  
P09 Escaped fire suppression.  
P10 Fuel management inventory.  
P11 Treatment of activity fuels.  
P12 Treatment of natural fuels.  
P14 Fuel treatment area maintenance.  
P15 Vegetation treated by burning.  
P16 Air resource management.  
P17 Air quality and visibility coordination.  
P19 Aerial transportation of personnel.  
P20 Aerial transportation of goods.  
P21 Aerial application of materials.  
P22 Aerial platform.  
P24 Law enforcement.  
P25 Cooperative law enforcement.  
P27 Cooperative search and rescue.  
P34 Insect and disease management - surveys and technical assistance.  
P35 Insect and disease management - suppression.  
P36 Insect and disease management plan inputs.  
T02 General administration.  
254 Administration of water uses.  
255 Water uses inventory.  
478 Commercial non-convertible products sale and administration.  
479 Free-use and administrative free-use administration.  
552 Order 3 soil inventory.  
553 Order 4 soil inventory.  
908 Forest plan implementation.

# 10 C - Definition of Range Resource Management Levels

Table C-1 Standards and Guidelines for Range Management Levels

	(1)	(2)	(3)	(4)	(5)	(6)
Management Intensity Level	Range Analysis, Production Utilization Studies, Condition & Trend Clusters Interval	Update Allotment Management Plans	Grazing System <sup>1/</sup>	Allotment Inspection Frequency and Intensity	Level of Structural Improvements (D05) Needed to implement and Maintain Management Systems	Non-structural Improvements (D03) Implemented to Improve and/or Maintain Range Forage Production
Level A No Livestock Grazing		The above categories do not apply at this level. There could be some minor costs to avoid unauthorized use, etc.				
Y02 Level B Some Livestock Grazing	Interval will be dictated by needs of other resource elements.	Every 10 years	Will obtain relatively uniform distribution at the 25% use level over 60% of the Full Capacity Range	8 Years Extensive	Limited improvements, boundary fences, low-cost water developments. Only those improvements needed to meet prescriptions objectives	Not implemented at this level
Level C Extensive Livestock Management	25 years	Once established, update at 5 year intervals.	Will obtain relatively uniform distribution at the 30-35% use level over 90% of the Full Capacity Range.	5 years Extensive	Additional interior fencing, permanent waters.	Normally not implemented at this level. May include some seeding of fuel-wood areas. Minor veg control without seeding.
Level D Intensive Livestock Management	25 years	Update as needed, but at least every 5 years.	Will obtain relatively uniform distribution at 35-55% use level over 100% of the Full Capacity Range. Apply intensive management systems.	3-4 years Intensive	Higher density, water developments, and interior fencing.	(See following page)

<sup>1/</sup> On management systems which provide for a high percentage of rest or winter-only grazing, the use level may exceed these guidelines.



Table C-2 Targeted Species for Control and Methods (Level D Management) <sup>1/</sup>

<u>CA Type</u>	<u>Mechanical</u>	<u>Chemical</u>	<u>Prescribed Fire</u>	<u>Fuelwood Sales</u>
1 P		Amole, Catclaw, Burroweed, Mesquite, Snakeweed	Amole	
1 HM		Amole	Amole	
1 M				
2 P	Mesquite	Amole, Catclaw, Burroweed, Mesquite, Snakeweed	Amole	Mesquite
2 P/H	Mesquite	Amole, Mesquite Burroweed, Catclaw, Snakeweed	Amole	Mesquite
3 P	Ripping, Seeding	Catclaw, Senecio	Catclaw	
4 M				
5 H	Aerial Seeding	Oak, Pinyon, Manzanita, Juniper	Oak, Pinyon, Manzanita, Juniper	Pinyon, Oak, Juniper
5 H/M		Oak, Pinyon, Manzanita, Juniper	Oak, Pinyon, Manzanita, Juniper	Oak, Pinyon, Juniper
6 P/S	Manzanita Ripping, Seeding	Catclaw, Manzanita Senecio	Catclaw, Manzanita Senecio	Manzanita
6 P	Seeding, Ripping	Catclaw, Senecio Oak, Juniper	Catclaw, Senecio	Oak, Juniper
6 P/H	Seeding, Ripping	Catclaw, Senecio Oak, Juniper	Catclaw, Senecio	Oak, Juniper
6 H/M	Aerial Seeding	Oak, Juniper		Oak, Juniper
6 M				
7 P	Pinyon, Juniper, Oak, Seeding	Pinyon, Juniper, Oak	Pinyon	Pinyon, Juniper, Oak
7 P/H	Pinyon, Juniper, Oak, Seeding	Pinyon, Juniper, Oak	Pinyon	Pinyon, Juniper, Oak
7 H/M	Aerial Seeding	Pinyon, Juniper, Oak	Pinyon, Juniper, Oak	Pinyon, Juniper, Oak
7 M				
8 M				
9A H/M				Juniper, Oak
9B H/M				Juniper, Oak
9C H/M				
9D H/M				

