

Field Key to Calveg Alliances

North Coast and Montane - Zone 1

Revised March 3, 2010

Plant codes are from the NRCS Plants Database

Pseudospecies lists are used in accuracy assessment protocols

I. Key to Lifeforms

- 1A. If absolute canopy closure (cover) of trees (conifers and/or hardwoods) is > 10% of plot or area...2
1B. If absolute canopy closure (cover) of trees is < 10% of plot or area ... 4
- 2A. **Tree Dominated Order:** if conifers have relative canopy cover > 80% of total tree canopy closure ... **conifer lifeform** and go to **II. Key to Conifers**
2B. **Tree Dominated Order:** if conifers have relative canopy cover < 80% of total tree canopy closure...3
- 3A. If hardwoods have relative canopy cover is > 90% of total tree canopy closure ... **hardwood lifeform** and go to **III. Key to Hardwoods**
3B. If hardwoods have relative canopy cover is > 20% of total tree canopy closure and conifers have relative canopy cover > 10% of total tree canopy closure ... **mixed lifeform** and go to **II. Key to Conifers** for conifer component and **III. Key to Hardwoods** for hardwood component
- 4A. **Shrub Dominated Order:** if absolute cover of shrubs is > 10% of plot or area ... **shrub lifeform** and go to **IV. Key to Shrubs and Subshrubs**
4B. If absolute cover of shrubs is < 10% of plot or area ... 5
- 5A. **Herbaceous or Non-Vascular Dominated Order:** if absolute cover of other vascular vegetation is > 10% of plot or area ... **herbaceous lifeform** and go to **V. Key to Grasses and Forbs**
5B. If absolute cover of other vascular vegetation is < 10% of plot or area ... **sparsely vegetated or non-vegetated lifeform** and go to **VI. Key to Sparsely Vegetated and Non-Vegetated Types**

II. Key to Conifers

cc = conifer canopy cover

- 1A. A single species of conifer species has > 50% cc ... 2
1B. No single conifer species has > 50% cc ... 41
- 2A. One Cypress species has > 50% cc ... 3
2B. Another single conifer species has > 50% cc ... 8
- 3A. Sargent Cypress (**CUSA3**) has > 50% cc ... **Sargent Cypress – MS**
3B. Otherwise ... 4
- 4A. McNab Cypress (**CUMA**) has > 50% cc ... **McNab Cypress - MN**
4B. Otherwise ... 5

5A. Pygmy Cypress has > 50% cc (**PSEUDO1: CUPY, CUGOP2**) ... **Pygmy Cypress - MY**

5B. Otherwise ... 6

6A. Baker Cypress has > 50% cc (**PSEUDO2: CUBA, CUBAM**) ... **Baker Cypress - MO**

6B. Otherwise ... 7

7A. Monterey Cypress (**CUMA2**) has > 50% cc ... **Monterey Cypress - MM**

7B. Otherwise ... 47

8A. Redwood (**SESE3**) has > 50% cc ... **Redwood - RW**

8B. Otherwise ... 9

9A. Port Orford Cedar (**CHLA**) has > 50% cc ... **Port Orford Cedar - PO**

9B. Otherwise ... 10

10A. Red Fir has > 50% cc and/or White Fir in combination have > 75% cc (**PSEUDO3: ABMA, ABCO**) ... **Red Fir - RF**

10B. Otherwise ... 11

11A. White Fir has > 50% cc and/or Red Fir in combination have > 75% cc (**PSEUDO3: ABMA, ABCO**) ... **White Fir - WF**

11B. Otherwise ... 12

12A. Ponderosa Pine has > 75% cc (or Ponderosa Pine and Jeffrey Pine (**PSEUDO28: PIPO, PIJE**) in combination have > 75% cc and Ponderosa Pine cover is > Jeffrey Pine); Great Basin species (Bitterbrush, Curlleaf Mountain Mahogany, Basin Sagebrush, and/or Western Juniper) do not occur in understory (**PSEUDO4SHB: PUTR2, CELE3, ARTR2, ARTEM**), (**PSEUDO4CON: JUOC**) ...

