

Field Key to Calveg Alliances

North Interior - Zone 2

Revised March 3, 2010

Using plant codes 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 $> 80\%$ 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 $> 90\%$ 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. One conifer species or genus has $\geq 50\%$ conifer canopy cover (cc) ... 2
1B. No single conifer species or genus has $\geq 50\%$ cc ... 25
- 2A. McNab Cypress (**CUMA**) has $\geq 50\%$ cc ... **McNab Cypress - MN**
2B. Otherwise ... 3
- 3A. Red Fir in combination with White Fir (**PSEUDO3: ABMA, ABCO, ABSH**) has $\geq 75\%$ cc and Red Fir $>$ White Fir ... **Red Fir - RF**
3B. Otherwise ... 4

- 4A. White Fir in combination with Red Fir (**PSEUDO3: ABCO, ABMA, ABSH**) has $\geq 75\%$ cc and White Fir > Red Fir ... **White Fir - WF**
4B. Otherwise ... 5
- 5A. Western Juniper (**JUOC**) has $\geq 75\%$ cc ... **Western Juniper - WJ**
5B. Otherwise ... 6
- 6A. Ponderosa Pine has $\geq 75\%$ cc [or Ponderosa Pine and Jeffrey Pine (**PSEUDO28: PIPO, PIJE**) in combination has $\geq 75\%$ and Ponderosa Pine cover is > Jeffrey Pine] and Great Basin species (**PSEUDO4SHB: Bitterbrush, Curlleaf Mountain Mahogany, Big, Big Basin, Mountain, Low, Black, Silver and Wyoming Sagebrush, Rabbitbrush, Yellow and Rubber Rabbitbrush, and/or Fragrant Snowberry**). **PSEUDO4SHB: PUTR2, PUGL2, ARTR2, ARTRT, ARTRV, ARVA2, ARAR8, ARNO4, ARCA13, ARTRW8, CHRYS9, CHVI8, CHNA2, ERNA10, SYLO** do not occur in understory ... **Ponderosa Pine - PP**
6B. Otherwise ... 7
- 7A. Ponderosa Pine has $\geq 75\%$ cc (or Ponderosa Pine and Jeffrey Pine in combination (**PSEUDO28**) has $\geq 75\%$ cc) and Great Basin species (**PSEUDO4SHB**) occur in understory ... **Eastside Pine - EP**
7B. Otherwise ... 8
- 8A. Jeffrey Pine has $\geq 75\%$ cc (or Ponderosa Pine and Jeffrey Pine in combination (**PSEUDO28**) has $\geq 75\%$ and Jeffrey Pine cover is > Ponderosa Pine) and Great Basin species (**PSEUDO4SHB**) do not occur in understory ... **Jeffrey Pine - JP**
8B. Otherwise ... 9
- 9A. Jeffrey Pine has $\geq 75\%$ cc and Great Basin species (**PSEUDO4SHB**) occur in understory ... **Eastside Pine - EP**
9B. Otherwise ... 10
- 10A. Pacific Douglas-Fir (**PSME**) has $\geq 75\%$ cc ... **Pacific Douglas-Fir - DF**
10B. Otherwise ... 11
- 11A. Whitebark Pine (**PIAL**) has $\geq 75\%$ cc ... **Whitebark Pine - WB**
11B. Otherwise ... 12
- 12A. Mountain Hemlock (**TSME**) has $\geq 75\%$ cc ... **Mountain Hemlock - MH**
12B. Otherwise ... 13
- 13A. Knobcone Pine (**PIAT**) has $\geq 75\%$ cc ... **Knobcone Pine - KP**
13B. Otherwise ... 14
- 14A. Gray Pine (**PISA2**) has $\geq 75\%$... **Gray Pine - PD**
14B. Otherwise ... 15
- 15A. Lodgepole Pine (**PICO**) has $\geq 75\%$ cc ... **Lodgepole Pine - LP**
15B. Otherwise ... 16
- 16A. Western White Pine (**PIMO3**) has $\geq 75\%$ cc ... **Western White Pine - WW**
16B. Not as above ... 17

17A. Incense Cedar (**CADE27**) Has $\geq 75\%$ cc ... **Incense Cedar - MD**

17B. Not as above ... 18

18A. Sugar Pine (**PILA**) has $\geq 75\%$ cc ... **Sugar Pine - PE**

18B. Not as above ... 19

19A. Washoe Pine (**PIWA**) has $\geq 75\%$ cc ... **Washoe Pine - WP**

19B. Otherwise ... 20

20A. Baker or Modoc Cypress (**CUBA**) has $\geq 50\%$ cc ... **Baker Cypress - MO**