Table C-2 Targeted Species for Control and Methods (Level D Management) <sup>1/</sup> (Continued)

<u>CA Type</u>	<u>Mechanical</u>	<u>Chemical</u>	<u>Prescribed Fire</u>	<u>Fuelwood Sales</u>
10 R				Mesquite
11A R				Oak
11B R				Oak, Juniper
12 R				

<sup>1/</sup> Table C-2 is a decision matrix for specific species by individual management areas. The table shows which management practices are effective for the various species. Where more than one practice can be used the decision will be based on the latest literature and cost effectiveness of the project. Prescribed burning will be used where the literature shows that burning will be effective based on plant density and ground cover. Chemical control will be used on areas where burning is not effective or on species where burning promotes resprouting. Mesquite, pinyon, juniper, and oak will be offered as fuelwood before other treatments are considered when the material is of sufficient size for fuelwood. This list may not be all inclusive. Other plant species and control techniques will be proposed as technology progresses.

## D – Watershed Maintenance and Improvement Activities

Capability Type	Activities						Priorities <sup>1/</sup> as set by Terrestrial Ecosystem Survey Note 2559-23	
	Ripping	Shaping	Revegetation (Seeding/planting)	Contour Structures Earth Structures; such as dikes, trenches, etc.	Felled trees	Brush Crushing		Channel Work (includes debris clearing and structures)
Management Areas								
1P			9,14,	3,4,			3,4,9 14	3
1HM			9,14				3,4,9 14	3
1M			1,3,9				1,3,9	8
2P			9	3,4			3,4,9	3
2PH			9	3,4			3,4,9	6
3P	3,4	3,4	3,4,9	3,4			3,4,9,14	3
4M	2	2	2,3B,9	2,3B			2,3B,9	5
5H			3,4,9			3,4	3,4,9	6
5HM			3,4,9 14				3,4,9 14	3
6P	3,4	3,4	3,4,9 14	3,4		3,4	3,4,9 14	6
6PH	3,4		3,4,9 14	3,4		3,4	3,4,9 14	6
6HM			3,4,9 14				3,4,9 14	7
6M			1,3,9,14				1,3,9,14	7

## D - Watershed Maintenance and Improvement Activities Applicable to Management Areas (Continued)

Capability Type	<u>Activities</u>						Priorities <sup>1/</sup> as set by Terrestrial Ecosystem Survey Note 2559-23	
	Ripping	Shaping	Revegetation (Seeding/planting)	Contour Structures Earth Structures; such as, dikes, trenches, etc.	Felled trees	Brush Crushing		Channel Work (includes debris clearing and structures)
<u>Management Areas</u>								
6PS	3,4	3,4	3,4,9,14	3,4			3,4,9,14	3
7P		3,4	3,4,9 14	3,4			3,4,9 14	6
7PH			3,4,9 14	3,4			3,4,9 14	3
7HM			3,4,9 14				3,4,9 14	6
7M			1,3,9				1,3,9	6
8M			1,3,7A,9	1,3,7A	A11		1,3,7A,9	6
9AHM			2,3,3B,4,7A 9	1,2,3,3B,4	A11		2,3,3B,4,7A 9	3
9BHM			2,3,3B,4,7A 9,14	1,2,3,3B,4	A11		2,3,3B,4,7A 9,14	7
9CHM			2,3,3B,4,7A 9	1,2,3,3B,4	A11		2,3,3B,4,7A 9	6
9DHM			2,3B	1,2,3B	A11		2,3B	7
10R,11AR			3,3B,4,7B,7A				3,3B,4,7B,7A	
11BR, 12R			14				14	

