Field Key to Calveg Alliances
Central Coast and Montane - Zone 6

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 \( \geq 10\% \) 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 \( \geq 80\% \) of total tree canopy closure ... conifer lifeform and go to II. Key to Conifers
2B. Tree Dominated Order: if conifers have relative canopy cover \( \leq 80\% \) of total tree canopy closure ... 3

3A. If hardwoods have relative canopy cover \( \geq 90\% \) of total tree canopy closure ... hardwood lifeform and go to III. Key to Hardwoods
3B. If hardwoods have relative canopy cover \( \geq 20\% \) of total tree canopy closure and conifers have relative canopy cover \( \geq 10\% \) 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 \( \geq 10\% \) 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 \( \geq 10\% \) 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 naturally occurring conifer species has \( \geq 50\% \) (cc) ... 2
1B. No single naturally occurring conifer species has \( \geq 50\% \) cc ... 18

2A. Sargent Cypress (CUSA3) has \( \geq 50\% \) cc ... Sargent Cypress - MS
2B. Otherwise ... 3

3A. Monterey Cypress (CUMA2) has \( \geq 50\% \) cc ... Monterey Cypress - MM
3B. Otherwise ... 4

4A. Ponderosa Pine (PIPO) has \( \geq 75\% \) cc ... Ponderosa Pine - PP
4B. Otherwise ... 5
5A. Bigcone Douglas-Fir (PSMA) has ≥ 75% cc ... **Bigcone Douglas-Fir - DM**
5B. Otherwise ... 6

6A. Coulter Pine has ≥ 75% cc alone or > 50% cc when combined with Bigcone Douglas-Fir (PSEUDO17: PICO3, PSMA) ... **Coulter Pine - PC**
6B. Otherwise ... 7

7A. Knobcone Pine (PIAT) has ≥ 75% cc ... **Knobcone Pine - KP**
7B. Otherwise ... 8

8A. Gray Pine (PISA2) has ≥ 75% cc ... **Gray Pine - PD**
8B. Otherwise ... 9

9A. Singleleaf Pinyon Pine (PIMO) has ≥ 75% cc ... **Singleleaf Pinyon Pine - PJ**
9B. Otherwise ... 10

10A. Santa Lucia Fir (ABBR) has ≥ 75% cc ... **Santa Lucia Fir - AB**
10B. Otherwise ... 11

11A. Pacific Douglas-Fir (PSME) has ≥ 75% cc ... **Pacific Douglas-Fir - DF**
11B. Otherwise ... 12

12A. Monterey Pine (PIRA2) has ≥ 75% cc ... **Monterey Pine - PR**
12B. Otherwise ... 13

13A. Redwood (SESE3) has ≥ 75% cc ... **Redwood - RW**
13B. Otherwise ... 14

14A. Bishop Pine (PIMU) has ≥ 75% cc ... **Bishop Pine - PM**
14B. Otherwise ... 15

15A. Incense-Cedar (CADE27) has ≥ 75% cc ... **Incense-Cedar - MD**
15B. Otherwise ... 16

16A. Tree form California Juniper (JUCA7CON) has ≥ 75% cc ... **California Juniper - JT**
16B. Otherwise ... 17

17A. Douglas-Fir (PSME) has ≥ 50% cc; Redwood (SESE3) is present ... **Redwood - Douglas-Fir - RD**
17B. Otherwise ... 18

18A. Gowen Cypress (CUGO) has ≥ 75% cc ... **Gowen Cypress - MG**
18B. Otherwise ... 19

19A. Santa Cruz Cypress (CUAB) has ≥ 75% cc ... **Santa Cruz Cypress - MZ**
19B. Otherwise ... 20

REM: no native conifer species or genus is dominant
20A. Ponderosa Pine, Coulter Pine, Bigcone Douglas-Fir and/or Sugar Pine in combination, none dominant have ≥ 25% cc; Jeffrey Pine (PIJE) has < 10% cc (PSEUDO45: PIPO, PICO3, PSMA, PILA, PSME) ... Mixed Conifer-Pine - MP
20B. Otherwise ... 21

21A. Non-native or ornamental conifers in mixture have ≥ 50% cc and non-native or ornamental hardwoods in mixture have ≥ 50% of hardwood canopy cover ... Non-Native/Ornamental Conifer/Hardwood - IM
21B. Otherwise ... 22

22A. Non-native or ornamental conifers in mixture ≥ 50% cc and non-native or ornamental hardwoods in mixture < 50% of hardwood canopy cover ... Non-Native/Ornamental Conifer/Hardwood - IC
22B. Otherwise ... 23

