## Fire Regime Condition Class Biophysical Settings (BPS) Key Western United States

Note: As used in this key, Biophysical Settings can be considered equivalent to Potential Natural Vegetation Groups (PNVGs).

#### How to use this key:

- 1. First use Key to Potential Natural Lifeforms to determine Vegetation Formation
- 2. The following key is organized as follows:
- Forest (tree overstory cover at least 25%)
- Woodland (tree overstory cover 10 to <25%)
- All Other Vegetation Formations (Shrubland, Grassland, etc.)
- 3. Go to the appropriate lifeform (formation) group.
- 4. For the Forest formation, note you will then need to select among four geographic areas:
  - California
  - Pacific Northwest (Oregon and Washington)
  - Northern and Central Rockies, Black Hills
  - Southern Rockies/Colorado Plateau/Southwest

Geographic areas should be used as guidelines and not seen as strict boundaries (e.g., Cedar-Hemlock-Pine in the Pacific Northwest key is also found in the northern Rockies).

Other formations are not organized by geographic area.

- 5. Then follow the key to determine Biophysical Setting by dominance of species in the highest general canopy layer.
- 6. In cases where two or more BPS appear to fit your conditions, go with the greater dominance and/or read the description document for the BPS.

<sup>&</sup>quot;Dominant" here means the majority of the overstory canopy cover (or highest structural layer in non-forest ecosystems).

## 1. Tree overstory cover at least 25%

## **Forest**

Identify your geographic area before following the key further.

## **California**

1. Lodgepole pine dominates, usually with at least 80 percent of the overstory cover. Usually moist soils. Elevation 8,000-10,000 ft. Other conifer species absent from or less than 10% in understory.

## LPSC Lodgepole pine - Subalpine CA

- 1. Conifer species other than lodgepole pine collectively comprise the majority of the overstory. Go to 2.
  - 2. Red fir is the dominant regenerating species on the site. Usually mesic conditions. Elevation 7000-9000 ft (Sierra Nevada).

#### RFCA Red fir-California

- 2. Red fir absent from understory. Go to 3.
- 3. At least two of the following present in overstory: Sugar pine, Ponderosa pine, Douglas-fir, white fir, incense cedar. Elevation 2000-6000 ft. Shrubs characterize understory.

#### MCON Northern California Mixed Conifer

- 3. One or less of above species present. Go to 4.
- 4. At least two of the following present: Douglas-fir, madrone, tanoak, coast live oak, and California bay. (Northern California)

#### **CAME** California mixed evergreen

- 4. One or less of the above species present. Go to 5.
  - 5. Western hemlock present and normally forms majority of overstory cover. If not present in overstory then well-represented in understory. Western redcedar and/or Douglas-fir often present, but not mandatory. (northern California coastal areas)

## CHDF Cedar-Hemlock-Douglas-fir

5. Western hemlock small portion of overstory or absent. Go to 6.

6. Grand-fir (white fir) in overstory or regenerating successfully in understory.

## **GFDF** Grand fir-Douglas-fir

- 6. Grand fir (white fir) generally absent. Go to 7.
- 7. Redwood at least 10 percent overstory cover. Northern California.

#### **RWCA** Redwood-California

- 7. Redwood absent. Go to 8.
  - 8. Douglas-fir and ponderosa pine common in overstory. Grand fir often present in the understory.

## **PPDF1** Ponderosa Pine-Douglas-fir (Inland Northwest)

Note: Modeling of this BPS is being refined to reflect California conditions. Consult your Regional FRCC coordinator.

8. Douglas-fir dominates the overstory, and there is evidence it is regenerating successfully.

## **DFIR1** Douglas-fir Interior Pacific Northwest

Note: Contact your Regional FRCC coordinator for more recent modeling work on this BPS.

8. Ponderosa pine present in the overstory, often as scattered remnant large trees. Grand fir and Douglas-fir can be present in both overstory and understory, particularly if fire has been excluded. Elevation 5000-7000 ft.

#### PPIN1 Ponderosa Pine Pacific Northwest/Great Basin

Note: A refined model for Ponderosa Pine was developed during the California rapid assessment workshop. See you Regional FRCC coordinator for details.

- 8. Ponderosa pine absent or clearly not dominant. Go to 9.
- 9. Forested riparian areas.

## RIPA Riparian (willow-sedge)

## Pacific Northwest (Oregon, Washington)

1. Lodgepole pine dominates but evidence of western hemlock and/or western redcedar in understory. Engelmann spruce and subalpine fir absent or minor components.