Footnote:

1. Priorities do not consider all sociological, political or ecological conditions, and therefore are subject to change.

## E - Definition of Road and Trail Maintenance Standards

### ROAD MAINTENANCE STANDARDS

Level 1 - This level is assigned to intermittent service roads during the time management direction requires that the road be closed or otherwise blocked to traffic. Basic custodial maintenance is performed to protect the road investment and to keep damage to adjacent resources to an acceptable level. Drainage facilities and runoff patterns are maintained.

Roads receiving Level 1 maintenance may be of any type, class, or construction standard and may be managed at any other maintenance level during the time management direction requires that they be open for traffic. However, while being maintained at Level 1, they are closed or blocked to traffic.

Level 2 - This level is assigned where management direction requires that the road be open for limited passage of traffic. Traffic is normally minor, usually consisting of one or a combination of administrative, permitted, dispersed recreation, or other specialized uses. Log haul may occur at this level.

Road in this maintenance level are normally characterized as single lane, primitive type facilities intended for use by high clearance vehicles. Passenger car traffic is not a consideration.

Level 3 - This level is assigned where management direction requires the road to be open and maintained for safe travel by a prudent driver in a passenger car. Traffic volumes are minor to moderate; however, user comfort and convenience is not considered a priority.

Roads at this maintenance level are normally characterized as low speed, single lane with turnouts and spot surfacing. Some roads may be fully surfaced with either native or processed material. The functional classification of these roads is normally local or minor collector.

Level 4 - This level is assigned where management direction requires the road to provide a moderate degree of user comfort and convenience at moderate travel speeds. Traffic volumes are normally sufficient to require a double lane aggregate surfaced road. Some roads may be single lane and some may be paved and/or dust abated. The functional classification of these roads is normally collector or minor arterial.

Level 5 - This level is assigned where management direction requires the road to provide a high degree of user comfort and convenience. These roads are normally double lane, paved facilities. Some may be aggregate surfaced and dust abated. Functional classification of these roads is normally arterial.

More specific information regarding each maintenance level is found in FSH 7709.15 and FSM 7700.

### TRAIL MAINTENANCE STANDARDS

#### Trail Maintenance - Level 1

Trails maintained for primitive experience level. Custodial care only. No tread maintenance. Drainage functional and not likely to fail. Trail sides not brushed but tread is kept passable. Small slides may remain except for those with erosion potential. Structures maintained as needed. Signing may be deferred.

#### Trail Maintenance - Level 2

Trails maintained for near-primitive experience level. Tread maintained for public safety. Logs or similar rustic structures may be provided at stream crossings. Drainage same as Level 1. Signing at a minimum level commensurate with level of trail use.

#### Trail Maintenance - Level 3

Trails maintained for intermediate experience level. Tread maintained for public safety and user convenience. Drainage same as Level 1. Trailsides brushed out at handbook standards. Structures maintained to original design standards. Signing same as Level 2.

#### Trail Maintenance - Level 4

Trails maintained at relatively high standards to provide for public safety and convenience. Tread relatively smooth, firm and may require stabilization. Signing at high level, all other elements same as Level 3. These trails are generally maintained for family or senior citizen use.

TRAIL MAINTENANCE STANDARDS (Continued)

Trail Maintenance - Level 5

Trails maintained for high use and experienced levels, including special purposes such as interpretive trails, bicycle trails, trails to major vista points, trails for the handicapped, etc. Basic care same as Level 4 but patching of paved tread may be needed annually. Trail sides maintained to meet high visual quality standards by brushing and clean-up of debris beyond the trail limits. Vistas are maintained.

CRITERIA FOR DETERMINING APPROPRIATE TRAIL MAINTENANCE LEVEL

1. Type of use (e.g., foot, horses, vehicles or mix)
2. Amount of use.
3. Significance of trail. (e.g., major access route, leads to dead end, etc.)

