

## **NSDI CAPS Grant:**

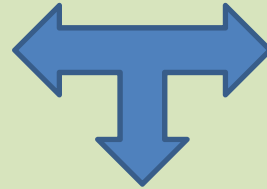
Integrating the FGDC National  
Vegetation Classification (NVC)  
Standard with the CNPS/CDFG  
*Manual of California Vegetation,  
second edition*

Update:

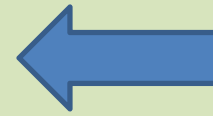
November 12, 2013

# Goal: To link CA alliances to NVC Group level.

NVC Hierarchy



CA alliances



CA alliance concepts not always directly equivalent to USNVC alliance

1.8.2.Nd Vancouverian Cool Temperate Forest

- M023
  - Southern Vancouverian Montane & Foothill Forest
  - G234
    - Sierran-Intermontane Desert Western White Pine - White Fir Woodland
      - Abies concolor - Pinus contorta / Carex pensylvanica - Achnatherum occidentale Forest
      - Abies concolor - Pinus monticola / Ribes viscosissimum Forest
      - Abies concolor - Pinus ponderosa / Amelanchier alnifolia Forest
      - Abies concolor - Pinus ponderosa / Arctostaphylos patula - Mahonia spp. Forest
      - Abies concolor - Pinus ponderosa / Carex inops ssp. Forest
      - Abies concolor - Pinus ponderosa / Ceanothus velutinus Forest
      - Abies concolor - Pinus ponderosa / Purshia tridentata Woodland
      - Abies concolor - Pinus ponderosa / Symphoricarpos spp. Forest
      - Pinus monticola / Achnatherum occidentale Woodland
    - G344
      - California Montane [Sierra, Klamath-Siskiyou & Southern Cascade] Conifer Forest & Woodland
        - Abies bracteata Forest [Placeholder]
        - Abies concolor - Calocedrus decurrens - Pinus lambertiana / Adenocaulon bicolor Forest
        - Abies concolor - Calocedrus decurrens - Pinus lambertiana / Chrysolepis sempervirens / Carex multicaulis Forest
        - Abies concolor - Calocedrus decurrens - Pinus lambertiana / Cornus nuttallii / Corylus cornuta var. californica Forest
        - Abies concolor - Chamaecyparis lawsoniana - Picea breweriana / Quercus vaccinifolia Forest
        - Abies concolor - Chamaecyparis lawsoniana / Quercus sadleriana / Leucothoe davisiae - Rhododendron macrophyllum Forest
        - Abies concolor - Picea breweriana / Chimaphila umbellata Forest
        - Abies concolor - Picea breweriana / Gaultheria ovatifolia / Orthilia secunda Forest
        - Abies concolor - Picea breweriana / Vaccinium membranaceum / Goodyera oblongifolia Forest
        - Abies concolor - Pinus lambertiana - Calocedrus decurrens / Symphoricarpos mollis / Kelloggia galloides Forest
        - Abies concolor - Pinus lambertiana - Pinus jeffreyi / Sparse Understory Forest
        - Abies concolor - Pinus lambertiana - Pinus ponderosa / Arctostaphylos patula Forest
        - Abies concolor - Pinus lambertiana / Malanthemum racemosum - Prosartes hookeri Forest
        - Abies concolor - Pinus lambertiana Forest
        - Abies concolor - Pseudotsuga menziesii / Holodiscus discolor Forest
        - Abies concolor - Pseudotsuga menziesii / Mahonia aquifolium Forest
        - Abies concolor - Pseudotsuga menziesii / Mahonia nervosa Forest
        - Abies concolor - Pseudotsuga menziesii / Whipplea modesta Forest
        - Abies concolor / Amelanchier alnifolia - Corylus cornuta Forest
        - Abies concolor / Amelanchier alnifolia / Anemone deltoidea Forest

Formation 1.C.2. Cool Temperate Forest

Division 1.C.2.b. Western North America Cool Temperate Forest

Macrogroup MG023. Californian-Vancouverian Montane and Foothill Forest

Group - Vancouverian evergreen broadleaf and mixed forest

- Arbutus menziesii Alliance
- Chrysolepis chrysophylla Alliance
- Lithocarpus densiflorus Alliance
- Pseudotsuga menziesii-Lithocarpus densiflorus Alliance
- Quercus garryana var. garryana Alliance