20B. Otherwise ... 21

REM: This starts the $\geq 50\%$ and $< 75\%$ two-conifer groups

21A. Douglas-Fir (**PSME**) has $\geq 50\%$ cc; Ponderosa Pine (**PIPO**) has $\geq 20\%$ cc ... **Douglas-Fir - Pine - DP**

21B. Otherwise ... 22

22A. Douglas-Fir (**PSME**) has $\geq 50\%$ cc; White Fir (**ABCO**) has $\geq 20\%$ cc ... **Douglas-Fir - White Fir - DW**

22B. Otherwise ... 23

23A. Ponderosa Pine (**PIPO**) has $\geq 50\%$ cc; White Fir (**ABCO**) has $\geq 20\%$ cc ... **Ponderosa Pine - White Fir - PW**

23B. Otherwise ... 24

24A. Western Juniper has $\geq 50\%$ cc and either Ponderosa Pine or Jeffrey Pine (**PSEUDO28**) has $\geq 25\%$ cc and their combination (**PSEUDO34: JUOC, PIPO, PIJE**) has $\geq 75\%$ cc ... **Yellow Pine - Western Juniper - JJ**

24B. Not as above ... 25

REM: The following are mixed conifer types with no single dominant species

25A. Western Juniper (**JUOC**) has $\geq 25\%$ cc and either Ponderosa Pine and/or Jeffrey Pine (**PSEUDO28**) has $\geq 25\%$ cc and their combination (**PSEUDO34**) has $\geq 75\%$ cc ... **Yellow Pine - Western Juniper - JJ**

25B. Not as above ... 26

26A. Any of these species are present in any combination: Mountain Hemlock, Foxtail Pine, Western White Pine, Whitebark Pine (**PSEUDO7: TSME, PIBA, PIMO3, PIAL**) ... **Subalpine Conifers - SA**

26B. Otherwise ... 27

27A. White Fir and/or Red Fir (**PSEUDO3: ABCO, ABMA**) species singly or combined have $\geq 30\%$ cc and Jeffrey Pine (**PIJE**) is often present ... **Mixed Conifer - Fir - MF**

27B. Otherwise ... 28

28A. Ponderosa Pine and/or Sugar Pine (**PSEUDO27: PIPO, PILA**) in combination have $\geq 10\%$ cc ... **Mixed Conifer - Pine - MP**

28B. Otherwise ... 29

- 29A. Any of these species are present in any combination on serpentine soils: Lodgepole Pine, McNab Cypress, Sargent Cypress, Gray Pine and/or Western White Pine (**PSEUDO6: PICO, CUMA, CUSA3, PISA2, PIMO3**); elevation is usually under 5000 ft (1525 m) ... **Ultramafic Mixed Conifer - MU**
- 29B. Otherwise ... 30
- 30A. Non-native ornamental conifers alone or in combination have $\geq 50\%$ cc ... **Non-Native/Ornamental Conifers - IC**
- 30B. Otherwise ... 31
- 31A. Hardwoods have $\geq 20\%$ of total plot cover. Non-native/ornamental conifer mixture is $\geq 50\%$ cc and non-native hardwood mixture is $\geq 50\%$ of hardwood canopy cover ... **Non-Native/Ornamental Conifer - Hardwood - IM**
- 31B. Otherwise ... 32
- 32A. Single or multiple species of conifers on agricultural sites have $\geq 50\%$ cc and agricultural hardwoods have $\geq 20\%$ total tree canopy cover ... **Agricultural Nurseries - A8**
- 32 B. Not as above ... 33
- 33A. Single or multiple species of conifers on agricultural sites have $\geq 50\%$ cc and agricultural hardwoods have $< 20\%$ total tree canopy cover ... **Conifer Agriculture - A1**
- 33B. Not as above ... 34
34. Conifer type not determined ... XC

