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*Bidens hillebrandiana ssp. hillebrandiana*

Kohala coastline south of Pololu Valley. Population vulnerable to landslides, inundation by high surf and subsequent erosion. In Kohala weeds such as ironwood (*Casuarina equisetifolia*) and wedelia (*Wedelia trilobata*) degrade the habitat for this species.

*Bidens micrantha ssp. ctenophylla*

Largest known concentration of this species is in the area known as Kaloko Makai, off Hina Lani Street mauka of COSTCO in Kailua-Kona. Population vulnerable to fires, feral goats, vandalism, trash dumping, development and the spread of weeds such as fountain grass (*Pennisetum setaceum*) and koa haole (*Leucaena leucocephala*). Contact Jill Wagner for population number estimates but probably more than 100 wild plants in the area in addition to at least 50 outplanted individuals.

*Cyanea marksii*

Known from Kaohe Pit Crater in the South Kona FR. Last observed in Dec 2012. 6 seedlings and 3 mature plants. Population potentially vulnerable to feral cattle (if they can get down into the pit crater). PEPP program will have numbers for other populations not on state land in the South Kona region.

*Cyanea tritomantha*

The majority of wild plants of this species are protected in Puu Makaala NAR. Probably fewer than 10-20 individuals known in U.Waiakea FR. Habitat threatened by Palm grass (*Setaria palmifolia*) and waiwi (*Psidium cattleianum*) in all locations and feral pigs in all but Puu Makaala.

*Cyrtandra nanawaleensis*

Populations in Nanawale Forest Reserve Halepuaa Section, and Keauohana FR but these areas are overrun by weeds (*Clidemia hirta*, *Paederia foetida*, *Psidium cattleianum*, *Albizia* sp.) and feral pigs. Also present on other private lands in lower Puna (KS lands). Within the Halepuaa Section, recent counts of wild plants indicate there are 28 mature and 65 immature plants in one population at 200 feet elevation, and 9 mature and 57 immature plants at 270 feet elevation. A total of roughly 56 ha'iwale have been outplanted in Halepuaa and Keauohana by Ann Kobsa of Malama O Puna. She will have the most current numbers of wild and outplants in these areas.

*Cyrtandra wagneri*

Known from Kilau Stream in Laupahoehoe NAR. Area is very degraded with *Clidemia hirta* and *Psidium cattleianum* and there are feral pigs in the area. Hawaii Island NAR staff and PEPP staff should have more current information on this species here and population was visited in mid-December 2012 by NAR staff and Steve Perlman from NTBG.

*Phyllostegia floribunda*

About 20 plants known in the Tom's Trail Cyanea Enclosure of U.Waiakea FR. This enclosure was vandalized (about 150 feet of fence was removed) in November 2012 but replaced later that same month prior to any damage to rare plants. Other plants known from Hawaii Volcanoes National Park (ask Sierra McDaniel) and Honomalino TNCH land (ask Shalan Crysdale for numbers there if it still persists).

*Pittosporum hawaiiense*

I have only seen it in the South Kona Forest Reserve where there are probably 50 -100 trees. Hawaii Island NAR staff may know of trees on their lands at Kipahoe and Manuka.

*Platydesma remyi*

Several years ago I gave Donna Ball information on locations and numbers of trees at Laupahoehoe NAR. I don't have any more recent information on this species. Contact Hawaii Island NAR staff (Nick Agorastos) for most recent numbers at Laupahoehoe NAR. Trees grow in areas heavily degraded by *Clidemia hirta*, *Psidium cattleianum* and feral pigs.

*Pritchardia lanigera*

Contact Hawaii Island NAR staff for numbers located in Puu O Umi NAR.

*Schiedea diffusa ssp. macraei*

Contact Hawaii Island NAR staff for locations in the Kohala Mountains. Contact Sierra McDaniel about locations in the Olaa Tract of Hawaii Volcanoes National Park.

*Schiedea hawaiiensis*

Outplanted at Puu Huluhulu ask PTA staff (Kathy Kawakami) for most recent information. As of 2009 70 plants were alive here with 7 more outplanted in 2011. At the Koaia Plant Sanctuary (Kohala Mountains) as of 2009 8 plants surviving. At Kipuka Oweowe (Puuwaawaa FR) 24 were surviving as of 2009; at the Puuwaawaa Cone enclosure (Puuwaawaa FR) 59 plants were surviving as of 2009.

*Stenogyne cranwelliae*

Contact Hawaii Island NAR staff for locations in the Kohala Mountains.

Critical Habitat Designation for *Bidens*, *Mezoneuron* and *Isodendrion*

I am concerned that the land set aside for protection at Kaloko makai (off Hina Lani Street) is not adequately protected from feral animals particularly goats which have been observed near Kaloko Honokohau National Park in recent months. The critical habitat designation states the area has been fenced. There is only temporary construction (plastic) fencing around the core area where outplanting is taking place which is not sufficient to keep goats out of the area. This area represents some of the best remaining habitat for the wild population of *Bidens micrantha* ssp. *ctenophylla* and constitutes one of the best outplanting sites for *Isodendrion pyriformum*. There is one wild *Neraudia ovata* and one wild *Mezoneuron kawaiensis* at this site in addition to several ohe makai trees (*Reynoldsia sandwicensis*) – SOC?? Or Candidate?. To date there are 16 outplanted individuals of *Isodendrion pyriformum* which are flowering at this site. This site also provides habitat for the recovery of the listed endangered *Bidens micrantha* ssp. *ctenophylla*, and the following endangered plant species: *Neraudia ovata*, *Pleomele hawaiiensis*, *Mezoneuron kawaiensis*, *Kokia drynarioides*, and *Nothoctrum breviflorum*. Ideally an ungulate-proof fence would be constructed around the entire 150 acres so that outplanting could continue on a larger-scale with assurances that the plants will persist and not fall victim to wayward feral goats. The makai portion of the area is fenced along the new connector road but the northern boundary along Hina Lani Street is open, the top boundary is not protected and the southern boundary mauka to makai is open to animal traffic. I am hopeful that this area merits a high ranking within the US Fish and Wildlife Service for protection and that funds might be procured to build such a protective fence. There is only one wild *Isodendrion pyriformum* persisting that we know of at Laiopua in Kealakehe, additionally there are 13 planted at Kaloko Honokohau National Park, and 15 planted at Kaupulehu. According to Jill Wagner, the Kaloko Makai site is where these outplants are doing the best. These outplants represent four wild founders.