Ponderosa Pine - PP

12B. Otherwise ... 13

13A. Ponderosa Pine has > 75% cc (or Ponderosa Pine and Jeffrey Pine in combination have > 75% cc) and Great Basin species (Bitterbrush, Curlleaf Mountain Mahogany, Basin Sagebrush, and/or Western Juniper) occur in understory (**PSEUDO28: PIPO, PIJE**), (**PSEUDO4SHB**), (**PSEUDO4CON**) ...

Eastside Pine - EP

13B. Otherwise ... 14

14A. Jeffrey Pine has > 75% cc (or Ponderosa Pine and Jeffrey Pine in combination have > 75% cc and Jeffrey Pine cover is > Ponderosa Pine); Great Basin species (Bitterbrush, Curlleaf Mountain Mahogany, Basin Sagebrush, and/or Western Juniper) do not occur in understory (**PSEUDO28: PIPO, PIJE**), (**PSEUDO4SHB**), (**PSEUDO4CON**) ... **Jeffrey Pine - JP**

14B. Otherwise ... 15

15A. Jeffrey Pine has > 75% cc and Great Basin species (Bitterbrush, Curlleaf Mountain Mahogany, Basin Sagebrush, Western Juniper, and/or California Juniper) occur in understory (**PSEUDO4SHB**), (**PSEUDO4CON**) ... **Eastside Pine - EP**

15B. Otherwise ... 16

16A. Pacific Douglas-Fir (**PSME**) has > 75% cc ... **Pacific Douglas-Fir - DF**

16B. Otherwise ... 17

- 17A. Whitebark Pine (**PIAL**) has > 75% cc ... **Whitebark Pine - WB**
17B. Otherwise ... 18
- 18A. Western White Pine (**PIMO3**) has > 75% cc ... **Western White Pine - WW**
18B. Otherwise ... 19
- 19A. Foxtail Pine (**PIBA**) has > 75% cc ... **Foxtail Pine – FP**
19B. Otherwise ... 20
- 20A. Mountain Hemlock (**TSME**) has > 75% cc ... **Mountain Hemlock - MH**
20B. Otherwise ... 21
- 21A. Knobcone Pine (**PIAT**) has > 75% cc ... **Knobcone Pine - KP**
21B. Otherwise ... 22
- 22A. Western Juniper (**JUOC**) has > 75% cc ... **Western Juniper - WJ**
22B. Otherwise ... 23
- 23A. Gray Pine (**PISA2**) has > 75% ... **Gray Pine - PD**
23B. Otherwise ... 24
- 24A. Lodgepole Pine (**PICO**) has > 75% cc ... **Lodgepole Pine - LP**
24B. Otherwise ... 25
- 25A. Engelmann Spruce (**PIEN**) has > 75% cc ... **Engelmann Spruce - EA**
25B. Otherwise ... 26
- 26A. Brewer Spruce (**PIBR**) has > 75% cc ... **Brewer Spruce - PB**
26B. Otherwise ... 27
- 27A. Grand Fir (**ABGR**) has > 75% cc ... **Grand Fir - GF**
27B. Otherwise ... 28
- 28A. Bishop Pine (**PIMU**) has > 75% cc ... **Bishop Pine - PM**
28B. Otherwise ... 29
- 29A. Monterey Pine (**PIRA2**) has > 75% cc ... **Monterey Pine - PR**
29B. Otherwise ... 30
- 30A. Beach Pine (**PICOC**) has > 75% cc ... **Beach Pine - PS**
30B. Otherwise ... 31
- 31A. Sitka Spruce (**PISI**) has > 75% cc ... **Sitka Spruce - SK**
31B. Otherwise ... 32
- 32A. Incense Cedar (**CADE27**) has > 75% cc ... **Incense Cedar - MD**
32B. Otherwise ... 33
- 33A. Sugar Pine (**PILA**) has > 75% cc ... **Sugar Pine - PE**
33B. Not as above ... 34

REM: This starts the > 50 and < 75% two-conifer species groups

34A. Douglas-Fir (**PSME**) has > 50% cc; Redwood (**SESE3**) is present ... **Redwood - Douglas-Fir - RD**
34B. Otherwise ... 35

35A. Douglas-Fir (**PSME**) has > 50% cc; Ponderosa Pine (**PIPO**) has > 20% cc ... **Douglas-Fir - Ponderosa Pine - DP**
35B. Otherwise ... 36

