

Appendix A

In this appendix, we review a subset of EPA’s species list for simazine, including species removed from the consultation, “no effect” determinations, and “not likely to adversely affect” determinations. For some listed and proposed species and designated and proposed critical habitats below, we concur with EPA’s “not likely to adversely affect” analyses and determinations included in their Biological Evaluation (USEPA, 2021).

SPECIES AND CRITICAL HABITATS REMOVED FROM THE CONSULTATION, CONFERENCE, AND CONCURRENCE

We removed species entities outside of U.S. Fish and Wildlife jurisdiction, specifically those under the purview and opinion of the National Marine Fisheries Service. We did not include species under National Marine Fisheries Service’s jurisdiction in the species entity counts below.

EPA reached a “likely to adversely affect” determination for the eastern DPS of the gopher tortoise (formerly, a candidate species, entity ID 3532), but it was “not warranted for listing” in 2022 (USFWS, 2022). EPA also reached “likely to adversely affect” determinations for proposed or designated critical habitats for the gray wolf (44-State entity; entity ID 11), Santa Catalina Island fox (entity ID 1237), Karner blue butterfly (entity ID 420), Callippe silverspot butterfly (entity ID 430), El Segundo blue butterfly (entity ID 419), Lange's metalmark butterfly (entity ID 421), lotis blue butterfly (entity ID 422), mission blue butterfly (entity ID 423), San Bruno elfin butterfly (entity ID 427), Smith's blue butterfly (entity ID 428), Kern primrose sphinx moth (entity ID 433), Bartram’s stonecrop (entity ID 5797), shrubby reed-mustard (entity ID 607), and Spalding's catchfly (entity ID 613), and “not likely to adversely affect determinations” for proposed critical habitats for the Cahaba shiner (Entity ID 277), Chihuahua chub (Entity ID 254), goldline darter (Entity ID 298), Grotto sculpin (entity ID 4248), and pygmy sculpin (Entity ID 241), but these critical habitats were not designated for various reasons (e.g., they were withdrawn or excluded, found not prudent to designate or not determinable, not actually proposed for the species in the proposed rule) and are not currently proposed. Therefore, we did not consider the eastern gopher tortoise DPS or the aforementioned critical habitats in our consultation or concurrence.

EPA included in their consultation request 51 species entities that have since been delisted or whose listing decisions were vacated since EPA’s biological evaluation was submitted (Table 1). We removed delisted species from our concurrence appendix and consultation.

Table 1. Species that are no longer listed under the Endangered Species Act; these species were not included in the Service’s concurrence or consultation.

Taxa	Entity ID	Common Name	Scientific Name
Birds	93	Bachman’s warbler	<i>Vermivora bachmanii</i>
Birds	122	Bridled white-eye	<i>Zosterops conspicillatus conspicillatus</i>
Birds	64	Kauai akialoa (honeycreeper)	<i>Akialoa stejnegeri</i>

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Taxa	Entity ID	Common Name	Scientific Name
Birds	100	Kauai nukupuu	<i>Hemignathus hanapepe</i>
Birds	77	Kauai 'o'o (honeyeater)	<i>Moho braccatus</i>
Birds	105	Large Kauai (=kamao) thrush	<i>Myadestes myadestinus</i>
Birds	134	Least tern	<i>Sterna antillarum</i>
Birds	11674	Lesser prairie-chicken (N DPS)	<i>Tympanuchus pallidicinctus</i>
Birds	11675	Lesser prairie-chicken (S DPS)	<i>Tympanuchus pallidicinctus</i>
Birds	98	Maui akepa	<i>Loxops ochraceus</i>
Birds	11333	Maui nukupuu	<i>Hemignathus affinis</i>
Birds	109	Molokai creeper	<i>Paroreomyza flammea</i>
Birds	113	Po'ouli (honeycreeper)	<i>Melamprosops phaeosoma</i>
Birds	116	San Clemente Bell's [sage] sparrow	<i>Amphispiza belli clementeae</i>
Bivalves	349	Flat pigtoe	<i>Pleurobema marshalli</i>
Bivalves	319	Green blossom (pearlymussel)	<i>Epioblasma torulosa gubernaculum</i>
Bivalves	365	Southern acornshell	<i>Epioblasma othcaloogensis</i>
Bivalves	362	Stirrupshell	<i>Quadrula stapes</i>
Bivalves	320	Tubercled blossom (pearlymussel)	<i>Epioblasma torulosa torulosa</i>
Bivalves	6223	Tubercled blossom (pearlymussel)	<i>Epioblasma torulosa torulosa</i>
Bivalves	321	Turgid blossom (pearlymussel)	<i>Epioblasma turgidula</i>
Bivalves	5856	Turgid blossom (pearlymussel)	<i>Epioblasma turgidula</i>
Bivalves	367	Upland combshell	<i>Epioblasma metastrata</i>
Bivalves	322	Yellow blossom (pearlymussel)	<i>Epioblasma florentina florentina</i>
Fish	220	Apache trout	<i>Oncorhynchus apache</i>
Fish	253	Borax Lake chub	<i>Gila boraxobius</i>
Fish	224	Okaloosa darter	<i>Etheostoma okaloosae</i>
Fish	240	Roanoke logperch	<i>Percina rex</i>
Fish	250	San Marcos gambusia	<i>Gambusia georgei</i>
Fish	245	Scioto madtom	<i>Noturus trautmani</i>
Fish	235	Snail darter	<i>Percina tanasi</i>
Mammals	26	Little Mariana fruit bat	<i>Pteropus tokudae</i>
Plants	1225	Bradshaw's desert-parsley	<i>Lomatium bradshawii</i>
Plants	824	Colorado hookless cactus	<i>Sclerocactus glaucus</i>

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Taxa	Entity ID	Common Name	Scientific Name
Plants	880	Cumberland sandwort	<i>Arenaria cumberlandensis</i>
Plants	734	Dwarf-flowered heartleaf	<i>Hexastylis naniflora</i>
Plants	904	Florida golden aster	<i>Chrysopsis floridana</i>
Plants	899	Golden paintbrush	<i>Castilleja levisecta</i>
Plants	552	Island bedstraw	<i>Galium buxifolium</i>
Plants	956	No common name	<i>Lepanthes eltoroensis</i>
Plants	1210	No common name	<i>Adiantum vivesii</i>
Plants	1041	Running buffalo clover	<i>Trifolium stoloniferum</i>
Plants	897	San Benito evening-primrose	<i>Camissonia benitensis</i>
Plants	762	San Clemente Island bush-mallow	<i>Malacothamnus clementinus</i>
Plants	694	San Clemente Island larkspur	<i>Delphinium variegatum ssp. kinkiense</i>
Plants	760	San Clemente Island lotus (=broom)	<i>Acmispon dendroideus var. traskiae</i>
Plants	657	San Clemente Island Paintbrush	<i>Castilleja grisea</i>
Plants	543	Santa Cruz Island dudleya	<i>Dudleya nesiotica</i>
Plants	1047	Water howellia	<i>Howellia aquatilis</i>
Terrestrial Invertebrates	474	Braken Bat Cave meshweaver	<i>Cicurina venii</i>
Terrestrial Invertebrates	400	Kanab ambersnail	<i>Oxyloma haydeni kanabensis</i>

NO EFFECT DETERMINATIONS

In their biological evaluation (BE) and subsequent correspondence for simazine, the EPA provided determinations of “no effect” for 610 listed species (Table 2) and 433 designated and proposed critical habitats (Table 3) under U.S. Fish and Wildlife Service jurisdiction. During consultation, EPA changed some of their “may affect, likely to adversely affect” and “may affect, not likely to adversely affect” determinations to “no effect.” EPA reached a determination of “no effect” if a listed species’ range or critical habitat is outside the action area (i.e., labeled agricultural and non-agricultural simazine use areas) and will not be exposed to simazine.

Table 2. Listed and proposed species with “no effect” determinations.

Taxa Group	Entity ID	Common Name	Scientific Name	Species Status
Amphibians	193	Golden coqui	<i>Eleutherodactylus jasperi</i>	Threatened
Amphibians	196	Guajón	<i>Eleutherodactylus cooki</i>	Threatened

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Taxa Group	Entity ID	Common Name	Scientific Name	Species Status
Amphibians	9378	Llanero coqui	<i>Eleutherodactylus juanariveroi</i>	Endangered
Amphibians	195	Puerto Rican crested toad	<i>Peltophryne lemur</i>	Threatened
Arachnids	463	Kauai cave wolf or pe'e pe'e maka 'ole spider	<i>Adelocosa anops</i>	Endangered
Birds	6522	Akekee	<i>Loxops caeruleirostris</i>	Endangered
Birds	65	Akiapolaau	<i>Hemignathus wilsoni</i>	Endangered
Birds	4136	Akikiki	<i>Oreomystis bairdi</i>	Endangered
Birds	74	'Akohekohe (crested honeycreeper)	<i>Palmeria dolei</i>	Endangered
Birds	2859	Band-rumped storm-petrel	<i>Hydrobates castro</i>	Endangered
Birds	90	Bermuda petrel	<i>Pterodroma cahow</i>	Endangered
Birds	4237	Elfin-woods warbler	<i>Setophaga angelae</i>	Threatened
Birds	5170	Friendly ground-dove	<i>Gallicolumba stairi</i>	Endangered
Birds	119	Guam kingfisher	<i>Todiramphus cinnamominus</i>	Endangered
Birds	121	Guam rail	<i>Gallirallus owstoni</i>	Endangered
Birds	97	Hawaii akepa	<i>Loxops coccineus</i>	Endangered
Birds	112	Hawaii creeper	<i>Loxops mana</i>	Endangered
Birds	76	Hawaiian common gallinule	<i>Gallinula galeata sandvicensis</i>	Endangered
Birds	108	Hawaiian coot (alae ke'oke'o)	<i>Fulica alai</i>	Endangered
Birds	68	Hawaiian crow	<i>Corvus hawaiiensis</i>	Endangered
Birds	69	Hawaiian duck	<i>Anas wyvilliana</i>	Endangered
Birds	73	Hawaiian goose	<i>Branta (=Nesochen) sandvicensis</i>	Threatened
Birds	104	Hawaiian stilt	<i>Himantopus mexicanus knudseni</i>	Endangered
Birds	10073	'I'iwi	<i>Drepanis coccinea</i>	Threatened
Birds	70	Laysan duck	<i>Anas laysanensis</i>	Endangered
Birds	71	Laysan finch	<i>Telespiza cantans</i>	Endangered
Birds	10582	Mao (= maomao) (honeyeater)	<i>Gymnomyza samoensis</i>	Endangered
Birds	118	Mariana (=aga) crow	<i>Corvus kubaryi</i>	Endangered
Birds	120	Mariana common moorhen (pulattat)	<i>Gallinula chloropus guami</i>	Endangered
Birds	148	Mariana swiftlet	<i>Aerodramus bartschi</i>	Endangered
Birds	81	Maui parrotbill (Kiwikiu)	<i>Pseudonestor xanthophrys</i>	Endangered
Birds	87	Micronesian megapode	<i>Megapodius laperouse</i>	Endangered