III. Key to Hardwoods

hc = hardwood canopy cover

- 1A. One hardwood species (or genus) has $\geq 50\%$ hc ... 2
- 1B. No single hardwood species (or genus) has $\geq 50\%$ hc ... 14
- 2A. Tanoak (**LIDE3**) has $\geq 50\%$ hc ... **Tanoak - QT**
- 2B. Otherwise ... 3
- 3A. Any species of Willow alone or in combination (**SALIX**, etc.) has $\geq 50\%$ hc ... **Willow - QO**
- 3B. Otherwise ... 4
- 4A. White Alder (**ALRH2**) has $\geq 50\%$ hc ... **White Alder - QE**
- 4B. Otherwise ... 5
- 5A. Quaking Aspen (**POTR5**) has $\geq 50\%$ hc ... **Aspen - QQ**
- 5B. Otherwise ... 6
- 6A. Bigleaf Maple (**ACMA3**) has $\geq 50\%$ hc ... **Bigleaf Maple - QM**
- 6B. Otherwise ... 7
- 7A. Black Oak (**QUKE**) has $\geq 50\%$ hc ... **Black Oak - QK**
- 7B. Otherwise ... 8

8A. Oregon White Oak (**QUGA4**) has $\geq 50\%$ hc ... **Oregon White Oak - QG**

8B. Otherwise ... 9

9A. Blue Oak (**QUDO**) has $\geq 50\%$ hc ... **Blue Oak - QD**

9B. Otherwise ... 10

10A. Canyon Live Oak (**QUCH2**) has $\geq 50\%$ hc ... **Canyon Live Oak - QC**

10B. Otherwise ... 11

11A. Interior Live Oak (**QUWI2**) has $\geq 50\%$ hc ... **Interior Live Oak - QW**

11B. Otherwise ... 12

12B. Curlleaf Mountain Mahogany (**CELE3** -- tree form) has $\geq 50\%$... **Curlleaf Mountain Mahogany - FM**

12B. Not as above ... 13

13A. Black Cottonwood (**POTR15**) has $\geq 50\%$ hc ... **Black Cottonwood - QX**

13B. Not as above ... 14

REM: no genus or species is dominant in hardwood canopy in following groups

14A. Combination of Tanoak and Madrone (**PSEUDO9: LIDE3, ARME**) has $\geq 50\%$ hc ... **Tanoak (Madrone) - QT**

14B. Otherwise ... 15

15A. Black and/or Fremont Cottonwood (**PSEUDO12: POTR15, POFR2**) and White and/or Mountain Alder are present (**PSEUDO13: ALRH2, ALTE2**) ... **Cottonwood - Alder - QJ**

15B. Otherwise ... 16

16A. Any species of Willow (**SALIX**) in combination with White and/or Mountain Alder (**PSEUDO13: ALRH2, ALTE2**) are present ... **Willow - Alder - QY**

16B. Otherwise ... 17

17A. Quaking Aspen and any tree species of Willow are present and in combination (**PSEUDO36: POTR5, SALIX**) have $\geq 50\%$ hardwood cover ... **Willow-Aspen - QS**

17B. Not as above ... 18

18 A. A mixture of riparian hardwoods, including Fremont and Black Cottonwoods, Tree Willows, Unknown, White and/or Mountain Alders, and Aspen in combination have $\geq 50\%$ hc (**PSEUDO33: POFR2, POTR15, SALIX, ALNUS, ALRH2, ALTE2, POTR5**) ... **Riparian Mixed Hardwoods - NR**

18 B. Otherwise ... 19

19A. A mixture of hardwoods on productive sites, including Black Oak, Madrone, Tanoak, Bigleaf Maple and Tree Chinquapin in combination have $\geq 50\%$ hc (**PSEUDO30: QUKE, ARME, LIDE3, ACMA3, CACH6, CHCH7**) ... **Montane Mixed Hardwoods - TX**

19B. Otherwise ... 20

20 A. A mixture of hardwoods on non-productive sites, including Canyon Live Oak, Interior Live Oak, Oregon White Oak, Valley Oak California Buckeye and Blue Oak in combination have $\geq 50\%$ hc

(PSEUDO32: QUCH2, QUWI2, QUGA4, QULO, AECA, QUDO) ... Interior Mixed Hardwoods - NX

20 B. Otherwise ... 21

21A. Agricultural lands have $\geq 50\%$ hc ... **Orchard Agriculture - A4**

21B. Otherwise ... 22

22A. Non-native hardwoods alone or in combination have $\geq 50\%$ hc ... **Non-Native/Ornamental Hardwood - IH**

22B. Otherwise ... 23

23. Unknown Hardwood Type ... XH

IV. Key to Shrubs and Subshrubs

sc = shrub canopy cover

1A. Combination of shrub and dwarf shrub species occurring above treeline and usually above 8500 ft (2600 m) ... **Mixed Alpine Scrub - AX**