## CHPI Cedar-Hemlock-Pine (WA)

- 1. Conifer species other than lodgepole pine collectively comprise the majority of the overstory. Go to 2.
  - 2. Red fir is the dominant regenerating species on the site. Usually mesic conditions. Elevation 5500-7000 ft (SW Oregon).

#### RFCA Red fir

- 2. Red fir absent from understory. Go to 3.
- 3. At least two of the following present in overstory: Sugar pine, Ponderosa pine, Douglas-fir, white fir, incense cedar. Elevation 2000-6000 ft. Shrubs characterize understory. SW Oregon.

#### MCON Mixed Conifer

- 3. One or less of above species present. Go to 4.
- 4. Engelmann spruce and subalpine fir well-represented in overstory. Lodgepole pine or aspen may also be present. Douglas-fir absent.

## SPFI 5 Interior West Lower Subalpine Forest No. 2

- 4. Engelmann spruce and subalpine fir absent. Go to 5.
  - 5. Pacific Silver Fir regenerating in understory. Douglas-fir often present in overstory Elevation 800 to 6000 ft (Washington), typically 3000-6000 ft (Oregon)

#### **SFDF** Silver Fir- Douglas-fir

- 5. Silver fir absent. Go to 6.
- 6. One or less of the above species present. Go to 7.
- 7. Western hemlock present and normally forms majority of overstory cover. If not present in overstory then well-represented in understory. Western redcedar and/or Douglas-fir often present, but not mandatory. (west of Cascade Crest in Oregon and Washington)

## CHDF Cedar-Hemlock-Douglas-fir

7. Same as above but wetter sites. Sitka spruce present and indicates coastal fog influence.

## SCWO Spruce-Cedar-Hemlock (Washington, Oregon)

7. Same as Cedar-Hemlock-Douglas-fir above but drier and occurring in eastern Washington.

## **CHDO** Cedar-Hemlock-Douglas-fir (Interior)

- 6. Western Redcedar and Western Hemlock both absent. Go to 8.
- 8. Grand-fir (white fir) in overstory or regenerating successfully in understory.

## **GFDF** Grand fir-Douglas-fir

- 8. Grand fir (white fir) generally absent. Go to 9.
- 9. Subalpine fir and/or mountain hemlock well represented in overstory. Cascade Mountains. Go to 10.
  - 10. Open, parklike stands with canopy cover of 10 to <25%. Go to woodland key.
  - 10. Canopy cover at least 25% in mid- to late-seral stage.

## FHWO1 Fir – Hemlock (Washington, Oregon), Forest

- 9. Subalpine fir and mountain hemlock absent from overstory or minor component. Go to 11.
  - 11. Redwood at least 10 percent overstory cover. SW Oregon.

## RWCA Redwood (CA)

- 11. Redwood absent. Go to 12.
- 12. Douglas-fir and ponderosa pine common in overstory. Grand fir often present in the understory.

## **PPDF1** Ponderosa Pine-Douglas-fir (Inland Northwest)

12. Douglas-fir dominates the overstory, and there is evidence it is regenerating successfully.

#### **DFIR1** Douglas-fir Interior Pacific Northwest

12. Ponderosa pine present in the overstory, often as scattered remnant large trees. Grand fir and Douglas-fir can be present in both overstory and understory, particularly if fire has been excluded. Elevation 3000 to 6000 ft (eastern Oregon). Also occurs in SW Oregon and eastern Washington.

#### PPIN1 Ponderosa Pine Pacific Northwest/Great Basin

- 12. Ponderosa pine absent or clearly not dominant. Go to 13.
- 13. Red alder and/or Oregon white ash dominate. Riparian zones.

## **AAOW** Alder – Ash (Oregon, Washington)

13. Other forested riparian areas.

**RIPA** Riparian [Clearly described as forest in the descrip doc—Maybe different terms are necessary—e.g., Forest Riparian, Woodland Riparian, etc.]

## **Northern and Central Rockies, Black Hills**

1. Lodgepole pine dominates but evidence of western hemlock and/or western redcedar in understory. Engelmann spruce and subalpine fir absent or minor components. Eastern Washington, Northern Idaho, and Western Montana.

## **CHPI** Cedar-Hemlock-Pine (Washington)

- 1. Conifer species other than lodgepole pine collectively comprise the majority of the overstory. Go to 2.
  - 2. Engelmann spruce and subalpine fir well-represented in overstory. Lodgepole pine or aspen may also be present. Douglas-fir absent. Go to 3.
    - 3. Lower subalpine fir zone.