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Birds	106	Molokai 'oloma'o	<i>Myadestes lanaiensis rutha</i>	Endangered
Birds	114	Newell's shearwater	<i>Puffinus newelli</i>	Threatened
Birds	1222	Nightingale reed warbler (old world warbler)	<i>Acrocephalus luscini</i>	Endangered
Birds	72	Nihoa finch	<i>Telespiza ultima</i>	Endangered
Birds	75	Nihoa millerbird (old world warbler)	<i>Acrocephalus familiaris kingi</i>	Endangered
Birds	99	O'ahu 'alauahio	<i>Paroreomyza maculata</i>	Endangered
Birds	150	Oahu elepaio	<i>Chasiempis ibidis</i>	Endangered
Birds	78	'O'u (honeycreeper)	<i>Psittirostra psittacea</i>	Endangered
Birds	79	Palila (honeycreeper)	<i>Loxioides bailleui</i>	Endangered
Birds	86	Puaiohi	<i>Myadestes palmeri</i>	Endangered
Birds	127	Puerto Rican broad-winged hawk	<i>Buteo platypterus brunescens</i>	Endangered
Birds	111	Puerto Rican nightjar	<i>Antrostomus noctitherus</i>	Endangered
Birds	80	Puerto Rican parrot	<i>Amazona vittata</i>	Endangered
Birds	101	Puerto Rican plain pigeon	<i>Patagioenas inornata wetmorei</i>	Endangered
Birds	128	Puerto Rican sharp-shinned hawk	<i>Accipiter striatus venator</i>	Endangered
Birds	1241	Rota bridled white-eye	<i>Zosterops rotensis</i>	Endangered
Birds	146	Spectacled eider	<i>Somateria fischeri</i>	Threatened
Birds	147	Steller's eider	<i>Polysticta stelleri</i>	Threatened
Birds	141	White-necked crow	<i>Corvus leucognaphalus</i>	Endangered
Birds	117	Yellow-shouldered blackbird	<i>Agelaius xanthomus</i>	Endangered
Crustaceans	2929	Anchialine pool shrimp	<i>Procaris hawaiana</i>	Endangered
Crustaceans	5449	Anchialine pool shrimp	<i>Vetericaris chaceorum</i>	Endangered
Crustaceans	485	Kauai cave amphipod	<i>Spelaeorchestia koloana</i>	Endangered
Insects	5580	Anthricinan yellow-faced bee	<i>Hylaeus anthracinus</i>	Endangered
Insects	4413	Assimulans yellow-faced bee	<i>Hylaeus assimulans</i>	Endangered
Insects	446	Blackburn's sphinx moth	<i>Manduca blackburni</i>	Endangered
Insects	1361	Blackline Hawaiian damselfly	<i>Megalagrion nigrohamatum nigrolineatum</i>	Endangered
Insects	4326	Crimson Hawaiian damselfly	<i>Megalagrion leptodemas</i>	Endangered

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Insects	6747	Easy yellow-faced bee	<i>Hylaeus facilis</i>	Endangered
Insects	2144	Flying earwig Hawaiian damselfly	<i>Megalagrion nesiotes</i>	Endangered
Insects	1248	Hawaiian picture-wing fly	<i>Drosophila aglaia</i>	Endangered
Insects	1259	Hawaiian picture-wing fly	<i>Drosophila differens</i>	Endangered
Insects	4000	Hawaiian picture-wing fly	<i>Drosophila digressa</i>	Endangered
Insects	1257	Hawaiian picture-wing fly	<i>Drosophila hemipeza</i>	Endangered
Insects	1249	Hawaiian picture-wing fly	<i>Drosophila heteroneura</i>	Endangered
Insects	1250	Hawaiian picture-wing fly	<i>Drosophila montgomeryi</i>	Endangered
Insects	1251	Hawaiian picture-wing fly	<i>Drosophila mulli</i>	Threatened
Insects	1252	Hawaiian picture-wing fly	<i>Drosophila musaphilia</i>	Endangered
Insects	1253	Hawaiian picture-wing fly	<i>Drosophila neoclavisetae</i>	Endangered
Insects	1254	Hawaiian picture-wing fly	<i>Drosophila obatai</i>	Endangered
Insects	1258	Hawaiian picture-wing fly	<i>Drosophila ochrobasis</i>	Endangered
Insects	7261	Hawaiian picture-wing fly	<i>Drosophila sharpi</i>	Endangered
Insects	1255	Hawaiian picture-wing fly	<i>Drosophila substenoptera</i>	Endangered
Insects	1256	Hawaiian picture-wing fly	<i>Drosophila tarphytrichia</i>	Endangered
Insects	10009	Hawaiian yellow-faced bee	<i>Hylaeus kuakea</i>	Endangered
Insects	5333	Hawaiian yellow-faced bee	<i>Hylaeus longiceps</i>	Endangered
Insects	10008	Hawaiian yellow-faced bee	<i>Hylaeus mana</i>	Endangered
Insects	7955	Hilaris yellow-faced bee	<i>Hylaeus hilaris</i>	Endangered
Insects	4308	Mariana eight-spot butterfly	<i>Hypolimnys octocula marianensis</i>	Endangered
Insects	5168	Mariana wandering butterfly	<i>Vagrans egistina</i>	Endangered
Insects	6231	Oceanic Hawaiian damselfly	<i>Megalagrion oceanicum</i>	Endangered
Insects	6867	Orangeblack Hawaiian damselfly	<i>Megalagrion xanthomelas</i>	Endangered
Insects	1953	Pacific Hawaiian damselfly	<i>Megalagrion pacificum</i>	Endangered
Insects	10007	Puerto Rican harlequin butterfly	<i>Atlantea tulita</i>	Threatened
Insects	9282	Rota blue damselfly	<i>Ischnura luta</i>	Endangered
Mammals	15	Hawaiian hoary bat	<i>Lasiurus cinereus semotus</i>	Endangered
Mammals	8962	Mariana fruit bat (=Mariana flying fox)	<i>Pteropus mariannus mariannus</i>	Threatened

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Mammals	5232	Northern sea otter	<i>Enhydra lutris kenyoni</i>	Threatened
Mammals	8166	Pacific sheath-tailed bat	<i>Emballonura semicaudata rotensis</i>	Endangered
Mammals	4564	Pacific sheath-tailed bat	<i>Emballonura semicaudata semicaudata</i>	Endangered
Mammals	8861	Polar bear	<i>Ursus maritimus</i>	Threatened
Mammals	6654	Wood bison	<i>Bison bison athabasca</i>	Threatened
Plant-Dicot	736	(=Native yellow hibiscus) Ma‘o hau hele	<i>Hibiscus brackenridgei</i>	Endangered
Plant-Dicot	1159	A‘e	<i>Zanthoxylum dipetalum</i> var. <i>tomentosum</i>	Endangered
Plant-Dicot	869	A‘e	<i>Zanthoxylum hawaiiense</i>	Endangered
Plant-Dicot	7979	A‘e	<i>Zanthoxylum oahuense</i>	Endangered
Plant-Dicot	635	‘Ahinahina	<i>Argyroxiphium sandwicense</i> ssp. <i>macrocephalum</i>	Threatened
Plant-Dicot	882	‘Ahinahina	<i>Argyroxiphium sandwicense</i> ssp. <i>sandwicense</i>	Endangered
Plant-Dicot	833	‘Aiakeakua, popolo	<i>Solanum sandwicense</i>	Endangered
Plant-Dicot	780	‘Aiea	<i>Nothocestrum breviflorum</i>	Endangered
Plant-Dicot	1760	‘Aiea	<i>Nothocestrum latifolium</i>	Endangered
Plant-Dicot	781	‘Aiea	<i>Nothocestrum peltatum</i>	Endangered
Plant-Dicot	664	Akoko	<i>Euphorbia halemanui</i>	Endangered
Plant-Dicot	662	‘Akoko	<i>Euphorbia celastroides</i> var. <i>kaenana</i>	Endangered
Plant-Dicot	1223	‘Akoko	<i>Euphorbia deppeana</i>	Endangered
Plant-Dicot	1502	‘Akoko	<i>Euphorbia eleanoriae</i>	Endangered
Plant-Dicot	549	‘Akoko	<i>Euphorbia haeleleana</i>	Endangered
Plant-Dicot	1179	‘Akoko	<i>Euphorbia herbstii</i>	Endangered
Plant-Dicot	1094	‘Akoko	<i>Euphorbia kuwaleana</i>	Endangered
Plant-Dicot	3871	‘Akoko	<i>Euphorbia remyi</i> var. <i>kauaiensis</i>	Endangered
Plant-Dicot	1607	‘Akoko	<i>Euphorbia remyi</i> var. <i>remyi</i>	Endangered
Plant-Dicot	1180	‘Akoko	<i>Euphorbia rockii</i>	Endangered
Plant-Dicot	665	‘Akoko	<i>Euphorbia skottsbergii</i> var. <i>skottsbergii</i>	Endangered
Plant-Dicot	7280	‘Aku	<i>Cyanea tritomantha</i>	Endangered

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Plant-Dicot	916	‘Aku‘aku	<i>Cyanea platyphylla</i>	Endangered
Plant-Dicot	2683	‘Ala ‘ala wai nui	<i>Peperomia subpetiolata</i>	Endangered
Plant-Dicot	1132	Alani	<i>Melicope adscendens</i>	Endangered
Plant-Dicot	765	Alani	<i>Melicope balloui</i>	Endangered
Plant-Dicot	3472	Alani	<i>Melicope christophersenii</i>	Endangered
Plant-Dicot	1609	Alani	<i>Melicope degeneri</i>	Endangered
Plant-Dicot	766	Alani	<i>Melicope haupuensis</i>	Endangered
Plant-Dicot	4377	Alani	<i>Melicope hiiakae</i>	Endangered
Plant-Dicot	767	Alani	<i>Melicope knudsenii</i>	Endangered
Plant-Dicot	768	Alani	<i>Melicope lydgatei</i>	Endangered
Plant-Dicot	3728	Alani	<i>Melicope makahae</i>	Endangered
Plant-Dicot	769	Alani	<i>Melicope mucronulata</i>	Endangered
Plant-Dicot	770	Alani	<i>Melicope munroi</i>	Endangered
Plant-Dicot	771	Alani	<i>Melicope ovalis</i>	Endangered
Plant-Dicot	772	Alani	<i>Melicope pallida</i>	Endangered
Plant-Dicot	8357	Alani	<i>Melicope paniculata</i>	Endangered
Plant-Dicot	3753	Alani	<i>Melicope puberula</i>	Endangered
Plant-Dicot	773	Alani	<i>Melicope quadrangularis</i>	Endangered
Plant-Dicot	774	Alani	<i>Melicope reflexa</i>	Endangered
Plant-Dicot	575	Alani	<i>Melicope saint-johnii</i>	Endangered
Plant-Dicot	775	Alani	<i>Melicope zahlbruckneri</i>	Endangered
Plant-Dicot	567	‘Anaunau	<i>Lepidium arbuscula</i>	Endangered
Plant-Dicot	1151	‘Anunu	<i>Sicyos albus</i>	Endangered
Plant-Dicot	1623	‘Anunu	<i>Sicyos macrophyllus</i>	Endangered
Plant-Dicot	10726	Aplokating-palaoan	<i>Psychotria malaspinae</i>	Endangered
Plant-Dicot	952	Aupaka	<i>Isodendrion hosakae</i>	Endangered
Plant-Dicot	563	Aupaka	<i>Isodendrion laurifolium</i>	Endangered
Plant-Dicot	564	Aupaka	<i>Isodendrion longifolium</i>	Threatened
Plant-Dicot	654	‘Awikiwiki	<i>Canavalia molokaiensis</i>	Endangered
Plant-Dicot	2118	‘Awikiwiki	<i>Canavalia napaliensis</i>	Endangered
Plant-Dicot	7805	‘Awikiwiki	<i>Canavalia pubescens</i>	Endangered
Plant-Dicot	724	Awiwi	<i>Kadua cookiana</i>	Endangered
Plant-Dicot	1093	Awiwi	<i>Schenkia sebaeoides</i>	Endangered
Plant-Dicot	1012	Bariaco	<i>Trichilia triacantha</i>	Endangered
Plant-Dicot	1231	Beautiful goetzea	<i>Goetzea elegans</i>	Endangered
Plant-Dicot	10727	Berenghenas halomtano	<i>Solanum guamense</i>	Endangered
Plant-Dicot	894	Capa rosa	<i>Callicarpa ampla</i>	Endangered