36A. Douglas-Fir (**PSME**) has > 50% cc; White Fir (**ABCO**) has > 20% cc ... **Douglas-Fir - White Fir - DW**
36B. Otherwise ... 37

37A. Douglas-Fir (**PSME**) has > 50% cc; Grand Fir (**ABGR**) has > 20% cc ... **Douglas-Fir - Grand Fir - DG**
37B. Otherwise ... 38

38A. Ponderosa Pine (**PIPO**) has > 50% cc; White Fir (**ABCO**) has > 20% cc ... **Ponderosa Pine - White Fir - PW**
38B. Otherwise ... 39

39A. Sitka Spruce (**PISI**) has > 50% cc; Redwood (**SESE3**) has > 20% cc ... **Sitka Spruce - Redwood - SR**
39B. Otherwise ... 40

40A. Sitka Spruce (**PISI**) has > 50% cc; Grand Fir (**ABGR**) has > 20% cc ... **Sitka Spruce - Grand Fir - SG**
40 B. Otherwise ... 41

REM: This starts condition in which no single native conifer species has > 50% sc

41A. Red Fir in combination with White Fir has > 75% cc and Red Fir > White Fir (**PSEUDO3: ABMA, ABCO**) ... **Red Fir - RF**
41B. Otherwise ... 42

42A. White Fir in combination with Red Fir has > 75% cc and White Fir > Red Fir (**PSEUDO3: ABMA, ABCO**) ... **White Fir - WF**
42B. Otherwise ... 43

43A. Any of these species in combination are present but do not dominate the cc: Mountain Hemlock, Foxtail Pine, Whitebark Pine (**PSEUDO7: TSME, PIBA, PIAL**) ... **Subalpine Conifers - SA**
43B. Otherwise ... 44

44A. Any of these species in combination are present but do not dominate the cc: Noble Fir, Alaska Cedar, Engelmann Spruce, Brewer Spruce, Port Orford Cedar, Pacific Yew, Subalpine Fir, Pacific Silver Fir (**PSEUDO8: ABPR, CHNO, PIEN, PIBR, CHLA, TABR2, ABAM, ABLA**) ... **Klamath Mixed Conifer - MK**
44B. Otherwise ... 45

45A. Ponderosa Pine and/or Sugar Pine in combination have > 10% cc (**PSEUDO27: PIPO, PILA**) ... **Mixed Conifer-Pine - MP**

45B. Otherwise ... 46

46A. White Fir and Red Fir combined have > 20% cc (**PSEUDO3: ABMA, ABCO, ABSH**) ... **Mixed Conifer – Fir - MF**

46B. Otherwise ... 47

47A. Any of these species in combination are present but do not dominate the cc: Jeffrey Pine, Lodgepole Pine, McNab Cypress, Sargent Cypress, Gray Pine and/or Western White Pine and elevation is under 5000 ft (1525 m) (**PSEUDO6: PIJE, PICO, CUMA, CUSA3, PISA2, PIMO3**) ... **Ultramafic Mixed Conifer - MU**

47B. Otherwise... 48

48A. Mixture of non-native/ornamental conifers is > 50 % cc and non-native hardwood mixture has < 20% of total tree canopy cover ... **Non-Native/Ornamental Conifers - IC**

48B. Otherwise ... 49

49A. Hardwoods have > 20% of total plot cover. Non-native/ornamental conifer mixture is > 50% of conifer canopy cover and non-native hardwood mixture has > 50% of hardwood canopy cover ... **Non-Native/Ornamental Conifer-Hardwood-IM**

49B. Not as above ... 50

50A. Single or multiple species of conifers on agricultural sites have > 50% cc and agricultural hardwoods have < 20% of total tree canopy cover ... **Conifer Agriculture – A1**

50B. Otherwise ... 51

51A. Single or multiple species of conifers on agricultural sites have > 50% cc and agricultural hardwoods have > 20% of total tree canopy cover ... **Agricultural Nurseries – A8**

51B. Otherwise ... **Conifer type not determined ... XC**

III. Key to Hardwoods

hc = hardwood canopy cover

1A. One native hardwood species (or genus) has > 50% hc ... 2

1B. No single native hardwood species (or genus) has > 50% hc ... 23

2A. Tanoak (**LIDE3**) has > 50% hc ... **Tanoak - QT**

2B. Otherwise ... 3

3A. Madrone (**ARME**) has > 50% hc ... **Madrone - QH**

3B. Otherwise ... 4

4A. Tree form of Willow alone or in combination have > 50% hc (**PSEUDO10: SALIX**) ... **Willow - QO**

