

**ARIZONA GAME AND FISH DEPARTMENT  
HERITAGE DATA MANAGEMENT SYSTEM**

**Plant Abstract**

**Element Code:** PDFAB401N0

**Data Sensitivity:** No

**CLASSIFICATION, NOMENCLATURE, DESCRIPTION, RANGE**

**NAME:** *Trifolium neurophyllum*  
**COMMON NAME:** White Mountains Clover; Mogollon Clover  
**SYNONYMS:** *Trifolium longipes* var. *neurophyllum*  
**FAMILY:** Fabaceae

**AUTHOR, PLACE OF PUBLICATION:** Greene. 1905. Leaflet. Bot. Observ. Crit. 1:154.

**TYPE LOCALITY:** New Mexico, Socorro Co., Mogollon Mountains

**TYPE SPECIMEN:** UNITED STATES. Metcalfe 532, 17 August 1903. Isotype.

**TAXONOMIC UNIQUENESS:** Eighteen species of this genus in Arizona (Kearney and Peebles 1960).

**DESCRIPTION:** Perennial herb 50.0-80.0 cm (20.0-31.0 in.) tall; leaves divided into three leaflets 10.0-35.0 mm (0.4-1.4 in.) long, narrowly lance shaped, sharp pointed, small toothed. Flowers in globose clumps on a hairy, leafless, bractless stalk; calyx tubular, ending in long teeth, hairy; flowers 10.0-20.0 mm (0.4-0.8 in.) long, purple, purple-white or white; pods 3-6 seeded.

**AIDS TO IDENTIFICATION:** Height, purple flowers in heads on a long bractless and leafless stalk, and hairy calyx. *Trifolium longipes* ssp. *pygmaeum* which has a pilose calyx, and *T.l.* ssp. *reflexum* which also does not have the white villous calyx of subsp. *neurophyllum* (Ladyman 1999).

**ILLUSTRATIONS:**

Line drawing (A Handbook of Rare and Endemic Plants of New Mexico, 1984: p. 183).

Color photo: [http://nmrareplants.unm.edu/rarelist\\_single.php?SpeciesID=182](http://nmrareplants.unm.edu/rarelist_single.php?SpeciesID=182)

**TOTAL RANGE:** White Mountains of eastern Arizona, and the Mogollon Mountains of New Mexico (Catron County).

**RANGE WITHIN ARIZONA:** White Mountains of eastern Arizona.

**SPECIES BIOLOGY AND POPULATION TRENDS**

**GROWTH FORM:** Herbaceous Perennial

**PHENOLOGY:** Flowers late July through August, and into September.

**BIOLOGY:** Observations in the Apache-Sitgreaves National Forest (ASNF) indicate that there is variable flower color- from white through shades of pink to the typical deep purple. Considering historical data, it appears that the proportion of pale colored flowers is increasing. Anecdotal observations have been made that elk and livestock eat the purple heads preferentially over the pale colored ones. Whether the perceived change in proportions of the different flower colors is related to grazing/browsing pressure can only be speculated. (Ladyman 1999).

**HABITAT:** High elevation permanently wet meadows, springs and along streams. It is clear that the preferred habitat is wet meadows/beside streams (Ladyman 1999). However, several individuals in the ASNF have been found in relatively dry conditions under ponderosa pine canopy (Ladyman 1999).

**ELEVATION:** 6,500 - 9,000 ft. (1983 - 2745 m)

**EXPOSURE:**

**SUBSTRATE:**

**PLANT COMMUNITY:** Riparian zones in mixed conifer forest.

**POPULATION TRENDS:** Probably decreasing from habitat disturbance. This species is thought to have been far more abundant prior to the early 1900s, before large numbers of livestock were introduced to the area (NatureServe 2001).

There are approximately 19 known sites in Arizona and 20 in New Mexico. At least one relatively large population located more than 10 years ago in a damp canyon bottom in New Mexico has been extirpated. It is notable that the canyon is no longer damp. (See Additional Information). (Ladyman 1999).

**SPECIES PROTECTION AND CONSERVATION**

**ENDANGERED SPECIES ACT STATUS:** None (USDI, FWS 1996)  
[C2 USDI, FWS 1993]

**STATE LIST STATUS:** None

**OTHER STATUS:** FS Sensitive status at subspecies only.  
USDA, FS Region 3, 2013

**MANAGEMENT FACTORS:** Exclude prime riparian habitat from heavy multiple use. Threats include destruction to riparian habitat by grazing, and water development.

**CONSERVATIVE MEASURES TAKEN:** It is anticipated that the enclosures erected around selected populations in ASNF will alleviate the effects of intense grazing pressure (Ladyman 1999).

**SUGGESTED PROJECTS:**

**LAND MANAGEMENT/OWNERSHIP:** USFS - Apache-Sitgreaves National Forest

## **SOURCES OF FURTHER INFORMATION**

### **LITERATURE CITATIONS:**

- Falk, E. 1999. *Trifolium longipes* (Nutt.) ssp. *neurophyllum* (Greene) Gilbert (White Mountain Clover, Mogollon Clover), Fabaceae. Draft abstract from Arizona Rare Plant Book, in prep.
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- Martin, W.C. and C.R. Hutchins. A flora of New Mexico. (2 volumes) Vaduz, Germany: Strauss and Cramer GMBH; 1980.
- NatureServe Explorer: An online encyclopedia of life [web application]. 2001. Version 1.6. Arlington, Virginia, USA: NatureServe. Available: <http://www.natureserve.org/explorer>. (Accessed: January 8, 2002).
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- USDA, Forest Service Region 3. 2013. Regional Forester's List of Sensitive Animals.
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Threatened Species; Notice of Review; Proposed Rule. Federal Register 61(40):7596-7613.

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**ADDITIONAL INFORMATION:**

Species is inconspicuous, careful searching may reveal more populations.

Per Ladyman (1999), "This species grows best in damp meadows or beside streams and seeps. At least one relatively large population located more than 10 years ago in a damp canyon bottom in New Mexico has been extirpated. It is notable that this canyon is no longer damp. Therefore, it is reasonable to assume that disturbance of riparian/wetland areas will be deleterious to this species survival. The current information cannot predict whether there will be a direct effect from livestock grazing/elk browsing on the long-term sustainability of the species. It is anticipated that the exclosures erected around selected populations in ASNF will alleviate the effects of intense grazing pressure."

"Grazing pressures modify the growth habitat. Plants in intensely grazed areas are prostrate rather than erect, and have very few flowering stems which are only approximately 15cm rather than the typical 45cm tall. Where grazing occurs it is clear that the plants grow closely associated with iris and sneezeweed (*Helenium hoopesii*), apparently growing best in less palatable clumps of vegetation. This association is not noticeable in regions where livestock grazing is negligible e.g. within steep canyons in the Apache Sitgreaves National Forest (ASNF)." (Ladyman 1999).

**Revised:** 1991-04 (NMNHP)  
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