



Klamath Network Featured Creature

April 2011

Quaking Aspen (*Populus tremuloides*)

FIELD NOTES:

General Description:

The quaking aspen, or simply aspen, presents an embarrassment of riches. It is both the most widespread tree species in North America (extending over 48 degrees of latitude) and one of the most attractive. Its white bark, scarred black, contrasts sharply with its conifer associates. The shimmering bright green leaves on mature trees are nearly round, 4-8 cm (1.6-3.1 in) in diameter with small rounded teeth, and a 3-7 cm (1.2-2.8 in) long, flattened petiole, which allows its characteristic flutter in the lightest breeze. In autumn, the leaves ignite to incandescent yellow, red, and salmon hues, brightening landscapes wherever it occurs. Indeed, the view of a bright aspen stand under a rugged peak and a deep October sky captures the majesty of the American West.

The tree is known by many names, reflecting the many cultures it intersects: trembling aspen, golden aspen, mountain aspen, popple, poplar, trembling poplar, and in Spanish, álamo blanco (white poplar), and álamo temblón (tremble poplar). In our region, it occurs in relatively small groves amid more extensive sagebrush and coniferous forest communities, adding substantially to landscape diversity.

Reproduction

Quaking aspen seedlings at one year of age are already capable of reproducing by root sprouts (suckers), and mature stands reproduce vigorously by this means. Quaking aspen is primarily dioecious, so most aspen clones are either all male or all female. When flowering occurs, the pendulous flower catkins, 3.8-6.4 cm (1.5-2.5 in) long, generally appear between April and June. Female catkins produce seeds, and the most successful regeneration from seed appears to follow large fires.



Populus tremuloides, from Devastated Area,
Lassen Volcanic National Park
By Daniel Sarr



Populus tremuloides suckers,
Lassen Volcanic National Park
By Sarah McCullough



Populus tremuloides in autumn,
Sneffels Range, Colorado,
By Guy Schmickle

Ecology and Habitat:

The aspen occurs in the cooler realms of North America, being a major component of boreal forest, extending southward in high mountain settings to central Mexico. The aspen is considered a pioneer species, which responds rapidly to the increased light and nutrients liberated by disturbance, especially fire. Juvenile growth is rapid, exceeding two meters a year. Aspen tolerate a wide range of soil types, but growth is especially rapid on fertile soils with a neutral to slightly basic pH. The species prefers moist, but not saturated, soils in its rooting zone, and in our region is common along riparian meadow margins, topographic breaks in sagebrush steppe, and open high elevation slopes.

Aspen stands appear to “supercharge” biological diversity of many life forms, harboring higher cover and diversity of understory plants than adjacent conifer forests (McCullough et al. 2011), as well an unusual wealth of landbird and small mammal species.

In the last 15 years, scientists have noted substantial “die offs” of large aspen clones, especially in the Rockies. A debate is ongoing about the cause(s), but no clear pathogen or environmental cause has been definitely proven.

Where to See It in the Klamath Parks:

The quaking aspen is recorded at Crater Lake and Lassen Volcanic National Parks, Lava Beds National Monument, and in the expansion area of Oregon Caves National Monument.

References for *Populus tremuloides*:

McCullough, S., K. Tate, and D. Sarr. 2011. Ecological Assessment of Aspen Communities in the Klamath Network: A Problem Analysis. Klamath Network Project Report, Ashland, Oregon. 68 p.

Shepperd, W. D., P. C. Rogers, D. Burton, and D. L. Bartos. 2006. Ecology, Biodiversity, Management, and Restoration of Aspen in the Sierra Nevada. RMRS GTR 178. Fort Collins, CO: USDA, Forest Service, Rocky Mountain Research Station. 122 p.