## F – Building Condition Classes

There are no standard definitions for either building condition classes or for maintenance level standards for Forest Service buildings.

To describe the conditions of existing buildings in the Coronado National Forest Land Management Plan, it is necessary to define differing condition classes.

The condition classes, used to describe the buildings and structures listed in this plan, were basically derived from the facility condition classes listed in the Recreation Information Management Handbook. These classes have been modified somewhat and are listed below.

### Condition 1, Satisfactory

Building is adequate to meet present and projected future needs. Annual maintenance needs are minimal and will not exceed 5% of replacement cost. Useful life exceeds 25 years.

### Condition 2, Substandard

Building is adequate to meet present and projected future needs but may be substandard as to type and/or construction standards. Building is in a deteriorated condition. Annual maintenance needs exceed 5% of replacement cost but are less than 20% of replacement cost. Generally the useful life is less than 25 years.

### Condition 3, Betterment

Building is deteriorated to the point that heavy maintenance is needed. Annual maintenance needs exceed 20% of replacement cost. Building may be inadequate to meet present or projected future needs. Building may require remodeling. Useful life cannot be extended beyond 25 years.

### Condition 4, Replacement

Maintenance needs exceed 50% of replacement cost. Building may be unsafe, create health hazards or nuisance, or be inadequate to meet present or future needs. Building may be needed at a different location, or may require a study to see if it is necessary.

### Condition 5, Eliminate

Building is no longer needed and will not be replaced. Building should be torn down and removed. Maintenance needs are zero.

### Condition 6, Historic Site

Building is no longer in use and should be evaluated for inclusion into the National Register of Historic Places. If the building does not qualify, it should be torn down and removed. Maintenance needs exist only if the building qualifies or is already included in the register. The amount of money needed for maintenance is determined by the amount of work necessary to prevent further deterioration of the building.

## G – Lists of Threatened and Endangered Species and Management Indicator Species

### THREATENED AND ENDANGERED SPECIES

	Federal <sup>1</sup> Classification	Arizona <sup>2</sup> Classification	New Mexico <sup>3</sup> Classification
<u>Mammals</u>			
Southern yellow bat			Group II
Black-tailed prairie dog		Group I	
White-sided jackrabbit			Group I
Mt. Graham spruce squirrel		Group IV	
Mexican wolf	Endangered	Group I	Group I
Jaguar	Endangered	Group I	Group I
Desert bighorn sheep		Group III	Group I
<u>Birds</u>			
Great egret		Group IV	
Snowy egret		Group IV	
Black-bellied whistling duck		Group IV	
Gray Hawk		Group II	
Black hawk		Group III	Group II
Osprey		Group III	
Bald eagle	Endangered		Group II
Peregrine falcon	Endangered	Group III	Group I
Aplomado falcon	Proposed Endangered	Group I	
Gould's Turkey			Group II
Masked bobwhite quail	Endangered	Group II	
Buff-collared nightjar			Group I
Spotted owl		Group IV	
Costa hummingbird			Group II
Blue-throated hummingbird		Group IV	Group II
Lucifer hummingbird			Group II
Violet-crowned hummingbird		Group IV	Group II
Berylline hummingbird		Group IV	
White-eared hummingbird			Group II
Broad-billed hummingbird			Group II
Elegant trogon		Group IV	
Gila woodpecker			Group II
Rose-throated becard			Group II
Tropical kingbird		Group III	
Thick-billed kingbird		Group III	Group II
Buff-breasted flycatcher		Group III	
Northern beardless tyrannulet		Group III	Group I
Black-capped gnatcatcher		Group IV	
Sprague's pipit		Group IV	
Gray vireo			Group II
Bell's vireo			Group II
Varied bunting			Group II
Baird's sparrow		Group III	Group II
Five-striped sparrow		Group III	-
Yellow-eyed junco			Group II
McCown's longspur			Group II
<u>Fishes</u>			
Mexican stoneroller	Category II	Group II	
Arizona trout	Threatened	Group III	
Gila topminnow	Endangered	Group III	
Gila chub	Category I	Group III	
Spikedace	Proposed Threatened	Group III	
Sonoran chub		Group III	