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Plant-Dicot	737	Clay's hibiscus	<i>Hibiscus clayi</i>	Endangered
Plant-Dicot	1005	Cobana negra	<i>Stahlia monosperma</i>	Threatened
Plant-Dicot	745	Cooke's koki'o	<i>Kokia cookei</i>	Endangered
Plant-Dicot	948	Cook's holly	<i>Ilex cookii</i>	Endangered
Plant-Dicot	821	Diamond Head schiedea	<i>Schiedea adamantis</i>	Endangered
Plant-Dicot	868	Dwarf iliau	<i>Wilkesia hobdyi</i>	Endangered
Plant-Dicot	820	Dwarf naupaka	<i>Scaevola coriacea</i>	Endangered
Plant-Dicot	5334	'Ena'ena	<i>Pseudognaphalium sandwicense</i> var. <i>molokaiense</i>	Endangered
Plant-Dicot	1002	Erubia	<i>Solanum drymophilum</i>	Endangered
Plant-Dicot	1175	Haha	<i>Cyanea acuminata</i>	Endangered
Plant-Dicot	1099	Haha	<i>Cyanea asarifolia</i>	Endangered
Plant-Dicot	7892	Haha	<i>Cyanea asplenifolia</i>	Endangered
Plant-Dicot	3540	Haha	<i>Cyanea calycina</i>	Endangered
Plant-Dicot	1100	Haha	<i>Cyanea copelandii</i> ssp. <i>copelandii</i>	Endangered
Plant-Dicot	1185	Haha	<i>Cyanea copelandii</i> ssp. <i>haleakalaensis</i>	Endangered
Plant-Dicot	1224	Haha	<i>Cyanea crispa</i>	Endangered
Plant-Dicot	9951	Haha	<i>Cyanea dolichopoda</i>	Endangered
Plant-Dicot	1101	Haha	<i>Cyanea dunbariae</i>	Endangered
Plant-Dicot	10222	Haha	<i>Cyanea duvalliorum</i>	Endangered
Plant-Dicot	1278	Haha	<i>Cyanea eleeleensis</i>	Endangered
Plant-Dicot	1052	Haha	<i>Cyanea gibsonii</i>	Endangered
Plant-Dicot	1102	Haha	<i>Cyanea glabra</i>	Endangered
Plant-Dicot	684	Haha	<i>Cyanea grimesiana</i> ssp. <i>grimesiana</i>	Endangered
Plant-Dicot	1049	Haha	<i>Cyanea grimesiana</i> ssp. <i>obatae</i>	Endangered
Plant-Dicot	1050	Haha	<i>Cyanea hamatiflora</i> ssp. <i>carlsonii</i>	Endangered
Plant-Dicot	1186	Haha	<i>Cyanea hamatiflora</i> ssp. <i>hamatiflora</i>	Endangered
Plant-Dicot	535	Haha	<i>Cyanea humboldtiana</i>	Endangered
Plant-Dicot	9952	Haha	<i>Cyanea kolekoleensis</i>	Endangered
Plant-Dicot	1181	Haha	<i>Cyanea koolauensis</i>	Endangered
Plant-Dicot	4961	Haha	<i>Cyanea kuhihewa</i>	Endangered
Plant-Dicot	1968	Haha	<i>Cyanea kunthiana</i>	Endangered
Plant-Dicot	6019	Haha	<i>Cyanea lanceolata</i>	Endangered

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Taxa Group	Entity ID	Common Name	Scientific Name	Species Status
Plant-Dicot	1051	Haha	<i>Cyanea lobata</i>	Endangered
Plant-Dicot	1182	Haha	<i>Cyanea longiflora</i>	Endangered
Plant-Dicot	10224	Haha	<i>Cyanea magnicalyx</i>	Endangered
Plant-Dicot	1103	Haha	<i>Cyanea mannii</i>	Endangered
Plant-Dicot	10225	Haha	<i>Cyanea maritae</i>	Endangered
Plant-Dicot	6969	Haha	<i>Cyanea marksii</i>	Endangered
Plant-Dicot	10226	Haha	<i>Cyanea mauiensis</i>	Endangered
Plant-Dicot	685	Haha	<i>Cyanea mceldowneyi</i>	Endangered
Plant-Dicot	10227	Haha	<i>Cyanea munroi</i>	Endangered
Plant-Dicot	2860	Haha	<i>Cyanea obtusa</i>	Endangered
Plant-Dicot	915	Haha	<i>Cyanea pinnatifida</i>	Endangered
Plant-Dicot	1104	Haha	<i>Cyanea procera</i>	Endangered
Plant-Dicot	6303	Haha	<i>Cyanea profuga</i>	Endangered
Plant-Dicot	1636	Haha	<i>Cyanea purpurellifolia</i>	Endangered
Plant-Dicot	1105	Haha	<i>Cyanea recta</i>	Threatened
Plant-Dicot	1176	Haha	<i>Cyanea remyi</i>	Endangered
Plant-Dicot	537	Haha	<i>Cyanea rivularis</i>	Endangered
Plant-Dicot	686	Haha	<i>Cyanea shipmanii</i>	Endangered
Plant-Dicot	687	Haha	<i>Cyanea st.-johnii</i>	Endangered
Plant-Dicot	917	Haha	<i>Cyanea stictophylla</i>	Endangered
Plant-Dicot	688	Haha	<i>Cyanea superba</i>	Endangered
Plant-Dicot	1106	Haha	<i>Cyanea truncata</i>	Endangered
Plant-Dicot	1107	Haha	<i>Cyanea undulata</i>	Endangered
Plant-Dicot	10223	Haha nui	<i>Cyanea horrida</i>	Endangered
Plant-Dicot	10228	Haiwale	<i>Cyrtandra ferripilosa</i>	Endangered
Plant-Dicot	8347	Haiwale	<i>Cyrtandra gracilis</i>	Endangered
Plant-Dicot	10480	Haiwale	<i>Cyrtandra nanawaleensis</i>	Endangered
Plant-Dicot	9953	Haiwale	<i>Cyrtandra paliku</i>	Endangered
Plant-Dicot	10481	Haiwale	<i>Cyrtandra wagneri</i>	Endangered
Plant-Dicot	5991	Haiwale	<i>Cyrtandra waiolani</i>	Endangered
Plant-Dicot	918	Ha'iwale	<i>Cyrtandra crenata</i>	Endangered
Plant-Dicot	536	Ha'iwale	<i>Cyrtandra dentata</i>	Endangered
Plant-Dicot	2085	Ha'iwale	<i>Cyrtandra filipes</i>	Endangered
Plant-Dicot	919	Ha'iwale	<i>Cyrtandra giffardii</i>	Endangered
Plant-Dicot	3020	Ha'iwale	<i>Cyrtandra hematos</i>	Endangered
Plant-Dicot	4201	Ha'iwale	<i>Cyrtandra kaulantha</i>	Endangered
Plant-Dicot	1110	Ha'iwale	<i>Cyrtandra limahuliensis</i>	Threatened
Plant-Dicot	1230	Ha'iwale	<i>Cyrtandra munroi</i>	Endangered

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Taxa Group	Entity ID	Common Name	Scientific Name	Species Status
Plant-Dicot	6679	Ha'iwale	<i>Cyrtandra oenobarba</i>	Endangered
Plant-Dicot	1349	Ha'iwale	<i>Cyrtandra oxybapha</i>	Endangered
Plant-Dicot	690	Ha'iwale	<i>Cyrtandra polyantha</i>	Endangered
Plant-Dicot	2273	Ha'iwale	<i>Cyrtandra sessilis</i>	Endangered
Plant-Dicot	691	Ha'iwale	<i>Cyrtandra subumbellata</i>	Endangered
Plant-Dicot	1111	Ha'iwale	<i>Cyrtandra tintinnabula</i>	Endangered
Plant-Dicot	1112	Ha'iwale	<i>Cyrtandra viridiflora</i>	Endangered
Plant-Dicot	560	Hau kuahiwi	<i>Hibiscadelphus giffardianus</i>	Endangered
Plant-Dicot	561	Hau kuahiwi	<i>Hibiscadelphus hualalaiensis</i>	Endangered
Plant-Dicot	1177	Hau kuahiwi	<i>Hibiscadelphus woodii</i>	Endangered
Plant-Dicot	715	Hawaiian gardenia	<i>Gardenia brighamii</i>	Endangered
Plant-Dicot	861	Hawaiian vetch	<i>Vicia menziesii</i>	Endangered
Plant-Dicot	1038	Hayun lagu (=Guam), Tronkon guafi (Rota))	<i>Serianthes nelsonii</i>	Endangered
Plant-Dicot	938	Heau	<i>Exocarpos luteolus</i>	Endangered
Plant-Dicot	10583	Heau	<i>Exocarpos menziesii</i>	Endangered
Plant-Dicot	942	Higo chumbo	<i>Harrisia portoricensis</i>	Threatened
Plant-Dicot	912	Higuero de sierra	<i>Crescentia portoricensis</i>	Endangered
Plant-Dicot	4740	Hoawa	<i>Pittosporum halophilum</i>	Endangered
Plant-Dicot	4007	Hoawa	<i>Pittosporum hawaiiense</i>	Endangered
Plant-Dicot	3154	Hoawa	<i>Pittosporum napaliense</i>	Endangered
Plant-Dicot	7067	Holei	<i>Ochrosia haleakalae</i>	Endangered
Plant-Dicot	1060	Holei	<i>Ochrosia kilaueaensis</i>	Endangered
Plant-Dicot	722	Honohono	<i>Haplostachys haplostachya</i>	Endangered
Plant-Dicot	1693	Hulumoa	<i>Korthalsella degeneri</i>	Endangered
Plant-Dicot	3116	Ihi	<i>Portulaca villosa</i>	Endangered
Plant-Dicot	954	Kamakahala	<i>Labordia cyrtandrae</i>	Endangered
Plant-Dicot	2778	Kamakahala	<i>Labordia helleri</i>	Endangered
Plant-Dicot	955	Kamakahala	<i>Labordia lydgatei</i>	Endangered
Plant-Dicot	3832	Kamakahala	<i>Labordia pumila</i>	Endangered
Plant-Dicot	1232	Kamakahala	<i>Labordia tinifolia</i> var. <i>lanaiensis</i>	Endangered
Plant-Dicot	1178	Kamakahala	<i>Labordia tinifolia</i> var. <i>wahiawaensis</i>	Endangered
Plant-Dicot	565	Kamakahala	<i>Labordia triflora</i>	Endangered
Plant-Dicot	1645	Kamapua'a	<i>Kadua fluviatilis</i>	Endangered

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Taxa Group	Entity ID	Common Name	Scientific Name	Species Status
Plant-Dicot	735	Kauai hau kuahiwi	<i>Hibiscadelphus distans</i>	Endangered
Plant-Dicot	674	Kauila	<i>Colubrina oppositifolia</i>	Endangered
Plant-Dicot	810	Kaulu	<i>Pteralyxia kauaiensis</i>	Endangered
Plant-Dicot	2265	Kaulu	<i>Pteralyxia macrocarpa</i>	Endangered
Plant-Dicot	725	Kio‘ele	<i>Kadua coriacea</i>	Endangered
Plant-Dicot	1136	Kiponapona	<i>Phyllostegia racemosa</i>	Endangered
Plant-Dicot	1187	Kohe malama malama o Kanaloa	<i>Kanaloa kahoolawensis</i>	Endangered
Plant-Dicot	697	Koholapehu	<i>Dubautia latifolia</i>	Endangered
Plant-Dicot	746	Koki‘o	<i>Kokia drynarioides</i>	Endangered
Plant-Dicot	747	Koki‘o	<i>Kokia kauaiensis</i>	Endangered
Plant-Dicot	947	Koki‘o ke‘oke‘o	<i>Hibiscus arnottianus</i> ssp. <i>immaculatus</i>	Endangered
Plant-Dicot	738	Koki‘o ke‘oke‘o	<i>Hibiscus waimeae</i> ssp. <i>hannerae</i>	Endangered
Plant-Dicot	5763	Kolea	<i>Myrsine fosbergii</i>	Endangered
Plant-Dicot	1133	Kolea	<i>Myrsine juddii</i>	Endangered
Plant-Dicot	9959	Kolea	<i>Myrsine knudsenii</i>	Endangered
Plant-Dicot	577	Kolea	<i>Myrsine linearifolia</i>	Threatened
Plant-Dicot	1521	Kolea	<i>Myrsine mezii</i>	Endangered
Plant-Dicot	2970	Kolea	<i>Myrsine vaccinioides</i>	Endangered
Plant-Dicot	10479	Kookoolau	<i>Bidens hillebrandiana</i> ssp. <i>hillebrandiana</i>	Endangered
Plant-Dicot	2278	Ko‘oko‘olau	<i>Bidens amplexans</i>	Endangered
Plant-Dicot	7617	Ko‘oko‘olau	<i>Bidens campylotheca</i> ssp. <i>pentamera</i>	Endangered
Plant-Dicot	8277	Ko‘oko‘olau	<i>Bidens campylotheca</i> ssp. <i>waihoiensis</i>	Endangered
Plant-Dicot	8338	Ko‘oko‘olau	<i>Bidens conjuncta</i>	Endangered
Plant-Dicot	4589	Ko‘oko‘olau	<i>Bidens micrantha</i> ssp. <i>ctenophylla</i>	Endangered
Plant-Dicot	645	Ko‘oko‘olau	<i>Bidens micrantha</i> ssp. <i>kalealaha</i>	Endangered
Plant-Dicot	646	Ko‘oko‘olau	<i>Bidens wiebkei</i>	Endangered
Plant-Dicot	617	Ko‘oloa‘ula	<i>Abutilon menziesii</i>	Endangered
Plant-Dicot	1118	Kopa	<i>Kadua cordata remyi</i>	Endangered
Plant-Dicot	2619	Kopiko	<i>Psychotria grandiflora</i>	Endangered
Plant-Dicot	3084	Kopiko	<i>Psychotria hexandra</i> var. <i>oahuensis</i>	Endangered
Plant-Dicot	6536	Kopiko	<i>Psychotria hobyi</i>	Endangered
Plant-Dicot	1140	Kuahiwi laukahi	<i>Plantago hawaiiensis</i>	Endangered