## **SPFI1 Interior West Lower Subalpine Forest #1**

3. Upper subalpine fir zone.

#### **SPFI2** Interior West Upper Subalpine Forest

- 2. Engelmann spruce and subalpine fir absent. Go to 4.
- 4. Whitebark pine dominates. Relatively dry sites at high elevation.

## **SPFI2** Interior West Upper Subalpine Forest

- 4. Whitebark pine absent. Go to 5.
- 5. At least two of the following well represented in overstory: Western redcedar, Douglas-fir, and Western hemlock.

## CHDO Cedar-Hemlock-Douglas-fir (Interior)

- 5. Western Redcedar and Western Hemlock both absent. Go to 6.
- 6. Grand-fir (white fir) in overstory or regenerating successfully in understory.

## **GFDF** Grand fir-Douglas-fir

- 6. Grand fir generally absent. Go to 7.
  - 7.Douglas-fir and ponderosa pine common in overstory. Grand fir often present in the understory. Go to 8.
  - 8. Northern Rockies

## PPDF1 Ponderosa Pine-Douglas-fir (Inland Northwest)

8. Central Rockies

## PPDF3 Ponderosa Pine-Douglas-fir-Central Rockies

7. Douglas-fir dominates the overstory, and there is evidence it is regenerating successfully.

## **DFIR2** Douglas-fir Interior Rocky Mountains

- 7. Ponderosa pine present in the overstory, often as scattered remnant large trees. Grand fir and Douglas-fir can be present in both overstory and understory, particularly if fire has been excluded. Go to 9.
  - 9. Northern and Central Rockies

## **PPIN2 Ponderosa Pine Northern and Central Rockies**

9. Black Hills

#### **PPIN9 Ponderosa Pine Black Hills**

7. Ponderosa pine absent or clearly not dominant. Go to 10.

10. Forested riparian areas.

## RIPA Riparian

## Southern Rockies, Colorado Plateau, Southwest Desert

1. High elevation moist sites, dominated by Engelmann spruce and/or corkbark fir.

## SPFI7 Interior West Lower Subalpine Forest No. 3

1. High elevation dry sites, dominated by mixed conifers and quaking aspen.

## SPFI7 Interior West Lower Subalpine Forest No. 3

- 1. None of the above. Go to 2.
- 2. White fir, blue spruce, and Douglas-fir common in overstory. Aspen often dominates following replacement fire. Elevation 8,000 to 10,000 ft (S Utah, N Arizona, SW Colorado).

## **SPDF** Spruce-fir Douglas-fir

- 2. Blue spruce and white fir absent. Go to 3.
- 3. Grand-fir (white fir) in overstory or regenerating successfully in understory.

## **GFDF** Grand fir-Douglas-fir

- 3. Grand fir (white fir) generally absent. Go to 4.
- 4. Douglas-fir and ponderosa pine common in overstory. Grand fir often present in the understory. Go to 5.
  - 5. Colorado Plateau

## PPDF5 Ponderosa Pine-Douglas fir-Colorado Plateau

5. Southern Rockies

## PPDF6 Ponderosa Pine-Douglas-fir Southern Rockies

5. Southwest

#### PPDF7 Ponderosa Pine-Douglas-fir Southwest

4. Douglas-fir dominates the overstory, and there is evidence it is regenerating successfully.

## **DFIR2** Douglas-fir Interior Rocky Mountains

- 4. Ponderosa pine present in the overstory, often as scattered remnant large trees. Grand fir and Douglas-fir can be present in both overstory and understory, particularly if fire has been excluded. Go to 6.
  - 6. Colorado Plateau

## PPIN5 Ponderosa Pine Colorado Plateau

6. Southern Rockies

#### **PPIN6 Ponderosa Pine Southern Rockies**

6. Southwest

#### **PPIN7** Ponderosa Pine Southwest

- 4. Ponderosa pine absent or clearly not dominant. Go to 7.
  - 7. At least three of the following present: Douglas-fir, ponderosa pine, white fir, juniper, gambel oak. Mesic sites in upper montane zone of Colorado Plateau.

## MCAN Southwest Mixed Conifer

7. At least three of the following present: Pines, true fir, gambel oak, aspen. Southern Rockies and Colorado Plateau.

# **DWOA** Deciduous Woodland: Oak-Aspen with Conifer [Fits forest definition even though called "woodland"]

- 4. None of the above. Go to 8.
- 8. Forested riparian areas.