4B. Otherwise ... 5

5A. Red Alder (**ALRU2**) has > 50% hc ... **Red Alder - QR**

5B. Otherwise ... 6

6A. White Alder (**ALRH2**) has > 50% hc ... **White Alder - QE**

6B. Otherwise ... 7

- 7A. Black Cottonwood (**POBAT, POTR15**) has > 50% hc ... **Black Cottonwood - QX**
7B. Otherwise ... 8
- 8A. Fremont Cottonwood has > 50% hc (**PSEUDO11: POFR2, POFRA, POFRF3, POFRM, POFRP**)
... **Fremont Cottonwood - QF**
8B. Otherwise ... 9
- 9A. Quaking Aspen (**POTR5**) has > 50% hc ... **Aspen - QQ**
9B. Otherwise ... 10
- 10A. Bigleaf Maple (**ACMA3**) has > 50% hc ... **Bigleaf Maple - QM**
10B. Otherwise ... 11
- 11A. Tree Chinquapin has > 50% hc (**PSEUDO41: CACH6, CHCH7, CHCHC4, CHCHM**) ... **Tree Chinquapin - TC**
11B. Otherwise ... 12
- 12A. Black Oak (**QUKE**) has > 50% hc ... **Black Oak - QK**
12B. Otherwise ... 13
- 13A. Oregon White Oak (**QUGA4**) has > 50% hc ... **Oregon White Oak - QG**
13B. Otherwise ... 14
- 14A. Blue Oak (**QUDO**) has > 50% hc ... **Blue Oak - QD**
14B. Otherwise ... 15
- 15A. Coast Live Oak (**QUAG**) has > 50% hc ... **Coast Live Oak - QA**
15B. Otherwise ... 16
- 16A. Canyon Live Oak has > 50% hc (**PSEUDO42: QUCH2, QUCHC**) ... **Canyon Live Oak - QC**
16B. Otherwise ... 17
- 17A. Interior Live Oak has > 50% hc (**PSEUDO43: QUWI2, QUWIW**) ... **Interior Live Oak - QW**
17B. Otherwise ... 18
- 18A. Valley Oak (**QULO**) has > 50% hc ... **Valley Oak - QL**
18B. Otherwise ... 19
- 19A. California Bay has > 50% hc (**PSEUDO29: UMCA**) ... **California Bay - QB**
19B. Otherwise ... 20
- 20A. Eucalyptus of any species (**EUCAL**) has > 50% hc ... **Eucalyptus - QZ**
20B. Otherwise ... 21
- 21A. California Buckeye has > 50% hc (**PSEUDO14: AECA**) ... **California Buckeye - QI**
21B. Otherwise ... 22
- 22A. Any species of Tree or large shrub Dogwood (Non-specific, Brown, Mountain, Redosier) alone or in combination has > 50% hc (**PSEUDO44: CORNU, COGL3, CONU4, COSES**) ... **Dogwood - WD**

22B. Otherwise ... **Unknown Hardwood Type ... XH**

REM: This begins the mixed hardwoods groups; no single species has > 50% hc

23A. Combination of Tanoak and Madrone has > 50% hc (**PSEUDO9: LIDE3, ARME**) ... **Tanoak - QT**

23B. Otherwise ... 24

24A. Black and/or Fremont Cottonwood and any tree species of Alder (Red, White or Sitka) in combination have > 50% hc (**PSEUDO12: POFR2, POFRA, POFRF3, POFRM**) (**PSEUDO13: ALNUS, ALRU2, ALRH2, ALSI3**) ... **Cottonwood – Alder - QJ**

24B. Otherwise ... 25

25A. Tree Willow of any species and Aspen in combination have > 50% hc (**PSEUDO10: SALIX**) (**POTR5**) ... **Willow – Aspen - QS**

25B. Otherwise ... 26

26A. Willow of any species and Tree Alder (Red, White, or Sitka) in combination have > 50% hc (**PSEUDO10: SALIX**) (**PSEUDO13**) ... **Willow – Alder - QY**

