were observed in the same location (S. Junak, pers. comm. 1994). Threats to Malacothrix indecora are soil loss, habitat alteration and predation resulting from feral pig rooting and seabird activity. Historic habitat for Malacothrix indecora on San Miguel Island and Prince Island has been altered by seabird nesting activity. Because of the small numbers of populations and individuals, the taxon is also vulnerable to stochastic extinction by such events as storms, drought, or fire. The small numbers of populations and restricted number of individuals also make the taxon vulnerable to reduced reproductive vigor.

Island malacothrix (Malacothrix squalida) was first described by E.L. Greene in 1886 from specimens collected above Prisoner's Harbor on Santa Cruz Island (Davis, in litt. 1987). In 1957, E. Williams published the combination Malacothrix foliosa var. squalida; a year later, Roxana Ferris (1960) published the combination Malacothrix insularis var. squalida. In 1959, Munz recognized the taxon as Malacothrix squalida; however, 14 years later, he synonymized it with M. foliosa (Munz 1974). In a review of insular species of Malacothrix, Davis (1980) recognized the taxon as Malacothrix squalida.

Like Malacothrix indecora, *Malacothrix squalida* is an annual herb in the aster family. However, the plant only reaches 9 cm (3.5 in) tall, and has linear to widely lanceolate leaves that are irregularly toothed or lobed. The light yellow flowers are clustered in hemispheric heads 12 to 15 millimeters (mm) (0.5 to 0.6 in) long. Malacothrix indecora is the only other annual Malacothrix that occurs on the same island as M. squalida; however, the latter is a much larger species, and also differs in the achene characteristics previously mentioned (Scott in Junak et al., in prep.).

Malacothrix squalida has been collected from two locations along the north shore of Santa Cruz Island; Greene collected it near Prisoner's Harbor in 1886, but the species was not seen on the island again until Philbrick and Benedict collected it in 1968 near Potato Harbor (Rutherford and Thomas 1994). On Middle Anacapa Island, the plant was first collected by Martin Piehl in 1963, and more recently in 1978 and 1986. The plant is known from several small colonies atop coastal bluffs on the east end of the island. Surveys by Junak and Davis in 1989 failed to find any individuals; however, this may have been the result of a drought year (S. Junak, pers. comm. 1994). Threats to

*Malacothrix squalida* are soil loss, habitat alteration and predation resulting from sheep grazing, feral pig rooting, and seabird nesting. Because of the small numbers of isolated populations and individuals, the taxon is also vulnerable to stochastic extinction by such events as storms, drought, or fire. The small numbers of isolated populations and restricted number of individuals also make the taxon vulnerable to reduced reproductive vigor.

Îsland phacelia (Phacelia insularis ssp. insularis) was first described by Munz as Phacelia insularis in 1932 based on plants growing "on sand dunes at northeastern part of Santa Rosa Island" (Munz 1932). Jepson published the new combination Phacelia curvipes var. *insularis* in 1943. After examining specimens from coastal northern California and determining their affinity to the island plants, John Thomas Howell re-elevated the taxon to specific level, separating out the northern California plants as Phacelia insularis var. continentalis, leaving Phacelia insularis var. insularis to refer to the island plants (Howell 1945). In 1951, Abrams, who did not have access to collections of Phacelia from northern California, included the taxon in the description of Phacelia divaricata, a taxon common in southern California. In 1959, Munz published the new combination Phacelia divaricata var. insularis (Constance 1979). Lincoln Constance agreed with Howell's interpretation and has referred to the taxon as Phacelia insularis var. insularis (Constance 1979). This nomenclature has been upheld in the latest treatment of the genus (Wilken et al. 1993).

Phacelia insularis ssp. insularis is a decumbent (reclining), branched annual of the waterleaf (Hydrophyllaceae) family. The short-hairy and glandular stems grow to 1.5 dm (6 in) high from a basal rosette of leaves. The small lavender to violet, bell-shaped flowers are borne in loose cymes. The other variety of Phacelia insularis, the variety continentalis, is found on the mainland of northern California. Phacelia insularis var. insularis can be distinguished from the other species of Phacelia on the islands based on the hastate leaf shape with basal lobes. The other Phacelia have pinnately divided or undivided but ovate leaves.

*Phacelia insularis* ssp. *insularis* occurs on Santa Rosa Island and San Miguel Island. However, the last collections from Santa Rosa Island were made by Clifton Smith at Carrington Point in 1973; the plant has not been observed on the island since then despite recent searches. On San Miguel

Island, Phacelia insularis ssp. insularis was collected by Hoffmann in 1930 and by Munz in 1932. It was not collected again until 1978, when four populations were found (Hochberg et al. 1979). A fifth population was discovered by Charles Drost on a bluff above Cuyler Harbor in 1984 (Halvorson et al. 1992). Phacelia insularis ssp. insularis is found within the island grassland community which is dominated by alien grasses, including slender wild oat (Avena barbata), wild oat (Avena fatua), ripgut (Bromus diandrus), and soft chess (Bromus hordeaceus), with scattered occurrences of native bunchgrasses, shrubs, and herbs (Hochberg et al. 1979). Threats to Phacelia insularis ssp. insularis are soil loss, habitat alteration caused by cattle grazing and elk and deer browsing. Because of the small numbers of populations and individuals, the plant is also vulnerable to stochastic extinction by such events as storms, drought, or fire. The small numbers of populations and restricted number of individuals also make the taxon vulnerable to reduced reproductive vigor.

Santa Cruz Island fringepod (Thysanocarpus conchuliferus) was first described as Thysanocarpus conchuliferus by E.L. Greene in 1886 based on material he and Brandegee collected where they found it "common on mossy shelves and crevices of high rocky summits and northward slopes on Santa Cruz Island (Greene 1886b). Four decades later, Jepson published the new combination Thysanocarpus laciniatus var. conchuliferus as one of three varieties of Thysanocarpus laciniatus (Jepson 1925). Abrams reelevated the taxon to species status in 1944. Munz, however, republished the taxon as one of six varieties of T. laciniatus in 1959 (Munz and Keck 1973). In the most recent treatment of the genus, Reed C. Rollins re-elevated the taxon to species status (Rollins 1993).

Thysanocarpus conchuliferus is a small delicate annual herb in the mustard (Brassicaceae) family. The one to several branches grow 5 to 12.7 cm (2 to 5 in) high. The narrow, linearly lobed leaves alternate along the stems, which terminate in a raceme of minute pink to lavender flowers. While all members of this genus have round, flattened fruits that are fringed with wings, Thysanocarpus conchuliferus is the only species with a bowl-shaped fruit; this taxon is also smaller in stature than T. lacianatus, which occurs in the same habitat (Rutherford and Thomas 1994).

In 1932, Ralph Hoffmann reported that *Thysanocarpus conchuliferus* was