## RIPA Riparian

- 1. Tree cover less than 25 percent. Go to 2.
- 2. Tree cover less than 25 percent but at least 10 percent. Follow Woodland key below.

# 2. Tree cover less than 10 percent. Go to All Other Lifeforms (Formations) key below.

Note: Following keys are not organized by geographic area.

## **Woodland**

1. Subalpine fir and/or mountain hemlock well represented in overstory. Cascades of Oregon and Washington. Open, parklike stands with canopy cover of 10 to <25%.

## FHWO2 Fir-Hemlock (Washington, Oregon), Parkland

- 1. Mountain hemlock absent. Go to 2.
- 2. Typically subalpine fir, whitebark pine, and/or limber pine on skeletal soils at high elevation. (Nevada, Utah)

**GBPI** Great Basin Pine (Nevada, Utah) [Descrip doc shows this is subalpine on skeletal soils. Probably should be renamed.]

- 2. Not in subalpine zone. Go to 3.
- 3. Blue oak woodlands in Sierra and Coast Range foothills of California OKCA1 Blue Oak Woodlands

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- 3. Blue oak absent. Go to 4.
- 4. Garry oak woodlands in Northern California and Southern Oregon. Occurs across a wider range of environments than does Blue Oak Woodlands.

#### **OKCA2** Garry oak woodlands

- 4.Blue and Garry oaks absent. Go to 5.
- 5. Mix of evergreen oaks, alligator bark juniper, and Mexican pines in Madrean province of southern Arizona, southern New Mexico, and western Texas.

#### OCWI Oak & Conifer Woodlands Interior Southwest

- 5. Oaks absent. Go to 6.
- 6. Thornscrub (mesquite) and grasses. (Texas, Oklahoma)

#### TSAV Texas Savanna

## 6. Mesquite more consistent than above. (New Mexico) **MBNM Mesquite Bosques (New Mexico)**

6. Mesquite absent. Go to 7.

7.Juniper and pinyon well represented in overstory. Generally this is Colorado or singleleaf pinyon pine and Utah juniper, but Rocky Mountain and one-seeded juniper are also possible. Understory may include manzanita, sagebrush. Gambel oak, and a mixture of cool and warm season grasses. Columbia Plateau, Central Rockies, Great Basin, Colorado Plateau, Southwest Desert, Southern Rockies. Go to 8.

7. A relatively rare subset of the above featuring dense old-growth structural attributes. Very infrequent, very high severity fires characterize this BPS.

#### **JUPI2** Juniper-Pinyon (Infrequent Fire Type)

8. More common pinyon-juniper with mixed and moderately long interval fire regimes. Wide variety of sites.

**JUPI1 Juniper-Pinyon Frequent Fire** 

## All Other Lifeforms (Formations) Key

# 1. Shrubland cover at least 10 percent and tree cover less than 10 percent.

2.Sand shinnery (*Quercus havardii*) the dominant vegetation. Forms a mosaic with shortgrass prairie. Southern high plains and Trans Pecos.

#### POAK Plains Oak and Shinnery Oak Shrubland

- 2. Sand shinnery absent. Go to 3.
- 3.Mix of big sagebrush, curlleaf mountain mahogany, bitterbrush, and rabbitbrush, with a variety of arid land bunchgrasses. Scattered junipers. The climate is the most xeric for any tree occurring in the western U.S. Go to 4.
- 4.Historically about 80 percent of this BPS was in a late-seral open stage. Careful evaluation of fire frequency/severity and landscape composition is necessary to separate this from the following type.

## **JUST2** Juniper Steppe-Ancient

4.Historically about 55 percent of this BPS was in a late-seral open stage. Careful evaluation of fire frequency/severity and landscape composition is necessary to separate this from the previous type.

## **JUST1 Juniper Steppe-Infrequent**

- 3. Junipers generally absent. Go to 5.
- 5.Landscape mosaic including at least 3 of the following: serviceberry, Prunus spp., snowberry, bitterbrush, snowbrush, bigtooth maple, mountain mahogany. Often but not always in washes or canyons. Elevation 3000 to 9000 ft. Intermountain West. Go to 6.
- 6. As above but with Ponderosa pine and/or Douglas-fir cover of 1-9 percent in later seral stages.