Group - Upland Vancouverian mixed woodland and forest

- Abies concolor-Pseudotsuga menziesii Alliance
- Acer macrophyllum Alliance
- Alnus rubra Alliance
- Pinus ponderosa-Pseudotsuga menziesii Alliance
- Pseudotsuga menziesii Alliance

Group - Californian montane conifer forest

- Abies bracteata Alliance
- Abies concolor Alliance
- Abies concolor-Pinus lambertiana Alliance
- Abies magnifica-Abies concolor Alliance
- Calocedrus decurrens Alliance
- Picea breweriana Alliance
- Pinus jeffreyi Alliance
- Pinus lambertiana Alliance
- Pinus ponderosa Alliance
- Pinus ponderosa-Calocedrus decurrens Alliance
- Pinus washingtonis Alliance
- Pseudotsuga macrocarpa Alliance
- Sequoiadendron giganteum Alliance

Macrogroup MG020. Rocky Mountain Subalpine and High Montane Conifer Forest

Group - Rocky Mountain mesic subalpine forest and woodland

- Abies lasiocarpa Alliance
- Picea engelmannii Alliance
- Populus tremuloides Alliance

Group - Western Cordilleran xeric subalpine coniferous forest and woodland

- Pinus albicandis Alliance
- Pinus balfouriana Alliance
- Pinus flexilis Alliance
- Pinus longaeva Alliance

# Current Progress to Date

## Conference calls and meetings

- 6-7 Calls among NatureServe, CNPS and CDFW staff
- 4 Meetings with CNPS and CDFW staff
- Approximately 490 Alliance concepts reviewed
- Around 5 Alliances remaining to review

## Review of the CA Alliances

- Over 420 Alliances have matched to 1 NVC Group
- Around 65 Alliances have matched to >1 group
- Recommendations on modifying certain portions of the NVC hierarchy include
  - Merging of Groups and/or Macrogroups
  - Moving Groups/Macrogroups to nest within other sections of hierarchy
  - Splitting apart Alliances into >1

# Using CA Information to inform regional US Classification. Example: Alpinegold (*Hulsea algida*)- Alpine goldenbush (*Ericameria discoidea*) Alliance



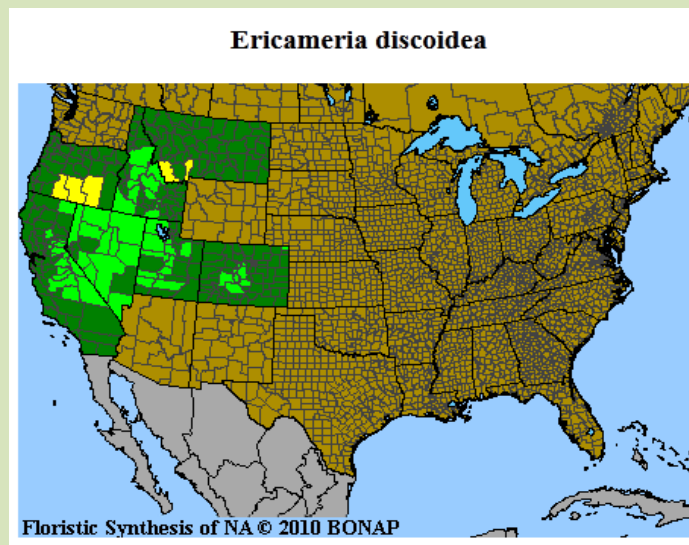
Rocky Mountains



Great Basin



Sierra Nevada



# A Single Alliance must be Nested within a Single Group, Macrogroup, and Division

- Existing Hierarchy suggested: all Western NA alpine vegetation occurs within a single Division: 4.B.1.Nb Western North American Alpine Vegetation divided into two macrogroups each with several groups
  - Rocky Mountain Alpine Scrub, Forb Meadow & Grassland
    - Rocky Mountain Alpine Turf & Fell-Field
    - Rocky Mountain Alpine Dwarf-Shrubland
  - Vancouverian Alpine Scrub, Forb Meadow & Grassland
    - North Pacific Alpine-Subalpine Dwarf-Shrubland & Heath
    - North Pacific Alpine-Subalpine Turf & Herbaceous Meadow
    - Sierran Alpine Tundra & Fell-Field

