**Rare Plant Status Review: *Montia howellii***

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## Distribution

*Montia howellii* (Howell's montia) is an inconspicuous annual herb in the Portulacaceae. It is generally less than 5 cm in height and produces decumbent stems that root at the lower nodes. It possesses linear and more or less fleshy leaves 5 to 25 mm long with a clasping base. The inflorescence consists of 3-8 tiny clustered axillary flowers with two petals or petals wanting. Flowers are produced from March to May, and identification is limited to flowering time. For a more detailed plant description, visit http://www.northcoastcnps.org/cgi-bin/nc/sensnw.cgi/Html?item=pp_moho.htm. The overall range includes the North Coast bioregion of California and extends north through Oregon and Washington to British Columbia. In California, it is known from Humboldt and Trinity counties. Most occurrences are in Humboldt County.

## Habitat

*Montia howellii* (hereafter abbreviated MOHO) occurs in vernally wet areas in full sun to dense shade and is recorded from meadows, North Coast coniferous forest habitat types, disturbed sites such as roadways, and around vernal pools, often on compacted soils. Elevations are generally less than 400 meters.

## Abundance and Status

Currently, MOHO is on CNPS List 2(.2). It is considered vulnerable outside of California (G3/G4), and was known only from historical occurrences in California until rediscovered in 1999. Since its rediscovery, 60 extant populations have been documented through the efforts of registered professional foresters, timber company botanists, and others, prompting a review of the status of this species. These data suggested there are 29 sites in California ranked as 'good' and five ranked as 'excellent'. Below is a summary table showing the current numbers of occurrences and their status. Note that population numbers are not a very good indicator of quality for this plant since it is a diminutive annual; however we have included population notes below.

**MOHO SUMMARY TABLE**

Based on data sources entered in CNDDB as of 04/07/06.

| OCCURRENCE STATUS | NUMBER OF OCCURRENCES |
|---|---|
| Excellent | 5 |
| Good | 29 |
| Fair to Poor | 26 |
| Historical sites | 8 |
| Total Occurrences | **68** |

Currently, there are approximately 60 extant and 8 historical occurrences of MOHO known to CNDDB and CNPS. Only two of these occurrences are on public land. Although MOHO previously appeared extremely rare, some have suggested this was because botanists had simply overlooked this inconspicuous plant. The size of individual populations ranged from 2 to 25,000 individuals, with one outlying occurrence of a population described as having over 10,000 plants in one year but noted to have 375,000 individuals in another year (Occurrence number 26). With the exception of this population, an estimate of the total number of plants from CNDDB records is approximately

110,000 plants. However, it is apparent from these same records that the size of individual populations may exhibit large fluctuations from year to year, making it difficult to assess the accuracy of a single CNDDB population estimate compiled from population sizes estimated in different years. Site rankings are based on field reporter opinion (what they indicated on the field survey form), number of plants, and habitat quality.

## Threats

The major activities within MOHO's distribution and abundance are logging and related disturbances, such as road building. Multiple threats related to timber land management were reported for most of the CNDDB occurrences, so the threat rank needs review. We think that .1 may be a more appropriate threat rank than .2. It is unknown how much protection timberland occurrences receive at present since this species does not occur exclusively within protective zones for watercourses. It appears that disturbance plays a role in the life history of some occurrences. For example, Maralyn Renner's observations of Pacific Lumber Co (PALCO) occurrences indicate that the species needs disturbance and that protection from seasonal disturbance results in decline of occurrences due to competition. More information on the role of disturbance, current threats, and appropriate management strategies is needed.

### Recommended Possible Actions

Although the number of extant occurrences (60) coupled with the probability for more occurrences being found suggest that downgrading to CNPS List 4.2 and re-ranking to CNDDB G4/S4.2 may be warranted at some future time, this is not our current recommendation. Only 34 occurrences are ranked "Good" or better. The threshold for CNPS List 2 is typically 50 viable occurrences in the state, and the threshold for S3 is typically 21-80 occurrences and 3000-10,000 plants. Furthermore, ongoing threats and the relatively low number of public land occurrences give cause for concern about the long-term viability of MOHO.

**CNPS:** Maintain CNPS List 2

**CNDDB:** Re-rank to S3 (threat rank needs review)

**General:** Regardless of ranking, MOHO should be monitored at a number of sites under various management regimes and in various ecological situations to ensure the plant is not declining over time. MOHO habitat should be managed for long-term viability of the species and the ecosystem it depends on.