26B. Otherwise ... 27

27A. A mixture of riparian hardwoods, including Fremont and/or Black Cottonwoods, California Sycamore, Tree Willows, Valley Oak, Alder (Red, White, or Sitka), Valley Oak, and/or Oregon Ash, in combination have > 50% hc (**ALNUS, ALRU2, ALRH2, ALSI3, PLRA, POFR2, POFRA, POFRF3, POFRM2, POFRP, POTR15, QULO, SALIX, FRLA**) ... **Riparian Mixed Hardwood - NR**

27B. Otherwise ... 28

28A. A mixture of hardwoods on productive sites, including Black Oak, Madrone, Tanoak, Bigleaf Maple, and/or Tree Chinquapin in combination have > 50% hc (**PSEUDO30: ACMA3, ARME, CACH6, LIDE3, QUKE, CHCH7, CHCHC4, CHCHM, LIDED2**) ... **Montane Mixed Hardwood - TX**

28B. Otherwise ... 29

29A. A mixture of hardwoods on productive (coastal) sites, including non-dominant Coast Live Oak, California Buckeye, and/or California Bay in combination having > 50% hc (**PSEUDO35: QUAG, AECA, UMCA**) ... **Coastal Mixed Hardwood - EX**

29B. Otherwise ... 30

30A. A mixture of hardwoods on more interior sites, including combinations of non-dominant Blue Oak, Canyon Live Oak and/or Interior Live Oak that have > 50% hc. Other hardwoods such as Oregon White Oak, Black Oak, California Bay, Greene's Mountain Ash, and/or California Buckeye may be present in minor amounts in this Alliance (**PSEUDO32: AECA, QUCH2, QUDO, QUGA4, AESCU, QUCHC, QUWIW, SOS2, QUWI2**) ... **Interior Mixed Hardwood – NX**

30B. Otherwise ... 31

31A. Non-native hardwood species alone or in mixture are > 50% of hardwood canopy cover ... **Non-Native/Ornamental Hardwood – IH**

31B. Otherwise ... 32

32A. Agricultural lands have > 50% hc ... **Orchard Agriculture – A4**

32B. Otherwise ... **Unknown Hardwood Type ... XH**

IV. Key to Shrubs and Subshrubs

sc = shrub canopy cover

- 1A. Pygmy (Ft. Bragg) Manzanita (**ARNU3**) has > 10% sc ... Pygmy (Ft. Bragg) Manzanita - **AN**
1B. Otherwise ... 2
- 2A. Either Salal and/or California Huckleberry has > 50% sc alone or in combination (**PSEUDO15: GASH, VAOV2**)
... **Salal - California Huckleberry - CB**
2B. Otherwise ... 3
- 3A. Curleaf Mountain Mahogany (**CELE3**) has > 50% sc ... **Curleaf Mountain Mahogany - BM**
3B. Otherwise ... 4
- 4A. Basin Sagebrush has > 50% sc (**PSEUDO16: ARTR2, ARTEM**) ... **Basin Sagebrush - BS**
4B. Otherwise ... 5
- 5A. Bitterbrush (**PUTR2**) has > 50% sc ... **Bitterbrush - BB**
5B. Otherwise ... 6
- 6A. Low Sagebrush has > 50% sc (**PSEUDO17: ARAR8, ARARA, ARARN2**) ... **Low Sagebrush - BL**
6B. Otherwise ... 7
- 7A. Any species of Rabbitbrush alone or in combination has > 50% sc (**PSEUDO31: CHNA2, CHPA13, CHRYS9**) ... **Rabbitbrush - BR**
7B. Otherwise ... 8
- 8A. Chamise (**ADFA**) has > 50% sc ... **Chamise - CA**
8B. Otherwise ... 9
- 9A. Whiteleaf Manzanita (**ARVI4**) has > 50% sc ... **Whiteleaf Manzanita - CW**
9B. Otherwise ... 10
- 10A. Greenleaf Manzanita (**ARPA6**) has > 50% sc ... **Greenleaf Manzanita - CG**
10B. Otherwise ... 11
- 11A. Pinemat Manzanita (**ARNE**) has > 50% sc ... **Pinemat Manzanita - CN**
11B. Otherwise ... 12
- 12A. Manzanita of any other species alone or in combination with or without Whiteleaf, Pinemat or Greenleaf Manzanita has > 50% sc (**PSEUDO18: ARCA5, ARCO3, ARCTO3, ARGL3, ARMA, ARNE, ARPA6, ARVI4**) ... **Manzanita - SD**
12B. Otherwise ... 13
- 13A. Huckleberry Oak (**QUVA**) has > 50% sc ... **Huckleberry Oak - CH**
13B. Otherwise ... 14
- 14A. Brewer Oak (**QUGAB**) has > 50% sc ... **Brewer Oak - CJ**