1B. Otherwise ... 2

2A. Curlleaf Mountain Mahogany (**CELE3**) has $\geq 50\%$ sc ... **Curlleaf Mountain Mahogany - BM**

2B. Otherwise ... 3

3A. Big Sagebrush (**PSEUDO16: ARTR2**) has $\geq 50\%$ sc ... **Big Sagebrush - BS**

3B. Otherwise ... 4

4A. Bitterbrush (**PSEUDO44: PUTR2, PUGL2**) has $\geq 50\%$ sc ... Bitterbrush - BB

4B. Otherwise ... 5

5A. Low Sagebrush (**PSEUDO17: ARAR8, ARARA, ARARN2**) has $\geq 50\%$ sc ... Low Sagebrush - BL

5B. Otherwise ... 6

6A. Any species of Rabbitbrush (**PSEUDO29: CHNA2, CHRYS9, CHVI8**, etc.) alone or in combination has $\geq 50\%$ sc ... **Rabbitbrush - BR**

6B. Otherwise ... 7

7A. Whiteleaf Manzanita (**ARVI4**) has $\geq 50\%$ sc ... **Whiteleaf Manzanita - CW**

7B. Otherwise ... 8

8A. Greenleaf Manzanita (**ARPA6**) has $\geq 50\%$ sc ... **Greenleaf Manzanita - CG**

8B. Otherwise ... 9

9A. Pinemat Manzanita (**ARNE**) has $\geq 50\%$ sc ... **Pinemat Manzanita - CN**

9B. Otherwise ... 10

10A. Huckleberry Oak (**QUVA**) has $\geq 50\%$ sc ... **Huckleberry Oak - CH**

10B. Otherwise ... 11

- 11A. Wedgeleaf Ceanothus (**CECU**) has $\geq 50\%$ sc ... **Wedgeleaf Ceanothus - CL**
11B. Otherwise ... 12
- 12A. Birchleaf Mountain Mahogany (PSEUDO38: CEBE3, CEMO2, CEMOG) has $\geq 50\%$ sc ...
Birchleaf Mountain Mahogany - WM
12B. Otherwise ... 13
- 13A. Mountain Sagebrush (PSEUDO39: ARTRV, ARTRV2, ARVA2) has $\geq 50\%$ sc ... Mountain
Sagebrush - TV
13B. Not as above ... 14
- 14A. Big Basin Sagebrush (**ARTRT**) has $\geq 50\%$ sc ... **Big Basin Sagebrush - TT**
14B. Not as above ... 15
- 15A. Silver Sagebrush (PSEUDO51: ARCA13) has $\geq 50\%$ sc ... Silver Sagebrush - TU
15B. Not as above ... 16
- 16A. Snowbrush (**CEVE**) has $\geq 50\%$ sc ... **Snowbush - CV**
16B. Not as above ... 17
- 17A. Bush Chinquapin (PSEUDO46: CHSE11) has $\geq 50\%$ sc ... Bush Chinquapin - CP
17B. Not as above ... 18
- 18A. Brewer Oak (**QUGAB**) has $\geq 50\%$ sc ... **Brewer Oak - CJ**
18B. Not as above ... 19
- 19A. Mountain Whitethorn (**CECO**) has $\geq 50\%$ sc ... **Mountain Whitethorn - CY**
19B. Not as above ... 20
- 20A. Shrub Willow of any species (PSEUDO49: SALIX, SAEX, SASC, SALU, SALU2) has $\geq 50\%$ sc
... Willow (shrub) - WL
20B. Not as above ... 21
- 21A. Mountain Alder (**ALTE2**) has $\geq 50\%$ sc ... **Mountain Alder - TA**
21B. Not as above ... 22
- 22A. Snowberry of any species (**PSEUDO50: SYMPH, SYMO, SYRO**) has $\geq 50\%$ sc ... **Snowberry -
TS**
22B. Not as above ... 23
- 23A. Greasewood (**SAVE4**) has $\geq 50\%$ sc ... **Greasewood - BG**
23B. Not as above ... 24
- 24A. Quaking Aspen, shrub form (**POTR5**) has $\geq 50\%$ sc ... **Quaking Aspen - KQ**
24B. Not as above ... 25
- 25A. Wyoming Sagebrush (**PSEUDO52: ARTRW, ARTRW8**) has $\geq 50\%$ sc ... **Wyoming Sagebrush
- TW**
25B. Not as above ... 26