23A. 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
23B. Otherwise ... 24

24A. 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
24B. Otherwise ... Conifer type not determined - XC

**III Key to Hardwoods**

hc = hardwood canopy cover

1A. Single species or single genus of native hardwood dominates the canopy ... 2
1B. Otherwise ... 20

2A. Valley Oak (QULO) has ≥ 50% hc ... Valley Oak - QL
2B. Otherwise ... 3

3A. Fremont Cottonwood (PSEUDO21: POFR2, POFRA, POFRF3, POFRM, POFRP) has ≥ 50% hc; no other single hardwood species is co-dominant ... Fremont Cottonwood - QF
3B. Otherwise ... 4

4A. California Sycamore (PLRA) has ≥ 50% hc ... California Sycamore - QP
4B. Otherwise ... 5

5A. Tree Willows (PSEUDO27: SALIX) alone or in combination have ≥ 50% hc ... Willow - QO
5B. Otherwise ... 6

6A. Coast Live Oak (QUAG) has ≥ 50% hc ... Coast Live Oak - QA
6B. Otherwise ... 7

7A. Black Oak (QUKE) has ≥ 50% hc ... Black Oak - QK
7B. Otherwise ... 8
8A. Interior Live Oak (QUWI2) has $\geq 50\%$ hc ... \textit{Interior Live Oak - QW}
8B. Otherwise ... 9

9A. Blue Oak (QUDO) has $\geq 50\%$ hc ... \textit{Blue Oak - QD}
9B. Otherwise ... 10

10A. Canyon Live Oak (QUCH2) has $\geq 50\%$ hc ... \textit{Canyon Live Oak - QC}
10B. Otherwise ... 11

11A. Tanoak (LIDE3) has $\geq 50\%$ hc ... \textit{Tanoak - QT}
11B. Otherwise ... 12

12A. California Bay (PSEUDO24: UMCA) has $\geq 50\%$ hc ... \textit{California Bay - QB}
12B. Otherwise ... 13

13A. Eucalyptus species (EUCAL) alone or in combination have $\geq 50\%$ hc ... \textit{Eucalyptus - QZ}
13B. Otherwise ... 14

14A. California Buckeye (AECA) has $\geq 50\%$ hc ... \textit{California Buckeye - QI}
14B. Otherwise ... 15

15A. Madrone (ARME) has $\geq 50\%$ hc ... \textit{Madrone - QH}
15B. Otherwise ... 16

16A. Bigleaf Maple (ACMA3) has $\geq 50\%$ hc ... \textit{Bigleaf Maple - QM}
16B. Otherwise ... 17

17A. Red Alder (ALRU2) has $\geq 50\%$ hc ... \textit{Red Alder - QR}
17B. Otherwise ... 18

18A. Shreve Oak (QUPAS2) has $\geq 50\%$ hc ... \textit{Shreve Oak - AS}
18B. Otherwise ... 19

19A. Tamarisk species have $\geq 50\%$ hc (PSEUDO41: TAMAR2, TAAP, TAAF, TAAR5, TACH2, TAPA4, TAAP, TAGA, TAPE, TARA) ... \textit{Tamarisk - UT}
19B. Otherwise ... 20

REM: mixed species of hardwoods begin

20A. Cottonwood of any species and Tree Alder of any species in combination have $\geq 50\%$ hc (PSEUDO40: ALRH2, ALRU2, ALNUS, POFR2, POFR, POFRA, POFRF3, POFRM, POFRP) ... \textit{Cottonwood-Alder - QJ}
20B. Otherwise ... 21

21A. Willow of any species and Tree Alder in combination have $\geq 50\%$ hc (PSEUDO34: SALIX, ALRH2, ALRU2, ALNUS) ... \textit{Willow-Alder - QY}
21B. Otherwise ... 22
22A. A mixture of riparian hardwood species in which no one species occupies ≥ 50% hc; mixture includes Fremont Cottonwood, Black Cottonwood, White Alder, Red Alder, California Sycamore, Tree Willows, Valley Oak, Bigleaf Maple, Ash, etc. (PSEUDO22: POFR2, POFRA, POFRF3, POFRM, POFRP, POTR15, ALRH2, ALRU2, PLRA, SALIX, QULO, ACMA3, FRAXI) ... Mixed Riparian Hardwoods - NR
22B. Otherwise ... 23