14B. Otherwise ... 15

15A. Wedgeleaf Ceanothus (**CECU**) has > 50% sc ... **Wedgeleaf Ceanothus - CL**

15B. Otherwise ... 16

16A. Blueblossom Ceanothus (**CETH**) has > 50% sc ... **Blueblossom Ceanothus - SC**

16B. Otherwise ... 17

17A. Snowbrush (**CEVE**) has > 50% sc ... **Snowbrush - CV**

17B. Otherwise ... 18

18A. Coyote Brush has > 50% sc (**PSEUDO19: BAPI, BAPIC2**) ... **Coyote Brush - CK**

18B. Otherwise ... 19

19A. Mountain Alder (**ALTE2**) has > 50% sc ... **Mountain Alder - TA**

19B. Otherwise ... 20

20A. Birchleaf Mountain Mahogany (**CEBE3**) has > 50% sc ... **Birchleaf Mountain Mahogany - WM**

20B. Otherwise ... 21

21A. Shrub Willow of any species has > 50% sc (**PSEUDO34: SABR2, SADE2, SAEA, SAEXS SAHO, SALA6, SALE, SALIX, SAME2, SAPA4, SAPR3, SAPS3, SASC, SASI2**) ... **Shrub Willow - WL**

21B. Otherwise ... 22

22A. Deerbrush (**CEIN3**) has > 50% sc ... **Deerbrush - CI**

22B. Otherwise ... 23

23A. Bush Chinquapin has > 50% sc (**PSEUDO36: CASE8, CHSE11**) ... **Bush Chinquapin - CP**

23B. Otherwise ... 24

24A. Mountain Whitethorn (**CECO**) has > 50% sc ... **Mountain Whitethorn - CY**

24B. Otherwise ... 25

REM: Mixed species

25A. Any combination of Ceanothus including non-dominant Wedgeleaf, Deerbrush, Blueblossom, Mountain Whitethorn and/or Snowbrush has > 50% sc (**PSEUDO20: CEANO, CECO, CECU, CEDI2, CEFO, CEIN, CEIN3, CELE, CEPR, CEPU, CESA, CESO, CETH, CEVE**) ... **Ceanothus Chaparral - CC**

25B. Otherwise ... 26

26A. Any species of scrubby oaks with the exception of dominant Huckleberry Oak (QUVA) or dominant Brewer Oak alone or in combination have > 50% sc: Non-specific, Scrub, Shrub Interior Live Oak, Shrub Canyon Live Oak, Leather Oak, Sadler Oak, and/or California Black Oak (**PSEUDO21: QUERC, QUWIF, QUCHN, QUDU4, QUSA2, QUVA, QUGAB, QUKE, QUBE5**) ... **Scrub Oak - CS**

26B. Otherwise ... 27

27A. Elevation is > 6000 ft (1830 m); a mixture of various shrubs and subshrubs, including some of the following: Greene's Goldenbush, Trailing Gooseberry, Alpine Laurel, Alpine Wintergreen, White Heather, Littleleaf Huckleberry, Mountain Gooseberry (**PSEUDO40: ERGR16, RIBI, KAMI, GAHU, CAME7, VASC, RIMO2**) ... **Alpine Mixed Shrub - AX**

27B. Otherwise ... 28

28A. Elevation is > 5000 ft (1525 m); Pinemat Manzanita and Huckleberry Oak in any combination has > 50% sc (**PSEUDO26: ARNE, QUVA**) ... **Upper Montane Mixed Shrub - CM**

