

and Maui. On Maui, there are 8 occurrences of *P. princeps* var. *laxiflora*, with a total of 118 individuals, on Federal (Haleakala National Park) and privately owned lands within the East Maui Watershed Partnership. This variety is found at Kahoolawe Ridge, Nakalaloa Stream, Iao Valley near the Needle, Hanakauhi, the west side of Kaupo Gap, and Palikea Stream (GDSI 2001; HINHP Database 2001; Service 1999; 59 FR 56333).

On Maui, *Plantago princeps* var. *laxiflora* is typically found on basalt cliffs that are windblown with little vegetation in *Metrosideros polymorpha* lowland wet forest; or *Acacia koa*-*M. polymorpha* montane wet forest; or *M. polymorpha* montane wet shrubland at elevations between 281 and 2,539 m (922 and 8,329 ft) and containing one or more of the following associated native plant species: *Bidens micrantha* ssp. *kalealaha*; *Chamaesyce celastroides*; *Cyanea* spp.; or *Dryopteris* spp. and various other ferns, such as *Dubautia menziesii*, *Dubautia plantaginea* ssp. *humilis*, *Eragrostis variabilis*, *Hedyotis formosa*, *Leptecophylla tameiameia*, *Melicope ovalis*, *Perrottetia sandwicensis*, *Pipturus albidus*, or *Touchardia latifolia* (HINHP Database 2001; Service 1999; 59 FR 56333; R. Hobdy, pers. comm., 2001).

The primary threats to *Plantago princeps* var. *laxiflora* on Maui are herbivory and habitat degradation by feral pigs and goats and competition with various nonnative plant species (Service 1999; 59 FR 56333).

Platanthera holochila (NCN)

Platanthera holochila, a short-lived, perennial member of the orchid family (Orchidaceae), is an erect, deciduous herb. The stems arise from underground tubers, the pale green leaves are lance-to egg-shaped and the greenish-yellow flowers occur in open spikes. This is the only species of this genus that occurs on the Hawaiian Islands. It is distinguished from other Hawaiian orchids by its underground tubers that lack roots at the nodes or pseudo bulbs, and the shape and length of its dorsal sepal (Wagner *et al.* 1999).

Little is known about the life history of *Platanthera holochila*. Flowering cycles, pollination vectors, seed dispersal agents, longevity, specific environmental requirements, and limiting factors are unknown (Service 1999; 61 FR 53108).

Historically, *Platanthera holochila* was known from Maui, Oahu, Molokai, and Kauai. Currently, *P. holochila* is extant on Kauai, Molokai, and Maui. On Maui, 5 occurrences with 22 individuals are reported on State (West Maui Forest

Reserve) and privately owned lands within the West Maui Mountains Watershed Partnership and the East Maui Watershed Partnership from Kapaloa Stream, Waihee River, the border of Lahaina and Wailuku Districts and Koolau Gap (GDSI 2001; HINHP Database 2001; Service 1999; 61 FR 53108).

Platanthera holochila is found in *Metrosideros polymorpha*-*Dicranopteris linearis* montane wet forest or *M. polymorpha* mixed montane bog or mesic scrubby *M. polymorpha* forest at elevations between 536 and 2,314 m (1,759 and 7,592 ft) and containing one or more of the following associated native plant species: *Broussaisia arguta*; *Cibotium* spp.; *Clermontia* spp.; *Coprosma ernodeoides* (kukae nene); *Deschampsia nubigena*; *Dubautia scabra* (naenae); *Gahnia gahniiformis* (NCN); *Leptecophylla tameiameia*; *Lycopodiella cernua* (wawae iole); *Luzula hawaiiensis* (wood rush); *Oreobolus furcatus*; *Polypodium pellucidum* (ae); *Sadleria* spp.; *Scaevola chamissoniana* (naupaka kuahiwi); *Sisyrinchium acre* (mauu laili); *Vaccinium reticulatum*; or *Wikstroemia* spp. (Service 1999; 61 FR 53108; R. Hobdy, pers. comm., 2001).