REM: Mixed species types

26A. Any species of Ceanothus alone, including non-dominant Wedgeleaf, or in combination has $\geq 50\%$ sc (PSEUDO20: CEANO, CECO, CECU, CEDI2,, CEIN, CEIN3, CELE2, CEPR, CEPU, CESA, CESO, CETH, CEVE) ... Ceanothus Chaparral - CC

26B. Otherwise ... 27

27A. Any species of scrubby oaks alone or in combination of the following have $\geq 50\%$ sc: Unknown Shrub Oak, Shrub Canyon Live Oak, Huckleberry Oak, Shrub Oregon White or Brewer Oak, and/or Shrub Black Oak (PSEUDO21: QUERC, QUCHN, QUVA, QUGAB, QUKE) ... Scrub Oak - CS

27B. Otherwise ... 28

28A. Riparian shrub species such as Shrub Willows, Elderberry, Whitestem Gooseberry, etc. in combination have $\geq 50\%$ (PSEUDO43: SALIX, SABR, SAEX, SALA6, SALU, SALU2, SANIC4, RIIN2) ... Riparian Mixed Shrub - NM

28 B. Not as above ... 29

29A. Bitterbrush (PSEUDO44: PUGL2, PUTR2) and any species of Sagebrush (PSEUDO41: ARTR2, ARTRV, ARTRT, ARAR8, ARNO4, ARCA13, ARTRW, ARTRW8, ARVA2, ARTR, ARTEM) in combination have $\geq 50\%$ sc, with Bitterbrush having $\geq 25\%$ sc ... Bitterbrush - Sagebrush - TB

29 B. Not as above ... 30

30A. Great Basin shrubs [PSEUDO42: PSEUDO4SHB and/or Fragrant Snowberry (SYLO) and/or Desert Peach (PRAN2)] in mixture have $\geq 50\%$... Great Basin Mixed Scrub - BQ

30B. Not as above ... 31

31A. Any combination of montane or upper montane mixed chaparral species such as Greenleaf and/or Pinemat Manzanita, Mountain Whitethorn, Bush Chinquapin, Deerbrush, Mahala Mat, Sierra Gooseberry, Sticky Currant, Snowbrush, Fremont Silktassel, Bitter Cherry, Klamath Plum, Western Chokecherry, Cascara, Sierra Coffeeberry, Creeping Snowberry, and/or Mountain or Roundleaf Snowberry (PSEUDO24: ARPA6, ARNE, CECO, CHSE11, CEIN3, CEPR, RIRO, RIVI3, CEVE, GAFR, PREM, PRSU2, PRVID, RHPU, RHRU, SYMO, SYRO, SYROR) having $\geq 25\%$ sc and Great Basin species (PSEUDO42) having $\geq 25\%$ sc ... Great Basin - Mixed Chaparral Transition - BX

31B. Otherwise... 32

32A. Any of the following non-dominant species in combination have $\geq 20\%$ sc: Wedgeleaf Ceanothus, Whiteleaf Manzanita, Birchleaf Mountain Mahogany, Pine Mat Ceanothus, and/or Hollyleaf Redberry (PSEUDO23: CECU, ARVI4, CEBE3, CEPU, RHCRI2) ... Lower Montane Mixed Chaparral - CQ

32B. Otherwise ... 33

33A. Any combination of two or more higher elevation shrub species (PSEUDO24) have $\geq 20\%$ sc ... Upper Montane Mixed Chaparral - CX

33B. Otherwise ... 34

34A. Elevation < 5000 ft (1525 m), and any of the following in combination on serpentine rocks have $\geq 20\%$ sc: Hollyleaved Barberry, Wedgeleaf Ceanothus, Whiteleaf Manzanita, Huckleberry Oak, Siskiyou Mat (PSEUDO25: BEAQ, BEPI2, CECU, ARVI4, QUVA, CEPU) ... Ultramafic Mixed Chaparral - C1

34B. Otherwise ... 35

35A. Elevation \geq 5000 ft (1525 m); any of the following alone or in combination have \geq 20% sc: Bush Chinquapin, Pinemat Manzanita, Bitter Cherry (**PSEUDO26: CHSE11, ARNE, PREM**) ... **Upper Montane Mixed Shrub - CM**

35B. Otherwise ... 36

36A. Non-native, invasive or ornamental cultivated shrubs have \geq 50% sc ... **Non-Native/Ornamental Shrub - IS**

36 B. Otherwise ... 37

37A. Agricultural lands have \geq 50% sc ... **Vineyard - Shrub Agriculture - A2**