28B. Otherwise ... 29

29A. Any of the following in combination have > 50% sc: Jepson Ceanothus, Creeping Barberry, Dwarf Barberry, Piper's Oregongrape, Interior Silktassel, Siskiyou Mat, Leather Oak (**PSEUDO25: BEPI2, BEPU, BERE, CEFO, CEJE, CEPU, GABU2, QUDU4**) ... **Ultramafic Mixed Chaparral - C1**

29B. Otherwise ... 30

30A. Any of the following in combination have > 50% sc: Chamise, Wedgeleaf Ceanothus, Lemmon Ceanothus, Whiteleaf Manzanita, Common Manzanita, Stanford Manzanita, Birchleaf Mountain Mahogany, Pine Mat Ceanothus, Oregon Grape, Little Oregon Grape, Poison Oak, Oregon Boxwood, Common Whipplea, Common Snowberry, California Redbud, Toyon, Hollyleaf Redberry, Cascara, and/or Oceanspray (**PSEUDO23: ADFA, ARMA, ARST, ARVI4, CEBE3, CECU, CEDI2, CELE, HEAR5, RHCRI2, RHPU, HODI, FRPU7, MAAQ2, MAHON, MANE2, PAMY, WHMO, TODI, SYAL, CEOR9, TOXIC**) ... **Lower Montane Mixed Chaparral - CQ**

30B. Otherwise ... 31

31A. A combination of montane or upper montane mixed chaparral species [such as Greenleaf Manzanita, Pinemat Manzanita, Bush Chinquapin, Deerbrush, Mahala Mat, Snowbrush, Shrub Tanoak, Fremont Silktassel, Bitter Cherry, Sierra Coffeeberry, Creeping Snowberry, and/or Mountain Snowberry] having > 25% sc and Great Basin species [such as Curlleaf Mountain Mahogany, Bitterbrush, Basin Sagebrush, Low Sagebrush, and/or Rubber and other Rabbitbrush] having > 25% sc [**PSEUDO39** (chaparral species): **ARPA6, ARNE, CHSE11, CASE8, CEIN3, CEPR, CEVE, LIDEE, GAFR, PREM, RHRU, SYMO, SYRO**];

[**PSEUDO38** (Basin species): **CELE3, PUTR2, ARTR2, ARAR8, CHNA2, CHRYS9**] ... **Great Basin – Mixed Chaparral Transition - BX**

31B. Otherwise ... 32

32A. Any of the following in combination of two or more have > 50% sc: Greenleaf Manzanita, Hoary Manzanita, Mountain Whitethorn, Deerbrush, Shrub Canyon Live Oak, Bush Chinquapin, Fremont Silktassel, species of Snowberry, Mahala Mat, Pinemat Manzanita, Bitter Cherry, Shrub Tanoak, Huckleberry Oak, Serviceberry, Rose Meadowsweet, Snowbrush, Sierra Gooseberry, Little Princes Pine, Princes Pine, Sticky Currant, Blackcap Raspberry, and/or Sierra Gooseberry (**PSEUDO24: ARPA6, ARCA5, CECO, CEIN3, QUCHN, CASE8, CEPR, GAFR, SYAC, SYMO, SYMPH, SYRI2, ARNE, PREM, LIDEE, QUVA, AMAL2, SPDE, CEVE, CHME, CHUM, RIVI3, RULE, RIRO**) ...

Upper Montane Mixed Chaparral - CX

32B. Otherwise ... 33

33B. Riparian shrub species singly or in combination have > 50% sc, including species of Shrub Willows, California Rose, Silver Sagebrush, Blue Elderberry, California Blackberry, Vine Maple, Sitka Alder, Swamp Currant, Beaked Hazelnut, Mountain Dogwood, and/or California Hazelnut (**PSEUDO37: SASC, SALIX, SAEX, SALA6, SALU2, ROCA2, ARCA13, SAMBU, SAME5, RILA, COCOC, COCO6, CONU4, CORYL, RUUR, ACCI, ALVIS**) ... **Riparian Mixed Shrub - NM**

33B. Otherwise ... 34

34A. Any of following species present and in combination have > 50% sc: Blueblossom Ceanothus, Coastal Whitethorn, Hairy Manzanita, Shrub California Bay, Salal, California Huckleberry, Wax Myrtle, Yellow Bush Lupine, California Rosebay, Red Huckleberry, Salmonberry, Sitka Alder, Salal, Stink