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Taxa Group	Entity ID	Common Name	Scientific Name	Species Status
Plant-Dicot	800	Kuahiwi laukahi	<i>Plantago princeps</i>	Endangered
Plant-Dicot	1084	Kuawawaenohu	<i>Schiedea lychnoides</i>	Endangered
Plant-Dicot	782	Kulu'i	<i>Nototrichium humile</i>	Endangered
Plant-Dicot	993	Lanai sandalwood (='iliahi)	<i>Santalum haleakalae</i> var. <i>lanaiense</i>	Endangered
Plant-Dicot	1071	Laulihilihi	<i>Schiedea stellarioides</i>	Endangered
Plant-Dicot	7170	Lehua makanoe	<i>Lysimachia daphnoides</i>	Endangered
Plant-Dicot	619	Liliwai	<i>Acaena exigua</i>	Endangered
Plant-Dicot	2727	Loulou	<i>Pritchardia hardyi</i>	Endangered
Plant-Dicot	621	Mahoe	<i>Alectryon macrococcus</i>	Endangered
Plant-Dicot	795	Makou	<i>Peucedanum sandwicense</i>	Threatened
Plant-Dicot	2682	Makou	<i>Ranunculus hawaiiensis</i>	Endangered
Plant-Dicot	3292	Makou	<i>Ranunculus mauiensis</i>	Endangered
Plant-Dicot	1065	Ma'oli'oli	<i>Schiedea apokremnos</i>	Endangered
Plant-Dicot	3175	Ma'oli'oli	<i>Schiedea hawaiiensis</i>	Endangered
Plant-Dicot	603	Ma'oli'oli	<i>Schiedea kealiae</i>	Endangered
Plant-Dicot	2036	Ma'oli'oli	<i>Schiedea pubescens</i>	Endangered
Plant-Dicot	1109	Mapele	<i>Cyrtandra cyaneoides</i>	Endangered
Plant-Dicot	4551	Marron bacora	<i>Solanum conocarpum</i>	Endangered
Plant-Dicot	815	Mauui remya	<i>Remya mauiensis</i>	Endangered
Plant-Dicot	634	Mauna Loa (=Ka'u) silversword	<i>Argyroxiphium kauense</i>	Endangered
Plant-Dicot	1117	Mehamehame	<i>Flueggea neowawraea</i>	Endangered
Plant-Dicot	9954	Naenae	<i>Dubautia kalalauensis</i>	Endangered
Plant-Dicot	9955	Naenae	<i>Dubautia kenwoodii</i>	Endangered
Plant-Dicot	1054	Na'ena'e	<i>Dubautia herbstobatae</i>	Endangered
Plant-Dicot	4858	Na'ena'e	<i>Dubautia imbricata</i> ssp. <i>imbricata</i>	Endangered
Plant-Dicot	1113	Na'ena'e	<i>Dubautia pauciflorula</i>	Endangered
Plant-Dicot	1114	Na'ena'e	<i>Dubautia plantaginea</i> ssp. <i>humilis</i>	Endangered
Plant-Dicot	3049	Na'ena'e	<i>Dubautia plantaginea</i> ssp. <i>magnifolia</i>	Endangered
Plant-Dicot	2154	Na'ena'e	<i>Dubautia waialealae</i>	Endangered
Plant-Dicot	865	Nani wai'ale'ale	<i>Viola kauaiensis</i> var. <i>wahiawaensis</i>	Endangered
Plant-Dicot	1183	Nanu	<i>Gardenia mannii</i>	Endangered
Plant-Dicot	5186	Nanu	<i>Gardenia remyi</i>	Endangered
Plant-Dicot	755	Nehe	<i>Lipochaeta fauriei</i>	Endangered

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Taxa Group	Entity ID	Common Name	Scientific Name	Species Status
Plant-Dicot	756	Nehe	<i>Lipochaeta lobata</i> var. <i>leptophylla</i>	Endangered
Plant-Dicot	962	Nehe	<i>Lipochaeta micrantha</i>	Endangered
Plant-Dicot	757	Nehe	<i>Lipochaeta venosa</i>	Endangered
Plant-Dicot	964	Nehe	<i>Lipochaeta waimeaensis</i>	Endangered
Plant-Dicot	961	Nehe	<i>Melanthera kamolensis</i>	Endangered
Plant-Dicot	963	Nehe	<i>Melanthera tenuifolia</i>	Endangered
Plant-Dicot	1116	Nioi	<i>Eugenia koolauensis</i>	Endangered
Plant-Dicot	616	No common name	<i>Abutilon eremitopetalum</i>	Endangered
Plant-Dicot	618	No common name	<i>Abutilon sandwicense</i>	Endangered
Plant-Dicot	497	No common name	<i>Achyranthes mutica</i>	Endangered
Plant-Dicot	499	No common name	<i>Amaranthus brownii</i>	Endangered
Plant-Dicot	1091	No common name	<i>Auerodendron pauciflorum</i>	Endangered
Plant-Dicot	648	No common name	<i>Bonamia menziesii</i>	Endangered
Plant-Dicot	895	No common name	<i>Calyptanthus thomasi</i>	Endangered
Plant-Dicot	1092	No common name	<i>Catesbaea melanocarpa</i>	Endangered
Plant-Dicot	900	No common name	<i>Chamaecrista glandulosa</i> var. <i>mirabilis</i>	Endangered
Plant-Dicot	908	No common name	<i>Cordia bellonis</i>	Endangered
Plant-Dicot	10588	No common name	<i>Cyanea kauaulaensis</i>	Endangered
Plant-Dicot	921	No common name	<i>Daphnopsis helleriana</i>	Endangered
Plant-Dicot	692	No common name	<i>Delissea rhytidosperma</i>	Endangered
Plant-Dicot	538	No common name	<i>Delissea undulata</i>	Endangered
Plant-Dicot	10721	No common name	<i>Eugenia bryanii</i>	Endangered
Plant-Dicot	1169	No common name	<i>Eugenia woodburyana</i>	Threatened
Plant-Dicot	1057	No common name	<i>Gesneria pauciflora</i>	Threatened
Plant-Dicot	3990	No common name	<i>Gonocalyx concolor</i>	Endangered
Plant-Dicot	719	No common name	<i>Gouania hillebrandii</i>	Endangered
Plant-Dicot	720	No common name	<i>Gouania meyenii</i>	Endangered
Plant-Dicot	721	No common name	<i>Gouania vitifolia</i>	Endangered
Plant-Dicot	731	No common name	<i>Hesperomannia arborescens</i>	Endangered
Plant-Dicot	732	No common name	<i>Hesperomannia arbuscula</i>	Endangered
Plant-Dicot	733	No common name	<i>Hesperomannia lydgatei</i>	Endangered

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Taxa Group	Entity ID	Common Name	Scientific Name	Species Status
Plant-Dicot	1162	No common name	<i>Ilex sintenisii</i>	Endangered
Plant-Dicot	726	No common name	<i>Kadua degeneri</i>	Endangered
Plant-Dicot	10592	No common name	<i>Kadua haupuensis</i>	Endangered
Plant-Dicot	728	No common name	<i>Kadua parvula</i>	Endangered
Plant-Dicot	729	No common name	<i>Kadua st.-johnii</i>	Endangered
Plant-Dicot	4487	No common name	<i>Keysseria (=Lagenifera) erici</i>	Endangered
Plant-Dicot	8254	No common name	<i>Keysseria (=Lagenifera) helenae</i>	Endangered
Plant-Dicot	10599	No common name	<i>Labordia lorenciana</i>	Endangered
Plant-Dicot	10593	No common name	<i>Lepidium orbiculare</i>	Endangered
Plant-Dicot	1124	No common name	<i>Leptocereus grantianus</i>	Endangered
Plant-Dicot	572	No common name	<i>Lobelia koolauensis</i>	Endangered
Plant-Dicot	965	No common name	<i>Lobelia monostachya</i>	Endangered
Plant-Dicot	758	No common name	<i>Lobelia niihauensis</i>	Endangered
Plant-Dicot	759	No common name	<i>Lobelia oahuensis</i>	Endangered
Plant-Dicot	1127	No common name	<i>Lyonia truncata</i> var. <i>proctorii</i>	Endangered
Plant-Dicot	968	No common name	<i>Lysimachia filifolia</i>	Endangered
Plant-Dicot	9956	No common name	<i>Lysimachia iniki</i>	Endangered
Plant-Dicot	1128	No common name	<i>Lysimachia lydgatei</i>	Endangered
Plant-Dicot	1129	No common name	<i>Lysimachia maxima</i>	Endangered
Plant-Dicot	9957	No common name	<i>Lysimachia pendens</i>	Endangered
Plant-Dicot	9958	No common name	<i>Lysimachia scopulensis</i>	Endangered
Plant-Dicot	5104	No common name	<i>Lysimachia venosa</i>	Endangered
Plant-Dicot	10723	No common name	<i>Maesa walkeri</i>	Threatened
Plant-Dicot	8303	No common name	<i>Melicope cornuta</i> var. <i>cornuta</i>	Endangered
Plant-Dicot	7046	No common name	<i>Melicope cornuta</i> var. <i>decurrens</i>	Endangered
Plant-Dicot	5709	No common name	<i>Melicope remyi</i>	Endangered
Plant-Dicot	970	No common name	<i>Mitracarpus maxwelliae</i>	Endangered
Plant-Dicot	971	No common name	<i>Mitracarpus polycladus</i>	Threatened
Plant-Dicot	1033	No common name	<i>Myrcia paganii</i>	Endangered
Plant-Dicot	1226	No common name	<i>Neraudia angulata</i>	Endangered
Plant-Dicot	581	No common name	<i>Neraudia ovata</i>	Endangered
Plant-Dicot	779	No common name	<i>Neraudia sericea</i>	Endangered
Plant-Dicot	1264	No common name	<i>Nesogenes rotensis</i>	Endangered
Plant-Dicot	1265	No common name	<i>Osmoxylon mariannense</i>	Endangered