The primary threats to *Platanthera holochila* on Maui are habitat degradation and destruction by feral pigs; landslides; competition with nonnative plant species; and a risk of extinction on Maui from naturally occurring events and reduced reproductive vigor caused by the small number of remaining occurrences and individuals. Predation by slugs may also be a potential threat to this species (Service 1999; 61 FR 53108).

Pteris lidgatei (NCN)

Pteris lidgatei, a short-lived member of the maidenhair fern family (Adiantaceae), is a coarse perennial herb, 0.5 to 1 m (1.6 to 3.3 ft) tall. *Pteris lidgatei* can be distinguished from other species of *Pteris* on the Hawaiian Islands by the thick, brittle texture of its fronds and the tendency of the sori along the leaf margins to be broken into short segments instead of being fused into continuous marginal sori (Wagner 1949; Wagner and Wagner 1992).

Little is known about the life history of *Pteris lidgatei*. Reproductive cycles, dispersal agents, specific environmental requirements, and limiting factors are unknown (Service 1998a; 59 FR 49025).

Historically, *Pteris lidgatei* was found on Oahu, Molokai, and at Waihee on West Maui. Currently, this species is known from Oahu and Maui. Two occurrences with approximately 20 individuals occur on Maui on State

(Kahakuloa section of the West Maui NAR) and privately owned lands within the West Maui Mountains Watershed Partnership north of Eke Crater and at Kauala (GDSI 2001; HINHP Database 2001; Service 1998a; 59 FR 49025).

This species grows on steep stream banks in wet *Metrosideros polymorpha*-*Dicranopteris linearis* montane forest at elevations between 201 and 1,717 m (659 and 5,633 ft) and containing one or more of the following native plant species: *Christella cyatheoides*; *Cibotium chamissoi*; *Dicranopteris linearis*; *Elaphoglossum crassifolium* (hoe a Maui); *Sadleria squarrosa* (apuu); or *Sphenomeris chinensis* (palaa) (HINHP Database 2001; Service 1998a; 59 FR 49025; R. Hobdy, pers. comm., 2001).

The primary threats to *Pteris lidgatei* on Maui are the nonnative plants *Ageratina adenophora*, *Clidemia hirta*, and *Tibouchina herbacea*; habitat destruction by feral pigs; and a risk of extinction caused by random environmental events (Service 1998a; 59 FR 49025).

Sanicula purpurea (NCN)

Sanicula purpurea, a short-lived member of the parsley family (Apiaceae), is a stout perennial herb, 8 to 36 cm (3 to 14 in) tall, arising from a massive perennial stem. This species is distinguished from others in the genus by the number of flowers per cluster and by the color of the petals (Constance and Affolter 1999).

Little is known about the life history of *Sanicula purpurea*. Flowering cycles, pollination vectors, seed dispersal agents, longevity, specific environmental requirements, and limiting factors are unknown (Service 1999; 61 FR 53108).

Historically and currently, *Sanicula purpurea* is known from Oahu and West Maui. On Maui, 7 occurrences totaling 200 individuals are currently known on State (Kahakuloa and Honokawai sections of the West Maui NAR) and private lands within the West Maui Mountains Watershed Partnership north of Eke Crater and east of Kahakuloa Stream, south of Eke Crater, near Violet Lake, the ridge west of Puu Kukui, and Kahoolawe Ridge east of Puu Kukui (GDSI 2001; HINHP Database 2001; Service 1999; 61 FR 53108).

This species typically grows in open *Metrosideros polymorpha* mixed montane bogs at elevations between 1,195 and 1,764 m (3,921 and 5,787 ft) and containing one or more of the following associated plant species: *Argyroxiphium caliginis* (eke silversword); *Argyroxiphium grayanum* (green sword); *Gahnia beecheyi* (NCN);