23A. A coastal mixture of hardwoods in which no one species occupies ≥ 50% hc; mixture includes any of the following in combination: Coast Live Oak, California Bay, Tanoak, Madrone (PSEUDO23: QUAG, UMCA, LIDE3, ARME) ... Coastal Mixed Hardwood - EX
23B. Otherwise ... 24

24A. A mixture of interior hardwoods in which no one species occupies ≥ 50% hc and where Blue Oak is usually present; mixture includes any of the following in combination: [PSEUDO33: Canyon Live Oak (QUCH2), California Bay (UMCA), Blue Oak (QUDO), Interior Live Oak (QUWI2), Valley Oak (QULO), California Buckeye (AECA), California Black Walnut (JUGLA)] ... Interior Mixed Hardwood - NX
24B. Otherwise ... 25

25A. Non-native or ornamental hardwood species alone or in combination have ≥ 50% hc ... Non-Native/Ornamental Hardwood - IH
25B. Otherwise ... 26

26A. Agricultural lands have ≥ 50% hc ... Orchard Agriculture – A4
26B. Otherwise ... Hardwood type not determined - XH

IV Key to Shrubs and Subshrubs

sc = shrub canopy cover

1A. A single native shrub species or genus has ≥ 50% sc ... 2
1B. No single native shrub species or genus has ≥ 50% sc ... 23

2A. Either Salal or California Huckleberry has ≥ 50% sc (PSEUDO35: GASH, VAOV2) ... Salal – California Huckleberry - CB
2B. Otherwise ... 3

3A. Shrub Willow of any species alone or in combination has ≥ 50% sc (PSEUDO36: SASC, SALIX, SAGE2, SALE) ... Willow - WL
3B. Otherwise ... 4

4A. Winterfat has ≥ 50% sc (PSEUDO37: KRLA2, EULA5) ... Winterfat - KL
4B. Otherwise ... 5

5A. California Sagebrush (ARCA11) has ≥ 50% sc ... California Sagebrush - SS
5B. Otherwise ... 6
6A. California Buckwheat (PSEUDO49: ERFA2 -- SS and SH) has \( \geq 50\% \) sc ... California Buckwheat - SB
6B. Otherwise ... 7

7A. Riparian Baccharis species (BAGL2) have \( \geq 50\% \) sc ... Baccharis (Riparian) – ML
7B. Otherwise ... 8

8A. Coyote Brush has \( \geq 50\% \) sc (PSEUDO26: BAPI, BAPIC2) ... Coyote Brush - CK
8B. Otherwise ... 9

9A. Wedgeleaf Ceanothus (CECU) has \( \geq 50\% \) sc ... Wedgeleaf Ceanothus - CL
9B. Otherwise ... 10

10A. Red Shank has \( \geq 50\% \) sc or Chamise has \( \geq 25\% \) sc and Red Shank has \( \geq 25\% \) sc (ADSP, ADFA) ... Red Shank - CR
10B. Otherwise ... 11

11A. Chamise (ADFA) has \( \geq 50\% \) sc ... Chamise - CA
11B. Otherwise ... 12

12A. Shrub form of California Juniper (JUCA7) has \( \geq 50\% \) sc ... California Juniper - JC
12B. Otherwise ... 13

13A. Arrowweed (PLSE) has \( \geq 50\% \) sc ... Arrowweed - DE
13B. Otherwise ... 14

14A. Big Sagebrush (ARTR2) has \( \geq 50\% \) sc ... Big Sagebrush - BS
14B. Otherwise ... 15

15A. Rabbitbrush species have \( \geq 50\% \) sc (PSEUDO29: ERNA10, CHRY9S) ... Rabbitbrush - BR
15B. Otherwise ... 16

16A. Any Saltbush and/or Fourwing Saltbush have \( \geq 50\% \) sc (ATRIP, ATCA2) ... Saltbush - BC
16B. Otherwise ... 17

17A. Scalebroom (LESQ) has \( \geq 50\% \) sc ... Scalebroom - LS
17B. Otherwise ... 18

18A. Xeromorphic or Desert Shrub Oaks alone or in combination have \( \geq 50\% \) sc (PSEUDO44: QUJO3, QUCO7) ... Tucker/ Muller Shrub Oak - CT
18B. Otherwise ... 19

19A. Chaparral Yucca (YUWH) has \( \geq 50\% \) sc ... Chaparral Yucca - SY
19B. Otherwise ... 20

20A. Shrub Oaks (including Scrub Oak, shrub forms of Canyon, Coast and Interior Live Oaks, Palmer, non-dominant Muller or Tucker, Brewer and Leather Oaks have \( \geq 50\% \) sc (PSEUDO1: QUERC, QUBE5, QUCHN, QUAGO, QWIF, QUPA10, QUCO7, QUJO3, QUGAB, QUDU4) ... Scrub Oak - CS
20B. Otherwise ...