#### MSHB1 Mountain Shrubland with Tree

6. Trees essentially absent.

## MSHB2 Mountain Shrubland, No Tree

- 5.Less than 3 of above species present. Go to 7.
- 7. Chaparral present. Southern California. Go to 8.
  - 8. Coastal areas. Go to 9.
    - 9. Dry sites.

#### CHAP1 Chapparal-Xeric (Coastal California)

9. More mesic sites.

CHAP2 Chapparal-Mesic (Coastal California)

- 8.Interior or mountain areas in California. Go to 10.
  - 10. Higher elevation areas.

#### **CHAP4** Chapparal-Montane

10.Lower elevation interior areas.

## CHAP5 Chapparal-Interior

7. Chaparral absent. Go to 11.

- 11.Basin big sage dominates. More mesic and with more continuous grass layer than Mountain big sage. Throughout Great Basin. Go to 12.
- 12. Pinyon pine, juniper, and/or ponderosa pine encroaching (combined tree cover 1-9%). Well-drained plains, valley bottoms, and foothill toeslopes.

## BSAG2 Sagebrush-Basin Big, with Tree

12. Tree encroachment essentially absent.

## **BSAG1** Sagebrush-Basin Big

- 11. Basin big sage absent or minor component. Go to 13.
- 13. Mountain big sage dominates. Tree species quaking aspen, ponderosa pine, Douglas-fir, subalpine fir, or whitebark pine may be present. Elevation 2500-900 ft. Pacific Northwest, Columbia Plateau, Northern Rockies, Central Rockies, Great Basin. Go to 14.
- 14. With conifer encroachment. Wide variety of conifer species and mixes possible.

#### CSAG2 Sagebrush-Cool, with Tree

14. Without conifer encroachment.

#### **CSAG1** Sagebrush-Cool (Mountain Big Sagebrush)

- 13. Mountain big sage does not dominate. Go to 15.
- 15. Wyoming big sagebrush dominates. Generally more arid than other sage types. Go to 16.
  - 16. Wyoming big sagebrush with tree encroachment (primarily pinyon and juniper)

## WSAG2 Warm Sagebrush (Wyoming big sagebrush) with tree encroachment

16. Wyoming big sagebrush without tree encroachment

## WSAG1 Warm Sagebrush (Wyoming big sagebrush) without trees

15. Wyoming big sage does not dominate. Go to 17.

17. Other sagebrush species, such as silver sage, dominate. Great Plains. Go to 18.

18.Other sagebrush species, such as silver sage, dominate, but with pinyon, juniper, or other tree encroachment.

## SAGE2 Sagebrush-Other, with Tree

18. As in (17) above.

## SAGE1 Sagebrush-Other

- 16. Sagebrush absent. Go to 19.
- 19. Southwest and southern great Plains. Upland flats, benches, gentle slopes, and in the foothills of the desert mountain ranges. Vegetation is open shrubland with grass dominated by flourensia, creosote bush, tarbush, mesquite, catclaw, opuntia, yucca, black grama, tobosa grass, blue grama, sideoats grama, and threeawns, with intermingled forbs. Scattered pockets of pinyon, juniper, and oaks, particularly in late seral stage.

## SWSS2 Southwest Shrub Steppe with Tree

19. Above without pinyon, juniper, or oaks.

## **SWSS1** Southwest Shrub Steppe

- 19. Creosote bush, tarbush, and mesquite absent. Go to 20.
- 20. Saltbush, greasewood, shadscale, and/or winterfat present. Widespread thoughout Western U.S. Pinyon, juniper, and longleaf pines present (at least 5 but less than 15 percent cover).

#### **DSHB3** Desert shrub with tree

20. Same as above but trees less than 5 percent cover. Poorly drained areas on flats and playas.

#### DSHB1 Salt desert shrubland

- 20. Saltbush, greasewood, shadscale, and/or winterfat absent. Go to 21.
- 21. Creosote bush, blackbrush, tarbush, and Mormon tea characteristic. Galleta, tobosa, and black grama grasses well represented.

#### **DSHB2** Desert shrub with grass

21. Same as above but grasses not well represented.

#### DSHB4 Desert Shrub-No Grass

# 1. Shrub cover less than 10 percent and tree cover less than 10 percent. Primarily Grasslands. Go to 22.

- 22. High elevation, colder sites above treeline **AMDW Alpine Meadows-Barren**
- 22.Below treeline Go to 23.
- 23. Grasslands at 5000 to 7500 feet elevation in Madrean Province of southern Arizona, southern New Mexico, and western Texas.