G - List of Threatened and Endangered Species and Management Indicator Species (Continued)

THREATENED AND ENDANGERED SPECIES

	Federal <sup>1</sup> Classification	Arizona <sup>2</sup> Classification	New Mexico <sup>3</sup> Classification
<u>Reptiles</u>			
Desert massasauga		Group IV	
Arizona ridge-nosed rattlesnake	Category II	Group IV	
Vine snake		Group IV	
Sonora mountain kingsnake			Group II
Desert hook-nosed snake		Group IV	
Green rat snake			Group II
Mexican garter snake		Group III	Group II
Gila monster	Category II		Group I
Mountain skink		Group IV	Group II
Giant spotted whiptailed lizard			Group II
Bunch grass lizard			Group II

Amphibians

Huachuca Tiger salamander		Group II	
Colorado River toad			Group II
Plains narrow-mouthed toad		Group IV	
Tarahumara frog	Category II	Group II	

1. Federal

"Endangered species" means any species which is endanger of extinction throughout all or a significant portion of its range.

"Threatened species" means any species which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.

"Proposed endangered" means the species has been listed in the Federal Register for formal status as endangered. A final determination will be made upon receipt of public and agency comments.

"Proposed Threatened" has a similar meaning as "Proposed Endangered" except the species would be listed as threatened.

Category I means the species is a potential candidate for formal listing by the U.S. Fish and Wildlife Service as threatened or endangered; sufficient evidence is on hand to support such a listing.

Category II means the species is a potential candidate for formal listing by the U.S. Fish and Wildlife Service but further information is needed to determine the appropriateness of such a listing.

2. Arizona (List and definitions from: Arizona Game and Fish Commission, 1982, Threatened Native Wildlife in Arizona, Arizona Game and Fish Department Publication, 12pp.)

Group I species that are known or suspected to be extinct in Arizona but that still exist in the United States or Mexico.

Group II corresponds to Federal "endangered" categories.

Group III corresponds to Federal "threatened" category.

Group IV includes species of interest primarily because of limited distribution.

3. New Mexico (List and definitions from: New Mexico Department of Game and Fish, 1985. Listing of Endangered Species and Subspecies in New Mexico, State Game Commission, Regulation No. 624, 4pp.)

Group I species whose prospects of survival or recruitment in the state are in jeopardy.

Group II species whose prospects of survival or recruitment within the state may become in jeopardy in the foreseeable future.

SENSITIVE PLANT SPECIES ON THE CORONADO NATIONAL FOREST

Sensitive Plant Species of Arizona

<u>Name</u>	<u>Status</u>
<u>Agave parviflora</u>	2
<u>Agave scottii</u> var. <u>terleasei</u>	2
<u>Allium gooddingii</u>	1
<u>Amsonia grandiflora</u> <sub>1/</sub>	2
<u>Amsonia kearneyana</u> <sub>1/</sub>	1
<u>Aster lemmoni</u>	1
<u>Cereus greggii</u>	2
<u>Cheilanthes arizonica</u>	2
<u>Cheilanthes pringlei</u>	2
<u>Choisya mollis</u>	2
<u>Corypantha recurvata</u>	2
<u>Corypantha robbinsorum</u> <sub>1/</sub>	Proposed threatened
<u>Corypantha scheeri</u> var. <u>robustispina</u> <sub>1/</sub>	1
<u>Cynanchum wigginsii</u>	S
<u>Dalea tentaculoides</u>	1
<u>Desmanthus bicornutus</u>	1
<u>Echinocereus ledingii</u>	S
<u>Erigeron arizonicus</u>	S
<u>Erigeron eriophyllus</u>	1
<u>Erigeron kuschei</u>	1
<u>Erigeron lemmoni</u>	2
<u>Erigeron pringlei</u>	2
<u>Euphorba plummerae</u>	S
<u>Fraxinus gooddingii</u>	S
<u>Graptopetalum batramii</u>	2
<u>Ipomoea lemmoni</u>	2
<u>Lilaeopsis recurva</u>	2
<u>Lilium parryi</u>	2
<u>Manihot davisae</u>	S
<u>Margaranthus lemmoni</u>	2
<u>Neolloydia erectocentra</u> var. <u>erectocentra</u>	2
<u>Notholaena lemmoni</u>	2
<u>Pectis imberbis</u>	2
<u>Penstemon discolor</u>	1
<u>Perityle cochisensis</u>	S
<u>Phaseolus supinus</u>	S
<u>Pherotrichis balbisii</u>	S
<u>Polemonium pauciflorum</u> <u>hinkleyi</u>	2
<u>Polygonum fusiforme</u>	2
<u>Ranunculus arizonicus</u>	S
<u>Rumex orthoneurus</u>	1
<u>Senecio huachucanus</u>	1
<u>Sophora arizonica</u>	S
<u>Spiranthes graminea</u>	S
<u>Streptanthus carinatus</u>	S
<u>Streptanthus lemmoni</u>	2
<u>Talinum marginatum</u>	2
<u>Tumamoca maddougali</u>	Proposed endangered
<u>Vauquelinia pauciflora</u>	1