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Taxa Group	Entity ID	Common Name	Scientific Name	Species Status
Plant-Dicot	10725	No common name	<i>Phyllanthus saffordii</i>	Endangered
Plant-Dicot	2934	No common name	<i>Phyllostegia bracteata</i>	Endangered
Plant-Dicot	3592	No common name	<i>Phyllostegia brevidens</i>	Endangered
Plant-Dicot	4533	No common name	<i>Phyllostegia floribunda</i>	Endangered
Plant-Dicot	799	No common name	<i>Phyllostegia glabra</i> var. <i>lanaiensis</i>	Endangered
Plant-Dicot	10230	No common name	<i>Phyllostegia haliakalae</i>	Endangered
Plant-Dicot	4754	No common name	<i>Phyllostegia helleri</i>	Endangered
Plant-Dicot	589	No common name	<i>Phyllostegia hirsuta</i>	Endangered
Plant-Dicot	7229	No common name	<i>Phyllostegia hispida</i>	Endangered
Plant-Dicot	1184	No common name	<i>Phyllostegia kaalaensis</i>	Endangered
Plant-Dicot	590	No common name	<i>Phyllostegia knudsenii</i>	Endangered
Plant-Dicot	1163	No common name	<i>Phyllostegia mannii</i>	Endangered
Plant-Dicot	981	No common name	<i>Phyllostegia mollis</i>	Endangered
Plant-Dicot	591	No common name	<i>Phyllostegia parviflora</i>	Endangered
Plant-Dicot	10231	No common name	<i>Phyllostegia pilosa</i>	Endangered
Plant-Dicot	9960	No common name	<i>Phyllostegia renovans</i>	Endangered
Plant-Dicot	7254	No common name	<i>Phyllostegia stachyoides</i>	Endangered
Plant-Dicot	1137	No common name	<i>Phyllostegia velutina</i>	Endangered
Plant-Dicot	1135	No common name	<i>Phyllostegia waimeae</i>	Endangered
Plant-Dicot	1138	No common name	<i>Phyllostegia warshaueri</i>	Endangered
Plant-Dicot	1139	No common name	<i>Phyllostegia wawrana</i>	Endangered
Plant-Dicot	7886	No common name	<i>Polyscias bisattenuata</i>	Endangered
Plant-Dicot	9961	No common name	<i>Polyscias flynnii</i>	Endangered
Plant-Dicot	7367	No common name	<i>Polyscias lydgatei</i>	Endangered
Plant-Dicot	778	No common name	<i>Polyscias racemosa</i>	Endangered
Plant-Dicot	814	No common name	<i>Remya kauaiensis</i>	Endangered
Plant-Dicot	1083	No common name	<i>Remya montgomeryi</i>	Endangered
Plant-Dicot	1146	No common name	<i>Sanicula mariversa</i>	Endangered
Plant-Dicot	601	No common name	<i>Sanicula purpurea</i>	Endangered
Plant-Dicot	3784	No common name	<i>Sanicula sandwicensis</i>	Endangered
Plant-Dicot	10584	No common name	<i>Santalum involutum</i>	Endangered
Plant-Dicot	2404	No common name	<i>Schiedea attenuata</i>	Endangered
Plant-Dicot	10483	No common name	<i>Schiedea diffusa</i> ssp. <i>macraei</i>	Endangered
Plant-Dicot	10591	No common name	<i>Schiedea diffusa</i> subsp. <i>diffusa</i>	Endangered
Plant-Dicot	1066	No common name	<i>Schiedea haleakalensis</i>	Endangered
Plant-Dicot	1067	No common name	<i>Schiedea helleri</i>	Endangered

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Taxa Group	Entity ID	Common Name	Scientific Name	Species Status
Plant-Dicot	602	No common name	<i>Schiedea hookeri</i>	Endangered
Plant-Dicot	10232	No common name	<i>Schiedea jacobii</i>	Endangered
Plant-Dicot	822	No common name	<i>Schiedea kaalae</i>	Endangered
Plant-Dicot	1147	No common name	<i>Schiedea kauaiensis</i>	Endangered
Plant-Dicot	10233	No common name	<i>Schiedea laui</i>	Endangered
Plant-Dicot	1068	No common name	<i>Schiedea lydgatei</i>	Endangered
Plant-Dicot	604	No common name	<i>Schiedea membranacea</i>	Endangered
Plant-Dicot	1148	No common name	<i>Schiedea nuttallii</i>	Endangered
Plant-Dicot	622	No common name	<i>Schiedea obovata</i>	Endangered
Plant-Dicot	4030	No common name	<i>Schiedea salicaria</i>	Endangered
Plant-Dicot	605	No common name	<i>Schiedea sarmentosa</i>	Endangered
Plant-Dicot	1069	No common name	<i>Schiedea spergulina</i> var. <i>leiopoda</i>	Endangered
Plant-Dicot	1070	No common name	<i>Schiedea spergulina</i> var. <i>spergulina</i>	Threatened
Plant-Dicot	623	No common name	<i>Schiedea trinervis</i>	Endangered
Plant-Dicot	606	No common name	<i>Schiedea verticillata</i>	Endangered
Plant-Dicot	1075	No common name	<i>Schiedea viscosa</i>	Endangered
Plant-Dicot	1072	No common name	<i>Schoepfia arenaria</i>	Threatened
Plant-Dicot	10585	No common name	<i>Sicyos lanceoloideus</i>	Endangered
Plant-Dicot	829	No common name	<i>Silene alexandri</i>	Endangered
Plant-Dicot	1001	No common name	<i>Silene hawaiiensis</i>	Threatened
Plant-Dicot	830	No common name	<i>Silene lanceolata</i>	Endangered
Plant-Dicot	1152	No common name	<i>Silene perlmanii</i>	Endangered
Plant-Dicot	1154	No common name	<i>Spermolepis</i> <i>hawaiiensis</i>	Endangered
Plant-Dicot	838	No common name	<i>Stenogyne angustifolia</i> var. <i>angustifolia</i>	Endangered
Plant-Dicot	1155	No common name	<i>Stenogyne bifida</i>	Endangered
Plant-Dicot	1156	No common name	<i>Stenogyne campanulata</i>	Endangered
Plant-Dicot	6257	No common name	<i>Stenogyne cranwelliae</i>	Endangered
Plant-Dicot	4297	No common name	<i>Stenogyne kaalae</i> ssp. <i>sherffii</i>	Endangered
Plant-Dicot	839	No common name	<i>Stenogyne kanehoana</i>	Endangered
Plant-Dicot	10234	No common name	<i>Stenogyne kauaulaensis</i>	Endangered
Plant-Dicot	2517	No common name	<i>Stenogyne kealiae</i>	Endangered
Plant-Dicot	1266	No common name	<i>Tabernaemontana</i> <i>rotensis</i>	Threatened
Plant-Dicot	1007	No common name	<i>Ternstroemia</i> <i>subsessilis</i>	Endangered

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Taxa Group	Entity ID	Common Name	Scientific Name	Species Status
Plant-Dicot	845	No common name	<i>Tetramolopium arenarium</i>	Endangered
Plant-Dicot	847	No common name	<i>Tetramolopium filiforme</i>	Endangered
Plant-Dicot	848	No common name	<i>Tetramolopium lepidotum</i> ssp. <i>lepidotum</i>	Endangered
Plant-Dicot	849	No common name	<i>Tetramolopium remyi</i>	Endangered
Plant-Dicot	850	No common name	<i>Tetramolopium rockii</i>	Threatened
Plant-Dicot	11340	No common name	<i>Tinospora homosepala</i>	Endangered
Plant-Dicot	1157	No common name	<i>Trematolobelia singularis</i>	Endangered
Plant-Dicot	3267	No common name	<i>Varronia rupicola</i>	Threatened
Plant-Dicot	1158	No common name	<i>Vernonia proctorii</i>	Endangered
Plant-Dicot	862	No common name	<i>Vigna o-wahuensis</i>	Endangered
Plant-Dicot	864	No common name	<i>Viola helenae</i>	Endangered
Plant-Dicot	866	No common name	<i>Viola lanaiensis</i>	Endangered
Plant-Dicot	867	No common name	<i>Viola oahuensis</i>	Endangered
Plant-Dicot	7840	No common name	<i>Wikstroemia skottsbergiana</i>	Endangered
Plant-Dicot	4238	No common name	<i>Wikstroemia villosa</i>	Endangered
Plant-Dicot	1016	No common name	<i>Xylosma crenatum</i>	Endangered
Plant-Dicot	717	Nohoanu	<i>Geranium arboreum</i>	Endangered
Plant-Dicot	2758	Nohoanu	<i>Geranium hanaense</i>	Endangered
Plant-Dicot	3653	Nohoanu	<i>Geranium hillebrandii</i>	Endangered
Plant-Dicot	4630	Nohoanu	<i>Geranium kauaiense</i>	Endangered
Plant-Dicot	939	Nohoanu	<i>Geranium multiflorum</i>	Endangered
Plant-Dicot	693	Oha	<i>Delissea subcordata</i>	Endangered
Plant-Dicot	533	‘Oha wai	<i>Clermontia drepanomorpha</i>	Endangered
Plant-Dicot	671	‘Oha wai	<i>Clermontia lindseyana</i>	Endangered
Plant-Dicot	1097	‘Oha wai	<i>Clermontia oblongifolia</i> ssp. <i>brevipes</i>	Endangered
Plant-Dicot	1098	‘Oha wai	<i>Clermontia oblongifolia</i> ssp. <i>mauiensis</i>	Endangered
Plant-Dicot	672	‘Oha wai	<i>Clermontia peleana</i>	Endangered
Plant-Dicot	673	‘Oha wai	<i>Clermontia pyrularia</i>	Endangered
Plant-Dicot	1188	‘Oha wai	<i>Clermontia samuelii</i>	Endangered
Plant-Dicot	999	Ohai	<i>Sesbania tomentosa</i>	Endangered
Plant-Dicot	851	‘Ohe‘ohe	<i>Polyscias gymnocarpa</i>	Endangered
Plant-Dicot	649	Olulu	<i>Brighamia insignis</i>	Endangered

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Taxa Group	Entity ID	Common Name	Scientific Name	Species Status
Plant-Dicot	860	Opuhe	<i>Urera kaalae</i>	Endangered
Plant-Dicot	1006	Palo colorado	<i>Ternstroemia luquillensis</i>	Endangered
Plant-Dicot	1040	Palo de jazmin	<i>Styrax portoricensis</i>	Endangered
Plant-Dicot	909	Palo de nigua	<i>Cornutia obovata</i>	Endangered
Plant-Dicot	890	Palo de ramon	<i>Banara vanderbiltii</i>	Endangered
Plant-Dicot	975	Palo de rosa	<i>Ottoschulzia rhodoxylon</i>	Threatened
Plant-Dicot	846	Pamakani	<i>Tetramolopium capillare</i>	Endangered
Plant-Dicot	863	Pamakani	<i>Viola chamissoniana</i> ssp. <i>chamissoniana</i>	Endangered
Plant-Dicot	3388	Papala	<i>Charpentiera densiflora</i>	Endangered
Plant-Dicot	10722	Paudedo	<i>Hedyotis megalantha</i>	Endangered
Plant-Dicot	727	Pilo	<i>Kadua laxiflora</i>	Endangered
Plant-Dicot	3387	Pilo kea lau li'i	<i>Melicope rostrata</i>	Endangered
Plant-Dicot	806	Po'e	<i>Portulaca sclerocarpa</i>	Endangered
Plant-Dicot	5956	Popolo	<i>Cyanea solanacea</i>	Endangered
Plant-Dicot	6870	Popolo	<i>Solanum nelsonii</i>	Endangered
Plant-Dicot	832	Popolo ku mai	<i>Solanum incompletum</i>	Endangered
Plant-Dicot	650	Pua 'ala	<i>Brighamia rockii</i>	Endangered
Plant-Dicot	874	Round-leaved chaff-flower	<i>Achyranthes splendens</i> var. <i>rotundata</i>	Endangered
Plant-Dicot	10229	Sea bean	<i>Mucuna persericea</i>	Endangered
Plant-Dicot	1018	St. Thomas prickly-ash	<i>Zanthoxylum thomasianum</i>	Endangered
Plant-Dicot	3999	Ufa-halomtano	<i>Heritiera longipetiolata</i>	Endangered
Plant-Dicot	518	Uhiuhi	<i>Mezoneuron kavaense</i>	Endangered
Plant-Dicot	936	Uvillo	<i>Eugenia haematocarpa</i>	Endangered
Plant-Dicot	893	Vahl's boxwood	<i>Buxus vahlii</i>	Endangered
Plant-Dicot	741	Kula wahine noho	<i>Isodendron pyrifolium</i>	Endangered
Plant-Dicot	1121	West Indian walnut (=Nogal)	<i>Juglans jamaicensis</i>	Endangered
Plant-Dicot	980	Wheeler's peperomia	<i>Peperomia wheeleri</i>	Endangered
Plant-Monocot	788	Carter's panicgrass	<i>Panicum fauriei</i> var. <i>carteri</i>	Endangered
Plant-Monocot	10719	Cebello halumtano	<i>Bulbophyllum guamense</i>	Threatened
Plant-Monocot	985	Chupacallos	<i>Pleodendron macranthum</i>	Endangered
Plant-Monocot	545	Fosberg's love grass	<i>Eragrostis fosbergii</i>	Endangered