37B. Otherwise ... Unknown Shrub Type ... XS

V. Key to Grasses and Forbs

hg = herbaceous/grass canopy cover

1A. Mixture of low-growing herbaceous plants and grasses growing in alpine and subalpine areas above 7900 ft (2400 m) ... **Alpine Grasses and Forbs - AC**

1B. Not as above ... 2

2A. Native grasses such as Ashy Ryegrass (**LECI4**), Alkali Sacaton (**SPAI**), Saltgrass (**DISP**), One-sided Bluegrass (**POSE**), and non-native forbs such as Herb Sophia (**DESO2**), and Halogeton (**HAGL**) occur in alkaline or saline flats ... **Alkaline Mixed Grasses and Forbs - HA**

2B. Not as above ... 3

3A. Annual grasses (such as Cheatgrass, **BRTE**) mixed with other grasses and/or forbs which generally have limited surface or subsurface moisture in midsummer having \geq 50% hg ... **Annual Grasses and Forbs - HG**

3B. Not as above ... 4

4A. Hydrophytic grasses and grass-like species [Sedges (**CAREX**), Rushes (**JUNCU**), Spikerushes (**ELEOC**), etc.] in mixture with hydrophytic herbaceous species [False Hellebore (**VERAT**), Lily (**LILIU**), Shooting Star (**DODEC**), Gentian (**GENTI**), etc.] growing mainly in organic soil have \geq 50% hg ... **Wet Meadow - HJ**

4B. Otherwise ... 5

5A. 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% hg ... **Perennial Grasses and Forbs - HM**

5B. Otherwise ... 6

6A. Marshes adjacent to perennial fresh water sources containing mixtures of Tule (**SCACO2**) or other Bulrushes (**SCIRP**), Spikerushes (**ELEOC**) and Cattails (**TYPHA**) rooting below the water's surface have \geq 50% hg ... **Tule - Cattail - HT**

6B. Otherwise... 7

7A. Agricultural lands have \geq 50% hg in row crops and are not usually flooded during most of the growing season ... **Pastures and Crop Agriculture - A6**

7B. Not as above ... 8

8A. Agricultural lands have $\geq 50\%$ hg in row crops and are usually flooded during most of the growing season ... **Flooded Row Crop Agriculture - A5**

8B. Not as above ... 9

9A. Non-native herbaceous species, either planted or invasive, have 50% hg ... Non-Native/Invasive Forb Grasses - IF

9B. Not as above ... 10

10A. Non-native cultivated grasses have $\geq 50\%$ hg ... **Non-Native/Ornamental Grass - IG**

10B. Not as above ... 11

11A. Unknown dry grasses and forbs have $\geq 50\%$ hg ... **Unknown Grasses and Forbs - XG (dry)**

11B. Unknown wet or moist grasses and forbs have $\geq 50\%$ hg ... **Unknown Grasses and Forbs - XJ (wet)**

VI. Key to Sparsely Vegetated and Non-Vegetated Types

nvc = non-vegetated cover

1A. Dry urbanized or developed lands have $\geq 50\%$ nvc ... **Urban-related Bare Soil - IB**

1B. Not as above ... 2

2A. Dry agricultural lands have $\geq 50\%$ nvc ... **Tilled Earth Agriculture - A3**

2B. Not as above ... 3

3A. Wet agricultural lands have $\geq 50\%$ nvc ... Agricultural Ponds or Surface Water Features - A7

3B. Not as above ... 4

4A. Wet urbanized or developed lands have $\geq 50\%$ nvc ... **Developed Water Features - IW**

4B. Not as above ... 5

5A. Other agricultural uses comprise $\geq 50\%$ nvc ... **Agriculture - AG**

5B. Otherwise ... 6

6A. Snow or ice fields at the highest elevations comprise $\geq 50\%$ nvc ... **Snow/Ice - SN**

6B. Otherwise ... 7

7A. Other urban or otherwise developed landscapes (highways, etc.) have $\geq 50\%$ nvc ... **Urban or Developed - UB**

7B. Otherwise ... 8

8A. Open water or confined water courses occupy $\geq 50\%$ nvc ... **Water - WA**

8B. Otherwise ... 9

9A. Playas, dry alkaline lake beds and other alkaline flats occupy $\geq 50\%$ nvc ... **Alkaline Flats - AK**

9B. Otherwise ... 10

- 10A. Otherwise naturally barren landscapes (cliffs, bedrock, etc.) occupy $\geq 50\%$ nvc ... **Barren - BA**
- 10B. Otherwise ... Unknown Non-vegetated - XZ