1/ Small amount of habitat on National Forest.

Sensitive Plant Species on the Coronado National Forest (Continued)

Status

- 1 : potential candidate for formal listing by the U.S. Fish & Wildlife Service as threatened or endangered; sufficient evidence is on hand to support such a listing.
- 2 : potential candidate for formal listing by the U.S. Fish & Wildlife Service but further information is needed to determine the appropriateness of such a listing.

This list of species and definitions are from the September 27, 1985, Notice of Review Amendments.

Proposed endangered

The species has been listed in the Federal Register for formal status as endangered. A final determination will be made upon receipt of public and agency comments.

Proposed threatened:

Same definition as proposed endangered except formal status would be threatened.

- S : a Region 3 (U.S. Forest Service) sensitive species not on the Federal Notice of Review of September 27, 1985. Forest Service policy is to keep these species from federal or state listing through coordination in land managing activities.

Sensitive Plant Species of New Mexico

<u>Name</u>	<u>Status</u>
<u>Agastache pallidiflora mearnsii</u>	NM-T
<u>Aletes filifolius</u>	NM-1
<u>Cereus greggii</u>	NM-T
<u>Corypantha scheeri</u> var. <u>scheeri</u>	NM-E
<u>Escobaria orcuttii</u>	NM-T
<u>Ferocactus wislizenii</u>	NM-1
<u>Ipomopsis pinnatifida</u>	NM-T
<u>Mammillaria wrightii</u> var. <u>wilcoxii</u>	NM-1
<u>Penstemon dasphyllus</u>	NM-1
<u>Vauquelinia pauciflora</u>	NM-T

The status of these plants has been proposed by the New Mexico Native Plants Advisory Committee in A Handbook of Rare and Endemic Plants of New Mexico, 1984, 291 pp. Definitions for these classifications are

Status:

- NM-E : taxon restricted to a few sites in New Mexico and/or is in threat of extinction or rapidly declining; biologically endangered.
- NM-T : taxon is relatively restricted in New Mexico or has the potential for rapid extinction; biological threatened.
- NM-1 : taxon is common in New Mexico but wholly endemic to state; commercially exploited; of restricted distribution in New Mexico; or widely distributed but of local occurrence in New Mexico and subject to threats; State Priority-1.