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Taxa Group	Entity ID	Common Name	Scientific Name	Species Status
Plant-Monocot	1497	Hala pepe	<i>Dracaena fernaldii</i>	Endangered
Plant-Monocot	3737	Hala pepe	<i>Dracaena forbesii</i>	Endangered
Plant-Monocot	1141	Hala pepe	<i>Dracaena konaensis</i>	Endangered
Plant-Monocot	801	Hawaiian bluegrass	<i>Poa sandvicensis</i>	Endangered
Plant-Monocot	6632	Hillebrand's reedgrass	<i>Calamagrostis hillebrandii</i>	Endangered
Plant-Monocot	951	Hilo ischaemum	<i>Ischaemum byrone</i>	Endangered
Plant-Monocot	659	Kamanomano	<i>Cenchrus agrimonioides</i>	Endangered
Plant-Monocot	584	Lau 'ehu	<i>Panicum niihauense</i>	Endangered
Plant-Monocot	597	Lo'ulu	<i>Pritchardia aylmer-robinsonii</i>	Endangered
Plant-Monocot	10590	Lo'ulu	<i>Pritchardia bakeri</i>	Endangered
Plant-Monocot	1062	Lo'ulu	<i>Pritchardia kaalae</i>	Endangered
Plant-Monocot	3054	Lo'ulu	<i>Pritchardia lanigera</i>	Endangered
Plant-Monocot	1142	Lo'ulu	<i>Pritchardia maideniana</i>	Endangered
Plant-Monocot	808	Lo'ulu	<i>Pritchardia munroi</i>	Endangered
Plant-Monocot	1143	Lo'ulu	<i>Pritchardia napaliensis</i>	Endangered
Plant-Monocot	598	Lo'ulu	<i>Pritchardia remota</i>	Endangered
Plant-Monocot	1063	Lo'ulu	<i>Pritchardia schattaueri</i>	Endangered
Plant-Monocot	1144	Lo'ulu	<i>Pritchardia viscosa</i>	Endangered
Plant-Monocot	986	Mann's bluegrass	<i>Poa mannii</i>	Endangered
Plant-Monocot	7116	Maui reedgrass	<i>Calamagrostis expansa</i>	Endangered
Plant-Monocot	3671	No common name	<i>Agave eggersiana</i>	Endangered
Plant-Monocot	1085	No common name	<i>Aristida chaseae</i>	Endangered
Plant-Monocot	1160	No common name	<i>Cranichis ricartii</i>	Endangered
Plant-Monocot	1131	No common name	<i>Cyperus fauriei</i>	Endangered
Plant-Monocot	1407	No common name	<i>Cyperus neokunthianus</i>	Endangered
Plant-Monocot	1032	No common name	<i>Cyperus pennatifolius</i>	Endangered
Plant-Monocot	10720	No common name	<i>Dendrobium guamense</i>	Threatened
Plant-Monocot	6176	No common name	<i>Festuca hawaiiensis</i>	Endangered
Plant-Monocot	10235	No common name	<i>Festuca molokaiensis</i>	Endangered
Plant-Monocot	10724	No common name	<i>Nervilia jacksoniae</i>	Threatened
Plant-Monocot	983	No common name	<i>Platanthera holochila</i>	Endangered
Plant-Monocot	987	No common name	<i>Poa siphonoglossa</i>	Endangered
Plant-Monocot	10728	No common name	<i>Tuberolabium guamense</i>	Threatened
Plant-Monocot	1709	'Ohe	<i>Joinvillea ascendens</i>	Endangered
Plant-Monocot	6845	Pa'iniu	<i>Astelia waialealae</i>	Endangered

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Taxa Group	Entity ID	Common Name	Scientific Name	Species Status
Plant-Monocot	896	Palma de manaca	<i>Calyptrionoma rivalis</i>	Threatened
Plant-Monocot	883	Pelos del diablo	<i>Aristida portoricensis</i>	Endangered
Plant-Monocot	1108	Pu'uka'a	<i>Cyperus trachysanthos</i>	Endangered
Plant-Other	1201	Aleutian shield fern	<i>Polystichum aleuticum</i>	Endangered
Plant-Other	1196	Asplenium-leaved diellia	<i>Asplenium dielerectum</i>	Endangered
Plant-Other	1206	Elfin tree fern	<i>Cyathea dryopteroides</i>	Endangered
Plant-Other	10729	Fadang	<i>Cycas micronesica</i>	Threatened
Plant-Other	2782	Hohiu	<i>Dryopteris glabra</i> var. <i>pusilla</i>	Endangered
Plant-Other	1200	Ihi' ihi	<i>Marsilea villosa</i>	Endangered
Plant-Other	1311	Kupukupu makali'i	<i>Menisciopsis boydiae</i>	Endangered
Plant-Other	1197	No common name	<i>Asplenium</i> (=Diellia) <i>dielfalcatum</i> (=falcata)	Endangered
Plant-Other	10586	No common name	<i>Asplenium diellaciniatum</i>	Endangered
Plant-Other	7529	No common name	<i>Asplenium dielmannii</i>	Endangered
Plant-Other	1218	No common name	<i>Asplenium dielpallidum</i>	Endangered
Plant-Other	1194	No common name	<i>Asplenium peruvianum</i> var. <i>insulare</i>	Endangered
Plant-Other	1211	No common name	<i>Asplenium unisorum</i>	Endangered
Plant-Other	10587	No common name	<i>Deparia kaalaana</i>	Endangered
Plant-Other	1198	No common name	<i>Diplazium molokaiense</i>	Endangered
Plant-Other	9962	No common name	<i>Doryopteris angelica</i>	Endangered
Plant-Other	2268	No common name	<i>Doryopteris takeuchii</i>	Endangered
Plant-Other	1212	No common name	<i>Elaphoglossum serpens</i>	Endangered
Plant-Other	1840	No common name	<i>Microlepia strigosa</i> var. <i>mauiensis</i>	Endangered
Plant-Other	4680	No common name	<i>Phlegmariurus stemmermanniae</i>	Endangered
Plant-Other	1213	No common name	<i>Polystichum calderonense</i>	Endangered
Plant-Other	1202	No common name	<i>Pteris lidgatei</i>	Endangered
Plant-Other	1214	No common name	<i>Tectaria estremerana</i>	Endangered
Plant-Other	1215	No common name	<i>Thelypteris inabonensis</i>	Endangered
Plant-Other	1216	No common name	<i>Thelypteris verecunda</i>	Endangered
Plant-Other	1217	No common name	<i>Thelypteris yaucoensis</i>	Endangered
Plant-Other	10594	Olua	<i>Hypolepis hawaiiensis</i> var. <i>mauiensis</i>	Endangered
Plant-Other	1193	Palai la'au	<i>Adenophorus periens</i>	Endangered
Plant-Other	9963	Palapalai aumakua	<i>Dryopteris crinalis</i> var. <i>podosorus</i>	Endangered

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Taxa Group	Entity ID	Common Name	Scientific Name	Species Status
Plant-Other	1205	Pauoa	<i>Ctenitis squamigera</i>	Endangered
Plant-Other	1207	Wawae‘iole	<i>Phlegmariurus mannii</i>	Endangered
Plant-Other	1208	Wawae‘iole	<i>Phlegmariurus nutans</i>	Endangered
Reptiles	162	Culebra Island giant anole	<i>Anolis roosevelti</i>	Endangered
Reptiles	10485	Green sea turtle	<i>Chelonia mydas</i>	Threatened
Reptiles	11175	Green sea turtle	<i>Chelonia mydas</i>	Endangered
Reptiles	11176	Green sea turtle	<i>Chelonia mydas</i>	Endangered
Reptiles	11193	Green sea turtle	<i>Chelonia mydas</i>	Threatened
Reptiles	164	Mona boa	<i>Epicrates monensis monensis</i>	Threatened
Reptiles	165	Mona ground iguana	<i>Cyclura stejnegeri</i>	Threatened
Reptiles	156	Puerto Rican boa	<i>Chilabothrus inornatus</i>	Endangered
Reptiles	10732	Slevin’s skink	<i>Emoia slevini</i>	Endangered
Reptiles	163	St. Croix ground lizard	<i>Ameiva polops</i>	Endangered
Reptiles	174	Virgin Islands tree boa	<i>Chilabothrus granti</i>	Endangered
Snails	1862	Fragile tree snail	<i>Samoana fragilis</i>	Endangered
Snails	7907	Guam tree snail	<i>Partula radiolata</i>	Endangered
Snails	2364	Humped tree snail	<i>Partula gibba</i>	Endangered
Snails	1989	Lanai tree snail	<i>Partulina semicarinata</i>	Endangered
Snails	3385	Lanai tree snail	<i>Partulina variabilis</i>	Endangered
Snails	7731	Langford’s tree snail	<i>Partula langfordi</i>	Endangered
Snails	418	Newcomb’s snail	<i>Erinna newcombi</i>	Threatened
Snails	3876	Newcomb's tree snail	<i>Newcombia cumingi</i>	Endangered
Snails	397	Oahu tree snails	<i>Achatinella</i> spp.	Endangered
Snails	7918	Snail [no common name]	<i>Eua zebrina</i>	Endangered
Snails	3224	Snail [no common name]	<i>Ostodes strigatus</i>	Endangered

Table 3. Designated and proposed critical habitats with “no effect” determinations.

Taxa	Entity ID	Common Name	Scientific Name	Critical Habitat Status
Amphibians	193	Golden coqui	<i>Eleutherodactylus jasperi</i>	Final
Amphibians	196	Guajón	<i>Eleutherodactylus cooki</i>	Final
Amphibians	9378	Llanero coqui	<i>Eleutherodactylus juanariveroi</i>	Final
Arachnids	473	Government Canyon Bat Cave meshweaver	<i>Cicurina vespera</i>	Final
Arachnids	470	Government Canyon Bat Cave spider	<i>Tayshaneta microps</i>	Final
Arachnids	463	Kauai cave wolf or pe'e pe'e maka 'ole spider	<i>Adelocosa anops</i>	Final
Birds	6522	Akekee	<i>Loxops caeruleirostris</i>	Final
Birds	4136	Akikiki	<i>Oreomystis bairdi</i>	Final
Birds	74	'Akohekohe (crested honeycreeper)	<i>Palmeria dolei</i>	Final
Birds	4237	Elfin-woods warbler	<i>Setophaga angelae</i>	Final
Birds	119	Guam kingfisher	<i>Todiramphus cinnamominus</i>	Final
Birds	10073	'I'iwi	<i>Drepanis coccinea</i>	Proposed
Birds	118	Mariana (=aga) crow	<i>Corvus kubaryi</i>	Final
Birds	81	Maui parrotbill (Kiwikiu)	<i>Pseudonestor xanthophrys</i>	Final
Birds	150	Oahu elepaio	<i>Chasiempis ibidis</i>	Final
Birds	79	Palila (honeycreeper)	<i>Loxioides bailleui</i>	Final
Birds	1241	Rota bridled white-eye	<i>Zosterops rotensis</i>	Final
Birds	146	Spectacled eider	<i>Somateria fischeri</i>	Final
Birds	147	Steller's eider	<i>Polysticta stelleri</i>	Final
Birds	117	Yellow-shouldered blackbird	<i>Agelaius xanthomus</i>	Final
Crustaceans	485	Kauai cave amphipod	<i>Spelaeorchestia koloana</i>	Final
Insects	446	Blackburn's sphinx moth	<i>Manduca blackburni</i>	Final
Insects	1361	Blackline Hawaiian damselfly	<i>Megalagrion nigrohamatum nigrolineatum</i>	Final
Insects	4326	Crimson Hawaiian damselfly	<i>Megalagrion leptodemas</i>	Final
Insects	1248	Hawaiian picture-wing fly	<i>Drosophila aglaia</i>	Final
Insects	1259	Hawaiian picture-wing fly	<i>Drosophila differens</i>	Final
Insects	4000	Hawaiian picture-wing fly	<i>Drosophila digresa</i>	Final

