



U.S. Fish & Wildlife Service  
Sacramento Fish & Wildlife Office  
Species Account  
TIBURON MARIPOSA LILY  
*Calochortus tiburonensis*



CLASSIFICATION: Threatened

Federal Register Notice 60:6671; February 3, 1995  
[http://ecos.fws.gov/docs/federal\\_register/fr2779.pdf](http://ecos.fws.gov/docs/federal_register/fr2779.pdf)  
(125 KB)

This species was State listed as endangered in October 1978. Its status was changed to threatened in May 1987. The California Native Plant Society has placed it on List 1B (rare or endangered throughout its range).

CRITICAL HABITAT: Not designated

RECOVERY PLAN: Final

Recovery Plan for Serpentine Soil Species of the San Francisco Bay Area; September 30, 1998.  
[http://ecos.fws.gov/docs/recovery\\_plan/980930c\\_v2.pdf](http://ecos.fws.gov/docs/recovery_plan/980930c_v2.pdf) (22 MB)

5-YEAR REVIEW: Started March 25, 2009

<http://www.fws.gov/policy/library/E8-4258.html>

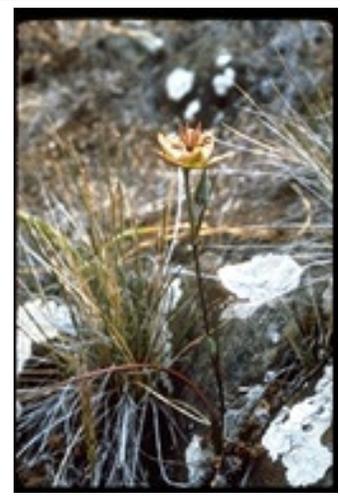
#### DESCRIPTION



Tiburon Mariposa Lily  
Jo-Ann Ordano  
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Tiburon Mariposa lily is a member of the lily family (Liliaceae). It has a single persistent, basal, linear-oblong leaf 30 to 60 centimeters (1 to 2 feet) long.

The flowering stem is about 50 centimeters (20 inches) tall. It is usually branched and bears erect flowers in two's or three's at the ends of the branches. The three petals and three sepals (individual members of the outermost whorl or set of flower parts) are light yellow-green with reddish or purplish-brown markings.



Tiburon Mariposa Lily  
J. E. (Jed) and Bonnie McClellan  
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The capsule (dry fruit, generally with many seeds) is triangular in cross-section, and about 4 centimeters (2 inches) long.

Long slender hairs on the upper surface and margins of the petals and the lack of wings on the capsule distinguish *C. tiburonensis* from the other two *Calochortus* species found on the Tiburon Peninsula (Oakland startulip, *C. umbellatus*, and yellow mariposa lily, *C. luteus*).

*C. tiburonensis* is a bulbous perennial (persisting or living for several years with a period of growth each year). Individuals are thought to live 10 years or more.

The basal leaf appears above ground after the onset of winter. The species flowers from May to June. On average, each reproductive adult bears two to three flowers, but large individuals may produce eight flowers. The flowers are thought to be pollinated primarily by bumblebees.

Often, individuals do not reproduce until they are 5 years. During the hot, dry portion of the year, the bulbs are dormant, forming a “bulb bank” that persists from year to year. Seeds germinate at the onset of the rainy season. Seed loss may be the major stage of mortality in the life cycle. There is no evidence of a dormant soil seed bank.

Tiburon Mariposa lily grows on rocky serpentine slopes and serpentine derived soils (Hill 1973) at an elevation of approximately 140 meters (460 feet). Colonies are in open areas in a serpentine bunchgrass community.

#### SERPENTINE SOIL PLANTS:

Serpentine soils are formed from weathered volcanic (ultramafic) rocks such as serpentinite, dunite, and peridotite. These soils provide a harsh environment for plant growth. Several factors contribute to the inhospitability of serpentine soils to plant growth

- 1) Low calcium-magnesium ratio;
- 2) Lack of essential nutrients such as nitrogen, potassium, and phosphorous; and
- 3) High concentrations of heavy metals (mineral toxicity).

However, serpentine plant species have adapted to serpentine soils and require them to survive.

See the [recovery plan](#) (above) for more information about serpentine soil species.

Contact the Coastal Branch of our office (formerly the Coast-Bay-Delta Branch) at 916-414-6625 for consultations concerning serpentine soil species.

The Bay Checkerspot Butterfly [PDF](#) | [RTF](#) is an insect that depends on serpentine soil plants, primarily dwarf plantain (*Plantago erecta*).

#### DISTRIBUTION

This species is known only from Ring Mountain, on the Tiburon Peninsula in southern Marin County.

U.S. Geological Survey 7.5 Minute Quads: San Quentin (466B) 3712284.

#### THREATS

Tiburon Mariposa lily is, at present, protected from development and fenced to reduce the incidence of off-road vehicle use because the land on which it occurs is owned and managed by Marin County Open Space District. However, the species is still threatened, by virtue of its occurrence in a single population, with chance events such as fire, severe drought, pest or disease outbreak, landslides, or other natural or human-caused disasters. The proximity of the

plant to a large human population increases the likelihood that human-caused disasters or acts of vandalism could affect the plants or their habitat.

#### REFERENCES FOR ADDITIONAL INFORMATION

##### [General references about California plants](#)

[www.fws.gov/sacramento/es/plant\\_spp\\_accts/plant\\_references.htm](http://www.fws.gov/sacramento/es/plant_spp_accts/plant_references.htm)

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Kruckeberg, A.R. 1984a. California serpentines: Flora, vegetation, geology, soils, and management problems. University of California Press, Berkeley, California. 180 pp.

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McClaran, M. 1979. Chromosome number for *Calochortus tiburonensis* (Liliaceae). *Madroño* 26:191

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