21A. Ceanothus species (such as Cupleaf, Mojave, Hoaryleaf, Wavyleaf, Chaparral Whitethorn, Bigpod, Hairy, Jim Brush, Greenbark, non-dominant Wedgeleaf, and/or Wartleaf alone or in combination have ≥ 50% sc (PSEUDO3: CEANO, CECU, CEGRP2, CEGRV2, CECR, CEFO, CELE2, CEME, CEOL, CESO2, CESP, CEPA2) ... Ceanothus Chaparral - CC

21B. Otherwise ...

22A. Manzanita species (such as Unknown Manzanita, non-dominant Greenleaf, Eastwood, Bigberry, Parry, Mexican, Glossyleaf or Santa Margarita) have ≥ 50% sc (PSEUDO4: ARCTO3, ARGL3, ARGL4, ARPA4, ARPA6, ARPI, ARPU5, ARNU3) ... Manzanita - SD

22B. Otherwise ... Unknown Shrub - XS

Note: No single native shrub species or genus has ≥ 50% shrub cover

23A. Riparian shrub species singly or in combination have ≥ 50% sc, including species of Currant or Gooseberry, Rose, Mountain Alder, Shrub Willows, Elderberry, Red Osier Dogwood, Western Azalea, California Hazelnut, California Wild Grape, Dwarf Bilberry, Western Blueberry, and/or Vine Maple (PSEUDO37: RIBES, RILA, ROSA5, ALTE2, SALIX, SAMBU, SAMII5, COST4, RHOC, COCOC, VITIS, VICA5, VACA13, VAUL, VAOC, ACCI) … Riparian Mixed Shrub - NM

23B. Otherwise ...

24A. A mixture of soft scrub species or hard chaparral and subshrub species which is often connected to specific edaphic or major disturbance events such as fire; species commonly found in the chaparral mix are those in the Lower Montane Chaparral group (PSEUDO6). The subshrub species include any of the following: Deerweed, Heartleaf Keckiella, and Thickleaf Yerba Santa at ≥ 25% sc (PSEUDO14: ERCR2, KECO, LOSC2, LOSCB) and/or California Sagebrush, Northern Bush Monkeyflower, Fuchsia-flowered Gooseberry, White Sage, Cleveland Sage, Black Sage, Purple Sage, California Encelia, Golden Yarrow, California Goldenbush, unidentified Sage, any species of Saltbush, Desert Tea. species of Snakeweeds, California Buckwheat, Winterfat, and/or Alkali Goldenbush at ≥ 25% sc (PSEUDO8: ARCA11, ENCA, ERCO25, ERER11, MIAU, RISP, SAAP2, SACL, SALE3, SALVI, SAME3, ATRIP, EPCA2, GUTIE, ERFA2, KRLA2, ISAC2) at ≥ 25% sc ... Mixed Soft Scrub Chaparral - SQ

24B. Otherwise ...

25A. A mixed coastal or inland dune condition in which shrubby Lupines (LUPIN) have ≥ 25% sc and elevation is below 100 feet; shrub mixture may also have Fig Marigolds, Eastwood’s Goldenbush, and/or Iceplant [PSEUDO32: CARPO, CAAE8, CAED3, ERFA5, LUPIN (SS), LUPIN (SH), MECH4, MESEM] combined for ≥ 50% sc ... Lupine - SL

25B. Otherwise ...

26A. California Sagebrush and Sage species (California Sagebrush, California Encelia, Golden Yarrow, California Goldenbush, Northern Bush Monkeyflower, Fuchsia-flowered Gooseberry, Unknown Sage, White Sage, Cleveland Sage, Purple Sage, Black Sage; (PSEUDO8: ARCA11, ENCA, ERCO25, ERER11, MIAU, RISP, SALVI, SAAP2, SACL, SALE3, SAME3) combined have ≥ 50% sc ... California Sagebrush (Coastal Sage Scrub mixture) - SS

26B. Otherwise ...

27A. Hard chaparral species (PSEUDO6) singly or in combination have ≥ 25% shrub cover, none dominant and Great Basin shrub species (PSEUDO2SHB) have ≥ 25% shrub cover ... Great Basin – Mixed Chaparral Transition - BX
27B. Otherwise ...