Concluded : Alpinegold (*Hulsea algida*)-Alpine goldenbush (*Ericameria discoidea*) Alliance and several others occurred in both alpine Macrogroups and in 3 different Groups

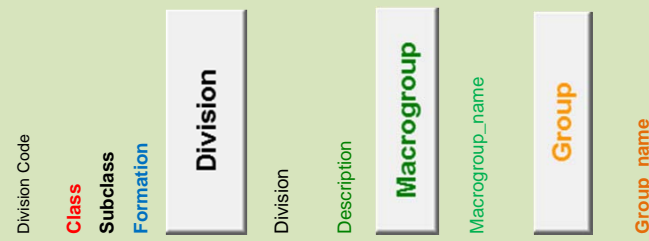
- This suggests initial hierarchy is overly divided, and there is a broader inter-related alpine vegetation throughout the western US
- Revised to include a single Alpine Scrub, Forb Meadow & Grassland Macrogroup with two groups: a mesic turf and subshrub, and a fellfield

# Revision of California Alliances within Groups: Example the California Scrub Division

- Traditionally Two Macrogroups
  - **California Chaparral**
  - **California Coastal Scrub**



# Reconfiguring of 1 Scrub Group in the NVC Hierarchy



Division Code	Class	Subclass	Formation	Division	Description	Macrogroup	Macrogroup_name	Group	Group_name	
2.B.1					<b>2.B.1 Mediterranean Scrub &amp; Grassland</b>					
2.B.1.Na				D020	<b>2.B.1.Na California Scrub</b>					
2.B.1.Na					X	M043	California Chaparral			
2.B.1.Na					X		G258	California Maritime Chaparral		
2.B.1.Na					X		G261	California Mesic & Pre-montane Sclerophyll Scrub		
2.B.1.Na					X		G257	California Xeric Chaparral		
2.B.1.Na					X	M044	California Coastal Scrub			
2.B.1.Na					X		G264	Central & Southern California Coastal Sage Scrub		
2.B.4									<b>2.B.4 Temperate &amp; Boreal Scrub &amp; Herb Coastal Vegetation</b>	
2.B.4.Nb				D027	<b>2.B.4.Nb Pacific North American Coast Scrub &amp; Herb Vegetation</b>					
2.B.4.Nb						M511	North Pacific Coastal Semi-natural Grassland & Shrubland			
2.B.4.Nb							North Pacific Maritime Coastal Sand Dune Semi-natural			
2.B.4.Nb					X		G647	Scrub & Herb Vegetation		
2.B.4.Nb						M059	Pacific Coastal Beach & Dune Vegetation			
2.B.4.Nb							G663	California Coastal Beach & Dune Scrub		
2.B.4.Nb							North Pacific Maritime Coastal Scrub & Herb Beach &			
2.B.4.Nb					X		G498	Dune		
2.B.4.Nb							G664	Warm Pacific Coastal Beach & Dune Vegetation		
2.B.4.Nb						M058	Pacific Coastal Cliff & Bluff Vegetation			
2.B.4.Nb							G-	No group		
2.B.4.Nb							G662	California Coastal Evergreen Scrub Bluff		
2.B.4.Nb							North Pacific Coastal Scrub & Herb Cliff &			
2.B.4.Nb					X		G554	Bluff		
2.B.4.Nb							G665	Warm Pacific Coastal Bluff Vegetation		
2.B.4.Nb						M753	Warm Pacific Coastal Beach, Dune & Bluff Vegetation			
2.B.4.Nb							G-	No group		



# However there was another set of alliances that didn't really fit either

- Included mostly evergreen but not thick leaved species that occurred mostly on cooler and moister north coast
- Did not occur much farther north into OR or WA, so was primarily Californian, but neither chaparral nor coastal scrub



D020
2.B.1.Na California Scrub
M043
California Chaparral
G257
California Xeric Chaparral
G258
California Maritime Chaparral
G260
California Serpentine Chaparral
G261
California Mesic Sclerophyll Scrub
G263
California Mesic Pre-montane Sclerophyll Scrub
M044
California Coastal Scrub
G264
Central & Southern California Coastal Sage Scrub



Add in new macrogroup here: between chaparral and coastal scrub

New name for this Macrogroup: California mesic and north coastal scrub includes one group: evergreen and deciduous, including these alliances

- Coyote Brush Alliance
- Blueblossom Ceanothus Alliance
- Poison Oak and other alliances (deciduous)