#### **PMGR2** Plains Mesa Grassland with Trees

- 23. Gentle northern slopes in lower montane, gentle southern slopes in montane, and steep southern slopes in upper montane zones. Go to 24.
  - 24. Above with tree encroachment of 1-9 percent cover.

#### **MGRA2** Mountain Grassland with Tree

- 24. Tree cover essentially absent. Go to 25.
- 25. Above with shrub cover of 1-9 percent on the landscape.

#### **MGRA3** Mountain Grassland with Shrub

25. Shrub cover essentially absent.

## MGRA1 Mountain Grassland, No Tree/Shrub

- 23. Not montane Go to 26.
- 26. Great plains shortgrass prairie. Go to 27.
- 27. Great plains *north* of the Arkansas River. Go to 28.
- 28. Shortgrass prairie with scattered trees covering more than 1 but less than 10 percent of landscape.

#### **PGRA2** Northern Plains Grassland with Tree

28. Shortgrass prairie with trees essentially absent. Go to 29.

29. Shortgrass prairie with shrubs covering more than 1 but less than 10 percent of landscape.

#### **PGRA3** Northern Plains Grassland with Shrub

29. Shortgrass prairie with shrubs essentially absent.

## PGRA1 Northern Plains Grassland, No Tree/Shrub

- 27.Great plains *south* of the Arkansas River. Go to 30.
  - 30. Shortgrass prairie with scattered trees covering more than 1 but less than 10 percent of landscape.

## **PGRA5** Southern Plains Grassland with Tree

- 30. Shortgrass prairie with trees essentially absent. Go to 31.
  - 31. Shortgrass prairie with shrubs covering more than 1 but less than 10 percent of landscape.

#### **PGRA6** Southern Plains Grassland with Shrub

31. Shortgrass prairie with shrubs essentially absent.

#### PGRA4 Southern Plains Grassland, No Tree/Shrub

- 26. Great plains tallgrass prairie (bluestem, little bluestem, needlegrass, gramma grasses). Go to 32.
  - 32. Tallgrass prairie, but with scattered trees. Northern aspects, draws, ridges.

#### **PRAR2** Prairie with Tree

32. Tallgrass prairie, tree cover less than 5% and shrub cover 5-10%

#### **PRAR3** Prairie with Shrub

32. Tallgrass prairie, tree and shrub cover each less than 5%.

#### PRAR1 Prairie, No Tree/Shrub

- 26. Not shortgrass or tallgrass prairie Go to 33.
  - 33. Valley grasslands and coastal prairies from sea level to 3000' elevation. Exotic grasses and forbs absent or minor component of grass layer. Go to 34.
  - 34. Shrubs present but less than 10 percent cover.

## CAST2 California Steppe with Shrub

34. Same as above, but shrubs absent.

## CAST1 California Steppe Grassland, No Shrub

- 33. Valley grasslands and coastal prairies from sea level to 3000' elevation. Exotics well represented or dominant in grass layer, and are considered naturalized and part of reference conditions. Go to 35.
- 35. Supports canopy cover of shrubs in the range of 1-9% and/or tree cover in the range of 1-9% in the late seral stage.

#### AGRA2 California Annual Grassland with Shrub

35. Shrubs and trees essentially absent in the late seral stage.

#### AGRA1 California Annual Grassland, No Shrub

- 35. None of the above. Go to 36.
- 36. Grassland dominated by blue grama, tabosa grass, galleta grass, and buffalo grass, with intermingled forbs and half-shrubs. Plains and valley benches in low rainfall areas. Go to 37.
- 37.As in (4) above, but also including scattered pinyon, jumiper, and/or longleaf pines.

## DGRA2 Desert grassland with trees

37. As in (4) above, but pinyon, juniper, and pine combined cover less than 5 percent. Combined shrub cover of mountain mahogany, mesquite, and oaks in the range of 5-15% of landscape.

#### **DGRA3** Desert grassland with shrub

37. As in (4) above without significant tree or shrub cover.

## DGRA1 Desert Grassland, No Tree/Shrub

- 36. Blue grama, tabosa grass, galleta grass and buffalo grass absent. Go to 38.
- 38. Large (> 0.5 km2) marsh and wet meadow communities dominated by Scirpus, Typha, and other wetland herbaceous species. Smaller wetlands in Forests and Woodlands should be considered Riparian. (See Forest key.)

#### WGRA Wet grassland

## 1. Vegetation absent or nearly absent.

Apply one of the following as appropriate.

BARN Barren WATR Water