Changed from California Rare Plant Rank 4.3 to 1B.2 in the CNPS Inventory on August 21, 2013

Rare Plant Status Review: *Hosackia yollabolliensis*
Proposed Change from California Rare Plant Rank 4.3, G3 / S3.3 to 1B.2, G2 / S2

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Background

Hosackia yollabolliensis is a perennial herb in the Fabaceae that is endemic to the South Fork and Yolla Bolly Mountains of Humboldt and Trinity counties. It has been included on California Rare Plant Rank (CRPR) 4 in the CNPS Inventory since the 1st Edition (Powell 1974) as *Lotus yollabolliensis*. Its genus was recently changed from *Lotus* to *Hosackia* in the Inventory to reflect the taxonomy represented in *The Jepson Manual, Second Edition* (Brouillet 2012; available online at: http://ucjeps.berkeley.edu/cgi-bin/get_IJM.pl?tid=91765). The flowers and reduced leaflet number of *Hosackia yollabolliensis* make it similar to *H. oblongifolia* var. *oblongifolia* (*Lotus oblongifolius* var. *oblongifolius*) and *H. pinnata* (*Lotus* pinnatus); however, it is easily separated from these taxa based on habitat. *Hosackia oblongifolia* var. *oblongifolia* and *H. pinnata* occur in wet meadows and fens, whereas *H. yollabolliensis* typically occurs on high, dry barren exposed slopes (D. Taylor pers. comm. 2012; Consortium of California Herbaria 2012; Brouillet 2012). Some collections of *H. yollabolliensis* are noted from moist areas (i.e., *Tracy 17048, Parks 11640*), but it is apparent that it occurs in places much dryer than these similar taxa. *Hosackia yollabolliensis* is known to flower from June to August.

Although currently a CRPR 4 taxon, *H. yollabolliensis* is presently only known from approximately twelve occurrences, half of which are considered historical (occurrences not “seen” in the past twenty years are considered historical by the CNDDB), with four of its twelve occurrences having not been re-documented in over fifty years. As a CRPR 4 taxon, *H. yollabolliensis* has been sought after by Shasta-Trinity NF botanists and other plant experts for decades, but had not been found (S. Erwin pers. comm. 2012; J. Nelson pers. comm. 2012; D. Taylor pers. comm. 2012). Recent surveys by Shasta-Trinity NF Westside Botanist, L. Nelson, and botany field crew, J. Inkster, K. Ludwig, M. McEvoy, and R. Tate (pers. comms. 2013), relocated one historical occurrence and documented two new occurrences along the ridge of South Fork Mountain this spring. Sydney Carothers also had a chance to visit past sites on South Fork Mountain this spring, relocating historical occurrences and documenting the southernmost new occurrence in this range (J. Nelson pers. comm. 2013).

The distribution of *H. yollabolliensis* on South Fork Mountain is the most well documented and largest to date, constituting over half (seven) of its total known occurrences and spanning approximately 10 air miles along its summit. All of the occurrences of *H. yollabolliensis* on South Fork Mountain are within 0.5 to 1 mile apart, and further surveys may result in additional populations being found; possibly resulting in occurrences being combined into single, larger populations. At the same time it is

possible that *H. yollabolliensis* was once more widespread along the summit of South Fork Mountain, but now occupies a more narrow distribution. A collection from 1941 notes it as occurring locally, "but along top of mountain for several miles in suitable places" (*Tracy 17048*). A lot less is known about the occurrences of *H. yollabolliensis* in the Yolla Bolly Wilderness, and we additionally encourage botanists to survey this area in attempts to update historical occurrences and potentially discover new populations.

Threats to *H. yollabolliensis* along the summit of South Fork Mountain include off-highway vehicles, conifer encroachment, competition with non-native plants, and possibly by trampling and grazing by cattle (L. Nelson pers. comm. 2013; A. Sims pers. obs.). Threats to its occurrences in the Yolla Bolly Wilderness are unknown; however, it is potentially threatened throughout its entire range from global climate shifts. *Hosackia yollabolliensis* occurs in dry montane meadows right along the edge of snowmelt, and decreases in snowpack may adversely affect the habitat of this species.

Based on the available information, CNPS and CNDDB recommend re-ranking Hosackia yollabolliensis from CRPR 4.3 to 1B.2 in the CNPS Inventory. If additional information becomes available in the future which might constitute a change in the rarity status of *H. yollabolliensis*, CNPS and CNDDB will re-evaluate its status at that time.

Recommended Actions
CNPS: Change from CRPR 4.3 to 1B.2
CNDDB: Change from G3 / S3.3 to G2 / S2

Current CNPS Inventory Record
Hosackia yollabolliensis (Munz) D.D. Sokoloff
Yolla Bolly Mtns. bird's-foot trefoil
Fabaceae
Synonyms: *Lotus yollabolliensis*
CRPR 4.3
Humboldt, Trinity
Upper montane coniferous forest; elevation 1700 to 2100 meters.
Perennial herb. Blooms June to August.
(available online at: http://www.rareplants.cnps.org/detail/1014.html)

Revised CNPS Inventory Record
Hosackia yollabolliensis (Munz) D.D. Sokoloff
Yolla Bolly Mtns. bird's-foot trefoil
Fabaceae
Synonyms: *Lotus yollabolliensis*
CRPR 1B.2
Humboldt, Trinity
North Yolla Bolly (613B) 4012228, Shannon Butte (615A) 4012323, Smokey Creek (632C) 4012332, Forest Glen (633D) 4012333, Dinsmore (634A) 4012345, Hyampom

(651C) 4012354, Sims Mountain (652A) 4012365, Blake Mountain (652D) 4012355, Mt. Hilton (668A) 4012381
Upper montane coniferous forest (openings), meadows and seeps / dry barren exposed slopes, often gravelly; elevation 1645 to 2135 meters.
Perennial herb. Blooms June to August.
Previously CRPR 4.3; rarer than originally thought. Known only from the South Fork and Yolla Bolly Mtns. Threatened by vehicles, conifer encrouchment, and non-native plants. Potentially threatened by climate shifts. Possibly threatened by trampling and grazing. See *Aliso* 3:117 (1955) for original description and *Kew Bulletin* 55(4):1010 (2000) for revised nomenclature.

Literature Cited

Brouillet, L. 2012. *Hosackia*, lotus. Pp. 757-758 in Baldwin, B.G, D.H. Goldman, D.J. Keil, R. Patterson, T.J. Rosatti, and D.H. Wilken (eds.), The Jepson manual: vascular plants of California, second edition. University of California Press, Berkeley, Los Angeles, London.

Munz, P. A., and J. C. Roos. 1955. California miscellany III. El Aliso 3(2): 117.

Powell, W.R. (ed.). 1974. Inventory of Rare and Endangered Plants of California. Special Publication No. 1. California Native Plant Society, Berkeley. 56 pp.

Sokoloff, D. D. 2000. New combinations in *Hosackia* Douglas ex Benth. (*Leguminosae: Loteae*). Kew Bulletin 55(4): 1010.