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Taxa	Entity ID	Common Name	Scientific Name	Critical Habitat Status
Insects	1257	Hawaiian picture-wing fly	<i>Drosophila hemipeza</i>	Final
Insects	1249	Hawaiian picture-wing fly	<i>Drosophila heteroneura</i>	Final
Insects	1250	Hawaiian picture-wing fly	<i>Drosophila montgomeryi</i>	Final
Insects	1251	Hawaiian picture-wing fly	<i>Drosophila mulli</i>	Final
Insects	1252	Hawaiian picture-wing fly	<i>Drosophila musaphilia</i>	Final
Insects	1253	Hawaiian picture-wing fly	<i>Drosophila neoclavisetae</i>	Final
Insects	1254	Hawaiian picture-wing fly	<i>Drosophila obatai</i>	Final
Insects	1258	Hawaiian picture-wing fly	<i>Drosophila ochrobasis</i>	Final
Insects	7261	Hawaiian picture-wing fly	<i>Drosophila sharpi</i>	Final
Insects	1255	Hawaiian picture-wing fly	<i>Drosophila substenoptera</i>	Final
Insects	1256	Hawaiian picture-wing fly	<i>Drosophila tarphytrichia</i>	Final
Insects	6231	Oceanic Hawaiian damselfly	<i>Megalagrion oceanicum</i>	Final
Insects	10007	Puerto Rican harlequin butterfly	<i>Atlantea tulita</i>	Final
Mammals	8962	Mariana fruit bat (=Mariana flying fox)	<i>Pteropus mariannus mariannus</i>	Final
Mammals	5232	Northern sea otter	<i>Enhydra lutris kenyoni</i>	Final
Mammals	8861	Polar bear	<i>Ursus maritimus</i>	Final
Plant-Dicot	736	(=Native yellow hibiscus) Ma'o hau hele	<i>Hibiscus brackenridgei</i>	Final
Plant-Dicot	1159	A'e	<i>Zanthoxylum dipetalum</i> var. <i>tomentosum</i>	Final
Plant-Dicot	869	A'e	<i>Zanthoxylum hawaiiense</i>	Final
Plant-Dicot	7979	A'e	<i>Zanthoxylum oahuense</i>	Final
Plant-Dicot	635	'Ahinahina	<i>Argyroxiphium sandwicense</i> ssp. <i>macrocephalum</i>	Final
Plant-Dicot	833	'Aiakeakua, popolo	<i>Solanum sandwicense</i>	Final
Plant-Dicot	780	'Aiea	<i>Nothocestrum breviflorum</i>	Final
Plant-Dicot	781	'Aiea	<i>Nothocestrum peltatum</i>	Final
Plant-Dicot	664	Akoko	<i>Euphorbia halemanui</i>	Final
Plant-Dicot	662	'Akoko	<i>Euphorbia celastroides</i> var. <i>kaenana</i>	Final
Plant-Dicot	1223	'Akoko	<i>Euphorbia deppeana</i>	Final
Plant-Dicot	1502	'Akoko	<i>Euphorbia eleanoriae</i>	Final
Plant-Dicot	549	'Akoko	<i>Euphorbia haeleeleana</i>	Final

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Taxa	Entity ID	Common Name	Scientific Name	Critical Habitat Status
Plant-Dicot	1179	‘Akoko	<i>Euphorbia herbstii</i>	Final
Plant-Dicot	1094	‘Akoko	<i>Euphorbia kuwaleana</i>	Final
Plant-Dicot	3871	‘Akoko	<i>Euphorbia remyi</i> var. <i>kauaiensis</i>	Final
Plant-Dicot	1607	‘Akoko	<i>Euphorbia remyi</i> var. <i>remyi</i>	Final
Plant-Dicot	1180	‘Akoko	<i>Euphorbia rockii</i>	Final
Plant-Dicot	665	‘Akoko	<i>Euphorbia skottsbergii</i> var. <i>skottsbergii</i>	Final
Plant-Dicot	7280	‘Aku	<i>Cyanea tritomantha</i>	Final
Plant-Dicot	916	‘Aku’aku	<i>Cyanea platyphylla</i>	Final
Plant-Dicot	2683	‘Ala ‘ala wai nui	<i>Peperomia subpetiolata</i>	Final
Plant-Dicot	1132	Alani	<i>Melicope adscendens</i>	Final
Plant-Dicot	765	Alani	<i>Melicope balloui</i>	Final
Plant-Dicot	3472	Alani	<i>Melicope christophersenii</i>	Final
Plant-Dicot	1609	Alani	<i>Melicope degeneri</i>	Final
Plant-Dicot	766	Alani	<i>Melicope haupeensis</i>	Final
Plant-Dicot	4377	Alani	<i>Melicope hiiakae</i>	Final
Plant-Dicot	767	Alani	<i>Melicope knudsenii</i>	Final
Plant-Dicot	768	Alani	<i>Melicope lydgatei</i>	Final
Plant-Dicot	3728	Alani	<i>Melicope makahae</i>	Final
Plant-Dicot	769	Alani	<i>Melicope mucronulata</i>	Final
Plant-Dicot	770	Alani	<i>Melicope munroi</i>	Final
Plant-Dicot	771	Alani	<i>Melicope ovalis</i>	Final
Plant-Dicot	772	Alani	<i>Melicope pallida</i>	Final
Plant-Dicot	8357	Alani	<i>Melicope paniculata</i>	Final
Plant-Dicot	3753	Alani	<i>Melicope puberula</i>	Final
Plant-Dicot	774	Alani	<i>Melicope reflexa</i>	Final
Plant-Dicot	575	Alani	<i>Melicope saint-johnii</i>	Final
Plant-Dicot	775	Alani	<i>Melicope zahlbruckneri</i>	Final
Plant-Dicot	567	‘Anaunau	<i>Lepidium arbuscula</i>	Final
Plant-Dicot	1151	‘Anunu	<i>Sicyos albus</i>	Final
Plant-Dicot	952	Aupaka	<i>Isodendrion hosakae</i>	Final
Plant-Dicot	563	Aupaka	<i>Isodendrion laurifolium</i>	Final
Plant-Dicot	564	Aupaka	<i>Isodendrion longifolium</i>	Final
Plant-Dicot	654	‘Awikiwiki	<i>Canavalia molokaiensis</i>	Final
Plant-Dicot	2118	‘Awikiwiki	<i>Canavalia napaliensis</i>	Final
Plant-Dicot	7805	‘Awikiwiki	<i>Canavalia pubescens</i>	Final

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Taxa	Entity ID	Common Name	Scientific Name	Critical Habitat Status
Plant-Dicot	724	Awiiwi	<i>Kadua cookiana</i>	Final
Plant-Dicot	1093	Awiiwi	<i>Schenkia sebaeoides</i>	Final
Plant-Dicot	737	Clay's hibiscus	<i>Hibiscus clayi</i>	Final
Plant-Dicot	745	Cooke's koki'o	<i>Kokia cookei</i>	Final
Plant-Dicot	868	Dwarf iliau	<i>Wilkesia hobdyi</i>	Final
Plant-Dicot	1175	Haha	<i>Cyanea acuminata</i>	Final
Plant-Dicot	1099	Haha	<i>Cyanea asarifolia</i>	Final
Plant-Dicot	7892	Haha	<i>Cyanea asplenifolia</i>	Final
Plant-Dicot	3540	Haha	<i>Cyanea calycina</i>	Final
Plant-Dicot	1185	Haha	<i>Cyanea copelandii</i> ssp. <i>haleakalaensis</i>	Final
Plant-Dicot	1224	Haha	<i>Cyanea crispa</i>	Final
Plant-Dicot	9951	Haha	<i>Cyanea dolichopoda</i>	Final
Plant-Dicot	1101	Haha	<i>Cyanea dunbariae</i>	Final
Plant-Dicot	10222	Haha	<i>Cyanea duvalliorum</i>	Final
Plant-Dicot	1278	Haha	<i>Cyanea eleeleensis</i>	Final
Plant-Dicot	1051	Haha	<i>Cyanea gibsonii</i>	Final
Plant-Dicot	1102	Haha	<i>Cyanea glabra</i>	Final
Plant-Dicot	684	Haha	<i>Cyanea grimesiana</i> ssp. <i>grimesiana</i>	Final
Plant-Dicot	1049	Haha	<i>Cyanea grimesiana</i> ssp. <i>obatae</i>	Final
Plant-Dicot	1050	Haha	<i>Cyanea hamatiflora</i> ssp. <i>carlsonii</i>	Final
Plant-Dicot	1186	Haha	<i>Cyanea hamatiflora</i> ssp. <i>hamatiflora</i>	Final
Plant-Dicot	535	Haha	<i>Cyanea humboldtiana</i>	Final
Plant-Dicot	9952	Haha	<i>Cyanea kolekoleensis</i>	Final
Plant-Dicot	1181	Haha	<i>Cyanea koolauensis</i>	Final
Plant-Dicot	4961	Haha	<i>Cyanea kuhihewa</i>	Final
Plant-Dicot	1968	Haha	<i>Cyanea kunthiana</i>	Final
Plant-Dicot	6019	Haha	<i>Cyanea lanceolata</i>	Final
Plant-Dicot	1051	Haha	<i>Cyanea lobata</i>	Final
Plant-Dicot	1182	Haha	<i>Cyanea longiflora</i>	Final
Plant-Dicot	10224	Haha	<i>Cyanea magnicalyx</i>	Final
Plant-Dicot	1103	Haha	<i>Cyanea mannii</i>	Final
Plant-Dicot	10225	Haha	<i>Cyanea maritae</i>	Final
Plant-Dicot	6969	Haha	<i>Cyanea marksii</i>	Final
Plant-Dicot	10226	Haha	<i>Cyanea mauiensis</i>	Final

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Taxa	Entity ID	Common Name	Scientific Name	Critical Habitat Status
Plant-Dicot	685	Haha	<i>Cyanea mceldowneyi</i>	Final
Plant-Dicot	10227	Haha	<i>Cyanea munroi</i>	Final
Plant-Dicot	2860	Haha	<i>Cyanea obtusa</i>	Final
Plant-Dicot	915	Haha	<i>Cyanea pinnatifida</i>	Final
Plant-Dicot	1104	Haha	<i>Cyanea procera</i>	Final
Plant-Dicot	6303	Haha	<i>Cyanea profuga</i>	Final
Plant-Dicot	1636	Haha	<i>Cyanea purpurellifolia</i>	Final
Plant-Dicot	1105	Haha	<i>Cyanea recta</i>	Final
Plant-Dicot	1176	Haha	<i>Cyanea remyi</i>	Final
Plant-Dicot	537	Haha	<i>Cyanea rivularis</i>	Final
Plant-Dicot	686	Haha	<i>Cyanea shipmanii</i>	Final
Plant-Dicot	687	Haha	<i>Cyanea st.-johnii</i>	Final
Plant-Dicot	917	Haha	<i>Cyanea stictophylla</i>	Final
Plant-Dicot	688	Haha	<i>Cyanea superba</i>	Final
Plant-Dicot	1106	Haha	<i>Cyanea truncata</i>	Final
Plant-Dicot	1107	Haha	<i>Cyanea undulata</i>	Final
Plant-Dicot	10223	Haha nui	<i>Cyanea horrida</i>	Final
Plant-Dicot	10228	Haiwale	<i>Cyrtandra ferripilosa</i>	Final
Plant-Dicot	8347	Haiwale	<i>Cyrtandra gracilis</i>	Final
Plant-Dicot	10480	Haiwale	<i>Cyrtandra nanawaleensis</i>	Final
Plant-Dicot	9953	Haiwale	<i>Cyrtandra paliku</i>	Final
Plant-Dicot	10481	Haiwale	<i>Cyrtandra wagneri</i>	Final
Plant-Dicot	5991	Haiwale	<i>Cyrtandra waiolani</i>	Final
Plant-Dicot	536	Ha'iwale	<i>Cyrtandra dentata</i>	Final
Plant-Dicot	2085	Ha'iwale	<i>Cyrtandra filipes</i>	Final
Plant-Dicot	919	Ha'iwale	<i>Cyrtandra giffardii</i>	Final
Plant-Dicot	4201	Ha'iwale	<i>Cyrtandra kaulantha</i>	Final
Plant-Dicot	1110	Ha'iwale	<i>Cyrtandra limahuliensis</i>	Final
Plant-Dicot	1230	Ha'iwale	<i>Cyrtandra munroi</i>	Final
Plant-Dicot	6679	Ha'iwale	<i>Cyrtandra oenobarba</i>	Final
Plant-Dicot	1349	Ha'iwale	<i>Cyrtandra oxybapha</i>	Final
Plant-Dicot	690	Ha'iwale	<i>Cyrtandra polyantha</i>	Final
Plant-Dicot	2273	Ha'iwale	<i>Cyrtandra sessilis</i>	Final
Plant-Dicot	691	Ha'iwale	<i>Cyrtandra subumbellata</i>	Final
Plant-Dicot	1111	Ha'iwale	<i>Cyrtandra tintinnabula</i>	Final
Plant-Dicot	1112	Ha'iwale	<i>Cyrtandra viridiflora</i>	Final
Plant-Dicot	560	Hau kuahiwi	<i>Hibiscadelphus giffardianus</i>	Final