28A. Great Basin indicator shrub species in combination have ≥ 50% sc, including Big Basin or unknown Sagebrush, Desert Bitterbrush, Tucker Oak, California Juniper, Curlleaf Mountain Mahogany, Unknown Rabbitbrush, Rubber Rabbitbrush, and/or Yellow Rabbitbrush (PSEUDO42: ARTR2, ARTEM, PUGL2, QUJO3, JUCA7, CELE2, CHRYS9, ERNA10, CHVI8); Mojave shrub species such as Creosote, Ephedra, Blackbrush, White Bursage, Spiny Menodora, Spiny Hopsage, species of Horsebrush, Sonoran Scrub Oak and/or Opuntia species (PSEUDO43: LATR2, EPHED, EPNE, EPVI), CORA, AMDU2, MESP2, GRSP, TETRA3, QUTU2, OPUNT) have < 20% sc ... Basin Mixed Scrub - BQ
28B. Otherwise ...

29A. A lower elevation mixture of common hard chaparral species (PSEUDO6) has ≥ 50% sc and Great Basin indicator species (PSEUDO2SHB) have < 25% sc ... Lower Montane Mixed Chaparral - CQ
29B. Otherwise ...

30A. Non-native, invasive or ornamental cultivated shrubs have ≥ 50% sc ... Non-Native/Ornamental Shrub - IS
30B. Otherwise ...

31A. Agricultural lands have ≥ 50% sc ... Vineyard – Shrub Agriculture – A2
31B. Otherwise ... Shrub type not determined-XS

V. Key to Grasses and Forbs

hbg = herbaceous cover

1A. Natural habitat is seasonally flooded or permanently flooded or saturated ... 2
1B. Natural habitat is not seasonally flooded ... 5
2A. Coastal brackish or salt marshes surrounding open water containing mixtures of Common Pickleweed, Cordgrasses or Saltgrass in any combination have $\geq 50\%$ hbg ... **Pickleweed – Cordgrass - HC**

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 $\geq 50\%$ hbg ... **Wet Meadow - HJ**

3B. Otherwise ... 4

4A. Fresh to brackish marshes containing mixtures of Tule, other Bulrushes, Cattails, and Spikerushes in mixture with other hydrophytic forbs and grasses ... **Tule – Cattail - HT**

4B. Otherwise ... **Unknown wet herbaceous (XJ) type**

5A. Annual grasses mixed with annual and/or perennial forbs which generally have limited surface or subsurface moisture in midsummer having $\geq 50\%$ hbg ... **Annual Grasses and Forbs - HG**

5B. Otherwise ... 6

6A. 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 $\geq 50\%$ hbg... **Perennial Grasses and Forbs - HM**

6B. Otherwise ... 7

7A. Agricultural lands have $\geq 50\%$ hbg in row crops and are not usually flooded ... **Grain and Crop Agriculture – A6**

7B. Otherwise ... 8

8A. Agricultural lands have $\geq 50\%$ hbg in row crops and are usually flooded ... **Flooded Row Crop Agriculture – A5**

8B. Otherwise ... 9

9A. Non-native cultivated grasses and herbaceous cover have $\geq 50\%$ hbg ... **Non-Native/Ornamental Grasses - IG**

9B. Otherwise ... **Unknown dry herbaceous (XG) or wet herbaceous (XJ) type**

**VI. Key to Sparsely Vegetated and Non-Vegetated Types**

\[ \text{nvc = non-vegetated cover} \]

1A. Agricultural uses comprise $\geq 50\%$ nvc ... **Agriculture - AG**

1B. Otherwise ... 2

2A. Urban or otherwise developed landscapes (highways, etc.) $\geq 50\%$ nvc ... **Urban or Developed - UB**

2B. Otherwise ... 3

3A. Open water or confined water courses occupy $\geq 50\%$ nvc ... **Water - WA**

3B. Otherwise ... 4
4A. Otherwise naturally barren landscapes (cliffs, bedrock, etc.) and mine quarries occupy ≥ 50% nvc ... 
Barren - BA
4B. Otherwise ... 5

5A. Coastal or inland dunes comprise ≥ 50% nvc ... Dunes - DU
5B. Otherwise ... 6

6A. Wet agricultural lands have ≥ 50% nvc ... Agricultural Ponds or Surface Water – A7
6B. Otherwise ... 7

7A. Dry urbanized or developed lands have ≥ 50% nvc ... Urban-related Bare Soil – IB
7B. Otherwise … 8

8A. Dry agricultural lands have ≥ 50% nvc ... Tilled Earth – A3
8B. Otherwise … 9

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