MANAGEMENT INDICATOR SPECIES INCLUDED IN MANAGEMENT INDICATOR SPECIES GROUPS

- Group 1                    Cavity Nesters  
Coppery-tailed trogon  
Sulphur-bellied flycatcher  
Other primary and secondary  
  cavity nesters
- Group 2                    Riparian Species  
Gray hawk  
Blue-throated hummingbird  
Coppery-tailed trogon  
Rose-throated becard  
Thick-billed kingbird  
Sulphur-bellied flycatcher  
Northern beardless tyrannulet  
Bell's vireo  
Black bear
- Group 3                    Species Needing Diversity  
White-tailed deer  
Merriam's turkey  
Coppery-tailed trogon  
Sulphur-bellied flycatcher  
Buff-breasted flycatcher  
Black bear
- Group 4                    Species Needing Herbaceous Cover  
White-tailed deer  
Mearns' quail  
Pronghorn antelope  
Desert massassauga  
Baird's sparrow
- Group 5                    Species Needing Dense Canopy  
Bell's vireo  
Northern beardless tyrannulet  
Gray hawk
- Group 6                    Game Species  
White-tailed deer  
Mearns' quail  
Pronghorn antelope  
Desert bighorn sheep  
Merriam's turkey  
Black bear
- Group 7                    Special Interest Species  
Mearns' quail  
Gray hawk  
Blue-throated hummingbird  
Coppery-tailed trogon  
Rose-throated becard  
Thick-billed kingbird  
Sulphur-bellied flycatcher  
Buff-breasted flycatcher  
Northern beardless tyrannulet  
Five-striped sparrow

MANAGEMENT INDICATOR SPECIES INCLUDED IN MANAGEMENT INDICATOR SPECIES GROUPS (Continued)

Group 8

Threatened and Endangered Species

Desert bighorn sheep  
Gray hawk  
Peregrine falcon  
Blue-throated hummingbird  
Coppery-tailed trogon  
Rose-throated becard  
Thick-billed kingbird  
Sulphur-bellied flycatcher  
Buff-breasted flycatcher  
Northern beardless tyrannulet  
Bell's vireo  
Baird's sparrow  
Five-striped sparrow  
Mexican stoneroller  
Arizona trout  
Gila topminnow  
Gila chub  
Sonora chub  
Desert massassauga  
Twin-spotted rattlesnake  
Arizona ridge-nosed rattlesnake  
Huachuca tiger salamander  
Tarahumara frog  
Western barking frog  
Spikedace  
Arizona tree frog  
Mt. Graham spruce squirrel  
Gould's turkey

## H - Desired Vegetative Condition and Minimum Habitat for Indicator Species at Year 2030

### DESIRED VEGETATIVE CONDITION

<u>Vegetation Grouping</u>	<u>Net Acres</u>	<u>Percent</u>
Southwestern Desert Scrub	227,193	13
Desert Grassland	186,188	11
Plains Grassland	28,102	2
Mountain Grassland	930	1
Interior Chaparral	78,299	4
Broadleaf Woodland	847,078	49
Oak Savannah	30,201	2
Coniferous Woodland	155,667	9
Deciduous Forest	309	1
Coniferous Forest	115,088	7
Higher Ecosystem Extensions:		
Mesquite	4,669	1
Oak	15,983	1
Riparian Types		
Deciduous	25,976	2
Coniferous	10,831	1
<b>Total</b>	<b>1,726,514</b>	

### MINIMUM HABITAT FOR INDICATOR SPECIES <sup>1/</sup>

<u>Species</u>	<u>Acres or miles of Occupied Habitat</u>
White-tailed deer	1,430,071
Mearn's quail	225,410
Pronghorn antelope	57,692
Desert bighorn sheep	72,458
Merriam's turkey	422,901
Gray hawk	567
Peregrine falcon	no data
Blue-throated hummingbird	no data
Coppery-tailed trogon	12,190
Rose throated becard	752
Thick-billed kingbird	1,200
Sulphur-bellied flycatcher	no data
Buff-breasted flycatcher	90
Northern beardless tyrannulet	1,270
Baird's sparrow	no data
Five-striped sparrow	18,279
Bell's vireo	no data
Desert massassauga	389
Arizona ridge-nosed rattlesnake	28,175
Twin-spotted rattlesnake	46,351
Huachuca tiger salamander	640
Tarahumara frog	1,339
Western barking frog	891
Mexican stoneroller	3.3 miles
Arizona trout	19.6 miles
Gila topminnow	4.5 miles
Gila chub	4.4 miles
Sonora chub	3.7 miles
Spikedace	no data
Arizona tree frog	no data
Mt. Graham spruce squirrel	2,603
Black bear	641,113
Could's turkey	no data

<sup>1/</sup> The data shown here represents estimates of current occupied habitat. Until better information is available regarding minimum viable populations, it is assumed currently occupied habitat represents the minimum desirable situation for various wildlife species