Currant (**PSEUDO22: ARCO3, CEIN, CETH, LUAR, MOCA6, RHMA3, UMCA, VAOV2, VAPA, RUSP, ALVIS, GASH, RIBR**) ... North Coastal Scrub - NC

34B. Otherwise ... 35

35A. Non-native, invasive or ornamental cultivated shrubs have > 50% sc ... **Non-Native/Ornamental Shrub -IS**

35B. Otherwise ... 36

36A. Agricultural lands have > 50% sc ... **Vineyard – Shrub Agriculture – A2**

36B. Otherwise ... **Unknown Shrub Type ... XS**

V. Key to Grasses and Forbs

hg = herbaceous/grass canopy cover

1A. Annual grasses mixed with annual and/or perennial forbs which generally have limited surface or subsurface moisture in midsummer having > 50% hg ... **Annual Grasses and Forbs - HG**

1B. Otherwise ... 2

2A. Exposed alpine and subalpine areas with various herbaceous plants and graminoids in the highest mountains ... **Alpine Grasses and Forbs - AC**

2B. Otherwise ... 3

3A. Hydrophytic grasses and grass-like species (sedges, rushes, bulrushes) in mixture with hydrophytic herbaceous species (false hellebore, lily, shooting star, gentian, etc.) growing mainly in organic soil have > 50% hg ... **Wet Meadows - HJ**

3B. Otherwise ... 4

4A. Unmanaged or natural areas containing mixtures of grasses and/or forbs that retain some moisture in midsummer, such as those in middle or higher elevations having > 50% hg ... **Perennial Grasses and Forbs - HM**

4B. Otherwise ... 5

5A. Coastal brackish or salt marshes surrounding open water containing mixtures of Common Pickleweed, Cordgrasses or Saltgrass have > 50% hg ... **Pickleweed - Cordgrass - HC**

5B. Otherwise ... 6

6A. Marshes adjacent to perennial fresh water sources containing mixtures of Tule or other Bulrushes and Cattails rooting below the water's surface have > 50% hg ... **Tule - Cattail - HT**

6B. Otherwise ... 7

7A. Agricultural lands have > 50% hg in row crops and are not usually flooded ... **Grain and Crop Agriculture – A6**

7B. Otherwise ... 8

8A. Non-native cultivated grasses and herbaceous cover in mixture have > 50% hg... **Non-Native/Ornamental Grasses - IG**

8B. Otherwise ... 9

9A. Non-native herbaceous species, either planted or invasive, have > 50% hg ... **Non-Native/Invasive Forb/Grass - IF**
9B. Otherwise ... 10

10A. A mixture of non-native or invasive grass-like riparian species such as Pampas Grasses (**CORTA**) or Giant Reed (**ARDO4**) have > 50% hg ... **Giant Reed/Pampas Grass - IA**
10B. Otherwise ... Unknown herbaceous or grassland type ... **XG (dry) or XJ (wet)**

VI. Key to Sparsely Vegetated and Non-Vegetated Types

nvc = non-vegetated cover

1A. Agricultural uses comprise > 50% nvc ... **Agriculture - AG**
1B. Otherwise ... 2

2A. Coastal dunes comprise > 50% nvc ... **Dunes - DU**
2B. Otherwise ... 3

3A. Snow or ice fields at the highest elevations comprise > 50% nvc ... **Snow/Ice - SN**
3B. Otherwise ... 4

4A. Urban or otherwise developed landscapes (highways, etc.) > 50% nvc ... **Urban or Developed - UB**
4B. Otherwise ... 5

5A. Open water or confined water courses occupy > 50% nvc ... **Water - WA**
5B. Otherwise ... 6

6A. Otherwise naturally barren landscapes (cliffs, bedrock, etc.) occupy >50% nvc ... **Barren - BA**
6B. Otherwise ... 7

7A. Wet agricultural lands have > 50% nvc ... **Agricultural Ponds or Surface Water – A7**
7B. Otherwise ... 8

8A. Dry urbanized or developed lands have > 50% nvc ... **Urban-related Bare Soil – IB**
8B. Otherwise ... 9

9A. Wet urbanized or developed lands have > 50% nvc ... **Developed Water Features – IW**
9B. Otherwise ... Unknown Non-vegetated type ... **XZ**