

Sierra Nevada Vegetation Zones

FOOTHILL WOODLANDS (Chaparral) < 2000 Feet

CLIMATE: Winter moisture is rain only, very hot and dry summers

DOMINANT TREES: Live oaks, gray pine, ponderosa pine

- Only the most drought tolerant trees can survive
- Gray pine has sparse needles to reduce respiration
- Numerous shrubs and brush

PONDEROSA PINE: 2000 - 3500 feet

CLIMATE: Winter moisture is primarily rain, below the snow belt, hot dry summers

DOMINANT TREES: Ponderosa pine, black oak

- Drought tolerant - Tap roots on mature trees go down 6 feet, seedlings can grown 20 inches of root in two months.
- Fire tolerant because of thick bark
- Not frost tolerant
- Tolerant of low nutrient soils

MIXED CONIFER: 3500-6500 feet

CLIMATE: Winter moisture is primarily snow, warm dry summers

DOMINANT TREES: Ponderosa pine, Douglas-fir, white fir, sugar pine, jeffrey pine, incense cedar

- No one tree can dominate

RED FIR: 6500-8000 feet

CLIMATE: Winter moisture is primarily snow, get deep snow accumulations, short warm summers

DOMINANT TREES: Red fir, western white pine, lodgepole pine (where soils thin)

- Red fir is frost tolerant, flexible, and can handle heavy snow load

SUBALPINE: 8000-10,000 feet

CLIMATE: Winter moisture is snow, get deep snow accumulations, very cold, short cools summers, extremely short growing season

DOMINANT TREES: Mountain hemlock and whitebark pine

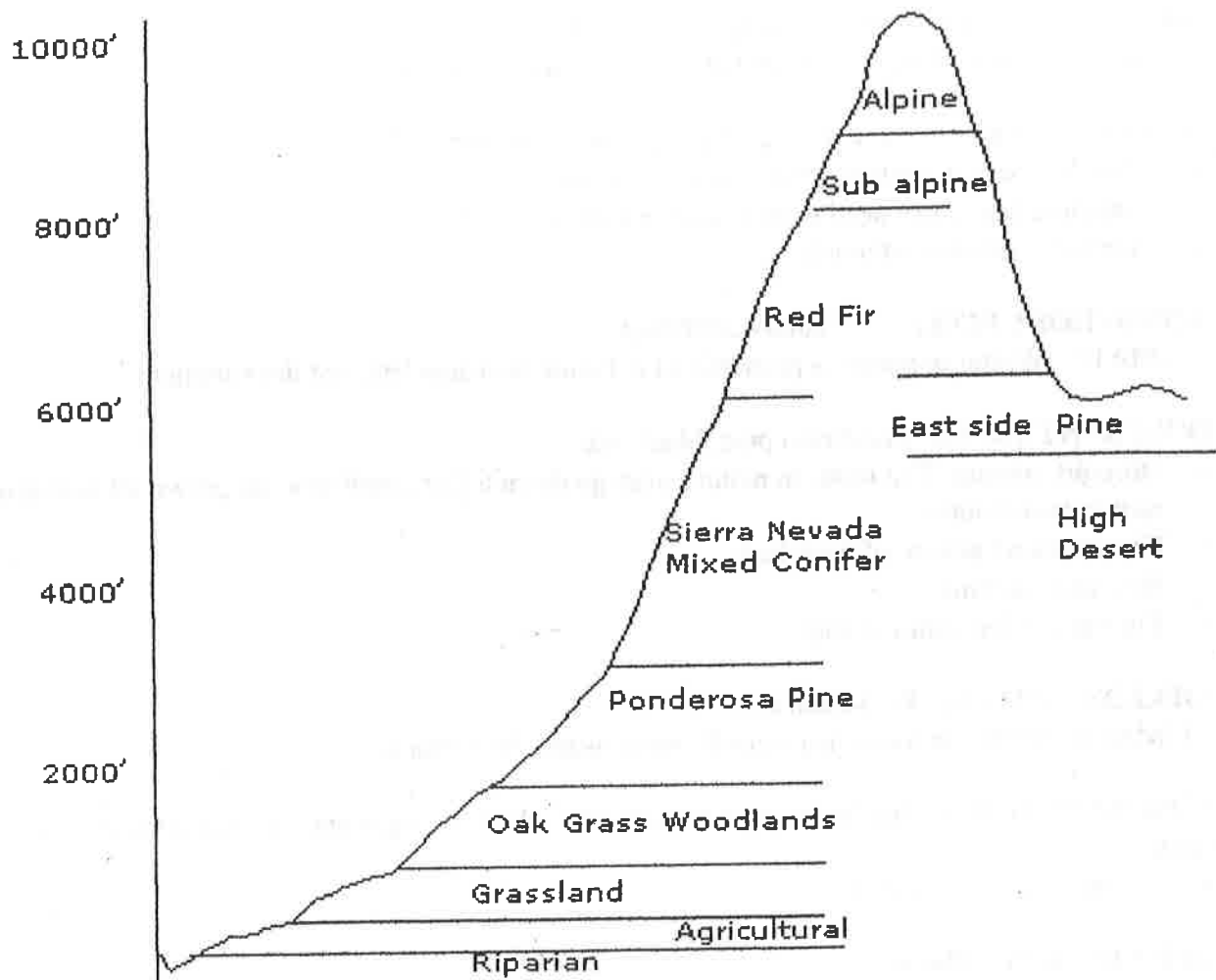
- Mountain hemlock tolerates moist soils, and shade
- Whitebark pine tolerates dryer soils, shade intolerant

ALPINE: >10,000 feet

CLIMATE: Very cold and windy, some areas in dense winter snow, some snow free because of winds, little available moisture because water is mostly frozen, brief summer

DOMINANT TREES: none, alpine is by definition above the treeline

- brief summer blossoming of low flowers and plants



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