Laukahi: The Hawai‘i Plant Conservation Network

Priority	Research Topic	Genus/Species and comments
1	Seed Biology: Dormancy and Germination	Melicope anisata, Melicope degeneri and Melicope species in general - poor to no germination with these seeds. Melicope anisata aka Mokihana, favored for lei making and harvested a lot in forest; trying to cultivate in nursery has been mostly unsuccessful by seed, a little success with cuttings.
2	Seed Biology: Dormancy and Germination	See above
2		Melicope sp.
2		Melicope knudsenii, Melicope adscendens
3	Seed Biology: Dormancy and Germination	Haplostachys haplostachya-could not germinate seeds collected from wild or greenhouse. Sacrificed a few and located embryo in seed coat. Not sure what may be inhibiting germination.
3		Asplenium peruvianum, Erythrina sandwicensis, Colubrina oppositifolia, Chrysodracon hawaiiensis, Delissea undulata, Haplostachys haplostachya, Hibiscus brackenridgei Hibiscadelphus hualalaiensis, Kokia drynarioides, Melicope hawaiiensis, Meterosideros polymorpha var incana, Mezoneuron kavaiense, Neraudia ovata, Nothocestrum breviflorum, Portulaca sclerocarpa, Reynoldsia sandwicensis, Silene

Priority	Research Topic	Genus/Species and comments
3	Seed Biology: Dormancy and Germination	lanceolata, Solanum incompletum, Stenogyne angustifolia, Zanthoxylum dipetalum var. tomentosum, Zanthoxylum hawaiiense
3		Common and SCI native Hawaiian taxa with a focus on Kauai.
5	Seed Biology: Dormancy and Germination	Linked with seed biology is seedling biology. Over recent decades, it's clear that non-native plants are far surpassing native plants in establishment success. This means that there are dynamics at the seed and seedling stage that are largely driving turn-over in our forests (and other habitats) from native to invasive-dominated flora. I dont' think we know enough about these key stages in terms of species variation in tolerance, underlying strategies or traits, and the biotic and abiotic factors that apparently enhance invasive species establishment over that of native species.

Priority	Research Topic	Genus/Species and comments
4	Seed Biology: Soil Seed Bank	Determine species where this management option is important for population enhancement and recovery strategies
4		Primarily introduced taxa with a focus on the worst offenders. Secondarily native Hawaiian taxa - especially SCI taxa.
5	Seed Biology: Soil Seed Bank	common natives & invasive - would be a long list...

Laukahi: The Hawai‘i Plant Conservation Network

Priority	Research Topic	Genus/Species and comments
1	Seed Biology: Storage Conditions & Longevity	The ~1/3 of taxa that have not yet been studied/inferred. Will work with HSBP to provide a wish list of taxa for collections, and we can conduct the research!
2	Seed Biology: Storage Conditions & Longevity	Seed banking, tissue culture, and propagation research seems the first line of defense while threats are being managed, so is it crucial that apparently recalcitrant species such as Pritchardia, Chrysodracon (Pleomele), and Alyxia be researched to determine how to genetically bank populations either through seed or tissue storage.
2		General seed biology and storage should be a high priority, especially as more species may need to go into ex-situ storage if/when they go extinct in the wild until suitable restoration sites and strategies can be established. Storage, germination, longevity, conditions, are all important.

Laukahi: The Hawai‘i Plant Conservation Network

Priority	Research Topic	Genus/Species and comments
2	Seed Biology: Storage Conditions & Longevity	Common and SCI native Hawaiian taxa with a focus on Kauai. Even recalcitrant seeded species.
3	Seed Biology: Storage Conditions & Longevity	Araliaceae, Rutaceae, Rubiaceae
3		Any taxa for which this information is currently unknown or lacking
3		I am looking at this from the perspective of a professional in ex situ conservation. Do not have particular species in mind but think the at risk species (this may include non-listed species) that are not long term storage or germplasm storage information is not known (recalcitrant or unknown and ferns), and species that do not have collections or adequate collections represented in germplasm storage.
4	Seed Biology: Storage Conditions & Longevity	Need to learn to store seeds of as many as possible of 238 PEPP species
5	Seed Biology: Storage Conditions & Longevity	The work that Oahu Army, Drs. Baskins, Alivn, and Lyon (among others) have done to understand and share information regarding seed storage has been incredible. I would be interested in how these techniques can be improved, especially low tech/ low cost solutions.
5		Asplenium peruvianum, Erythrina sandwicensis, Colubrina oppositifolia, Chrysodracon hawaiiensis Delissea undulata, Haplostachys haplostachya, Hibiscus brackenridgei, Hibiscadelphus hualalaiensis, Kokia drynarioides, Melicope hawaiiensis, Meterosideros polymorpha var incana, Mezoneuron kavaiense, Neraudia ovata, Nothocestrum breviflorum, Portulaca sclerocarpa, Reynoldsia sandwicensis, Silene lanceolata, Solanum incompletum, Stenogyne angustifolia, Zanthoxylum dipetalum var. tomentosum, Zanthoxylum hawaiiense.
5		Hibiscus waimeae subsp. hannerae, Capparis sandwichiana, Schiedea apokremnos, Brighamia insignis, Cyanea leptostegia, Hesperomannia lydgatei, Kadua fluviatilis, Phyllostegia electra Phyllostegia renovans, Platydesma spathulata, Strongylodon ruber, Gardenia remyi.