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Taxa	Entity ID	Common Name	Scientific Name	Critical Habitat Status
Plant-Dicot	561	Hau kuahiwi	<i>Hibiscadelphus hualalaiensis</i>	Final
Plant-Dicot	1177	Hau kuahiwi	<i>Hibiscadelphus woodii</i>	Final
Plant-Dicot	938	Heau	<i>Exocarpos luteolus</i>	Final
Plant-Dicot	888	Heliotrope milk-vetch	<i>Astragalus montii</i>	Final
Plant-Dicot	4740	Hoawa	<i>Pittosporum halophilum</i>	Final
Plant-Dicot	4007	Hoawa	<i>Pittosporum hawaiiense</i>	Final
Plant-Dicot	3154	Ho'awa	<i>Pittosporum napaliense</i>	Final
Plant-Dicot	1693	Hulumoa	<i>Korthalsella degeneri</i>	Final
Plant-Dicot	954	Kamakahala	<i>Labordia cyrtandrae</i>	Final
Plant-Dicot	2778	Kamakahala	<i>Labordia helleri</i>	Final
Plant-Dicot	955	Kamakahala	<i>Labordia lydgatei</i>	Final
Plant-Dicot	3832	Kamakahala	<i>Labordia pumila</i>	Final
Plant-Dicot	1232	Kamakahala	<i>Labordia tinifolia</i> var. <i>lanaiensis</i>	Final
Plant-Dicot	1178	Kamakahala	<i>Labordia tinifolia</i> var. <i>wahiawaensis</i>	Final
Plant-Dicot	565	Kamakahala	<i>Labordia triflora</i>	Final
Plant-Dicot	674	Kauila	<i>Colubrina oppositifolia</i>	Final
Plant-Dicot	810	Kaulu	<i>Pteralyxia kauaiensis</i>	Final
Plant-Dicot	2265	Kaulu	<i>Pteralyxia macrocarpa</i>	Final
Plant-Dicot	725	Kio'ele	<i>Kadua coriacea</i>	Final
Plant-Dicot	1136	Kiponapona	<i>Phyllostegia racemosa</i>	Final
Plant-Dicot	1187	Kohe malama malama o Kanaloa	<i>Kanaloa kahoolawensis</i>	Final
Plant-Dicot	697	Koholapehu	<i>Dubautia latifolia</i>	Final
Plant-Dicot	746	Koki'o	<i>Kokia drynarioides</i>	Final
Plant-Dicot	747	Koki'o	<i>Kokia kauaiensis</i>	Final
Plant-Dicot	947	Koki'o ke'oke'o	<i>Hibiscus arnottianus</i> ssp. <i>immaculatus</i>	Final
Plant-Dicot	738	Koki'o ke'oke'o	<i>Hibiscus waimeae</i> ssp. <i>hanneræ</i>	Final
Plant-Dicot	1133	Kolea	<i>Myrsine juddii</i>	Final
Plant-Dicot	9959	Kolea	<i>Myrsine knudsenii</i>	Final
Plant-Dicot	577	Kolea	<i>Myrsine linearifolia</i>	Final
Plant-Dicot	1521	Kolea	<i>Myrsine mezii</i>	Final
Plant-Dicot	2970	Kolea	<i>Myrsine vaccinioides</i>	Final
Plant-Dicot	10479	Kookoolau	<i>Bidens hillebrandiana</i> ssp. <i>hillebrandiana</i>	Final
Plant-Dicot	2278	Ko'oko'olau	<i>Bidens amplexans</i>	Final

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Taxa	Entity ID	Common Name	Scientific Name	Critical Habitat Status
Plant-Dicot	7617	Ko'oko'olau	<i>Bidens campylotheca</i> ssp. <i>pentamera</i>	Final
Plant-Dicot	8277	Ko'oko'olau	<i>Bidens campylotheca</i> ssp. <i>waihoiensis</i>	Final
Plant-Dicot	8338	Ko'oko'olau	<i>Bidens conjuncta</i>	Final
Plant-Dicot	4589	Ko'oko'olau	<i>Bidens micrantha</i> ssp. <i>ctenophylla</i>	Final
Plant-Dicot	645	Ko'oko'olau	<i>Bidens micrantha</i> ssp. <i>kalealaha</i>	Final
Plant-Dicot	646	Ko'oko'olau	<i>Bidens wiebkei</i>	Final
Plant-Dicot	1118	Kopa	<i>Kadua cordata</i> <i>remyi</i>	Final
Plant-Dicot	2619	Kopiko	<i>Psychotria grandiflora</i>	Final
Plant-Dicot	3084	Kopiko	<i>Psychotria hexandra</i> var. <i>oahuensis</i>	Final
Plant-Dicot	6536	Kopiko	<i>Psychotria hobdyi</i>	Final
Plant-Dicot	1140	Kuahiwi laukahi	<i>Plantago hawaiiensis</i>	Final
Plant-Dicot	800	Kuahiwi laukahi	<i>Plantago princeps</i>	Final
Plant-Dicot	1084	Kuawawaenohu	<i>Schiedea lychnoides</i>	Final
Plant-Dicot	741	Kula wahine noho	<i>Isodendron pyrifolium</i>	Final
Plant-Dicot	782	Kulu'i	<i>Nototrichium humile</i>	Final
Plant-Dicot	993	Lanai sandalwood (=‘iliahi)	<i>Santalum haleakalae</i> var. <i>lanaiense</i>	Final
Plant-Dicot	1071	Laulihilihi	<i>Schiedea stellarioides</i>	Final
Plant-Dicot	7170	Lehua makanoe	<i>Lysimachia daphnoides</i>	Final
Plant-Dicot	619	Liliwai	<i>Acaena exigua</i>	Final
Plant-Dicot	621	Mahoe	<i>Alectryon macrococcus</i>	Final
Plant-Dicot	795	Makou	<i>Peucedanum sandwicense</i>	Final
Plant-Dicot	1065	Ma'oli'oli	<i>Schiedea apokremnos</i>	Final
Plant-Dicot	3175	Ma'oli'oli	<i>Schiedea hawaiiensis</i>	Final
Plant-Dicot	603	Ma'oli'oli	<i>Schiedea kealiae</i>	Final
Plant-Dicot	1109	Mapele	<i>Cyrtandra cyaneoides</i>	Final
Plant-Dicot	4551	Marron bacora	<i>Solanum conocarpum</i>	Final
Plant-Dicot	815	Maui remya	<i>Remya mauiensis</i>	Final
Plant-Dicot	634	Mauna Loa (=Ka'u) silversword	<i>Argyroxiphium kauense</i>	Final
Plant-Dicot	1117	Mehamehame	<i>Flueggea neowawraea</i>	Final
Plant-Dicot	1027	Mexican flannelbush	<i>Fremontodendron mexicanum</i>	Final
Plant-Dicot	9954	Naenae	<i>Dubautia kalalauensis</i>	Final

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Taxa	Entity ID	Common Name	Scientific Name	Critical Habitat Status
Plant-Dicot	9955	Naenae	<i>Dubautia kenwoodii</i>	Final
Plant-Dicot	1054	Na'ena'e	<i>Dubautia herbstobatae</i>	Final
Plant-Dicot	4858	Na'ena'e	<i>Dubautia imbricata</i> ssp. <i>imbricata</i>	Final
Plant-Dicot	1113	Na'ena'e	<i>Dubautia pauciflorula</i>	Final
Plant-Dicot	1114	Na'ena'e	<i>Dubautia plantaginea</i> ssp. <i>humilis</i>	Final
Plant-Dicot	3049	Na'ena'e	<i>Dubautia plantaginea</i> ssp. <i>magnifolia</i>	Final
Plant-Dicot	2154	Na'ena'e	<i>Dubautia waialealae</i>	Final
Plant-Dicot	865	Nani wai'ale'ale	<i>Viola kauaiensis</i> var. <i>wahiawaensis</i>	Final
Plant-Dicot	1183	Nanu	<i>Gardenia mannii</i>	Final
Plant-Dicot	755	Nehe	<i>Lipochaeta fauriei</i>	Final
Plant-Dicot	756	Nehe	<i>Lipochaeta lobata</i> var. <i>leptophylla</i>	Final
Plant-Dicot	962	Nehe	<i>Lipochaeta micrantha</i>	Final
Plant-Dicot	964	Nehe	<i>Lipochaeta waimeaensis</i>	Final
Plant-Dicot	961	Nehe	<i>Melanthera kamolensis</i>	Final
Plant-Dicot	963	Nehe	<i>Melanthera tenuifolia</i>	Final
Plant-Dicot	514	Nevin's barberry	<i>Berberis nevinii</i>	Final
Plant-Dicot	1116	Nioi	<i>Eugenia koolauensis</i>	Final
Plant-Dicot	616	No common name	<i>Abutilon eremitopetalum</i>	Final
Plant-Dicot	618	No common name	<i>Abutilon sandwicense</i>	Final
Plant-Dicot	497	No common name	<i>Achyranthes mutica</i>	Final
Plant-Dicot	499	No common name	<i>Amaranthus brownii</i>	Final
Plant-Dicot	648	No common name	<i>Bonamia menziesii</i>	Final
Plant-Dicot	1092	No common name	<i>Catesbaea melanocarpa</i>	Final
Plant-Dicot	692	No common name	<i>Delissea rhytidosperra</i>	Final
Plant-Dicot	538	No common name	<i>Delissea undulata</i>	Final
Plant-Dicot	3990	No common name	<i>Gonocalyx concolor</i>	Final
Plant-Dicot	719	No common name	<i>Gouania hillebrandii</i>	Final
Plant-Dicot	720	No common name	<i>Gouania meyenii</i>	Final
Plant-Dicot	721	No common name	<i>Gouania vitifolia</i>	Final
Plant-Dicot	731	No common name	<i>Hesperomannia arborescens</i>	Final
Plant-Dicot	732	No common name	<i>Hesperomannia arbuscula</i>	Final
Plant-Dicot	733	No common name	<i>Hesperomannia lydgatei</i>	Final
Plant-Dicot	726	No common name	<i>Kadua degeneri</i>	Final

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Taxa	Entity ID	Common Name	Scientific Name	Critical Habitat Status
Plant-Dicot	728	No common name	<i>Kadua parvula</i>	Final
Plant-Dicot	729	No common name	<i>Kadua st.-johnii</i>	Final
Plant-Dicot	4487	No common name	<i>Keysseria (=Lagenifera) erici</i>	Final
Plant-Dicot	8254	No common name	<i>Keysseria (=Lagenifera) helenae</i>	Final
Plant-Dicot	572	No common name	<i>Lobelia koolauensis</i>	Final
Plant-Dicot	965	No common name	<i>Lobelia monostachya</i>	Final
Plant-Dicot	758	No common name	<i>Lobelia niihauensis</i>	Final
Plant-Dicot	759	No common name	<i>Lobelia oahuensis</i>	Final
Plant-Dicot	968	No common name	<i>Lysimachia filifolia</i>	Final
Plant-Dicot	9956	No common name	<i>Lysimachia iniki</i>	Final
Plant-Dicot	1128	No common name	<i>Lysimachia lydgatei</i>	Final
Plant-Dicot	1129	No common name	<i>Lysimachia maxima</i>	Final
Plant-Dicot	9957	No common name	<i>Lysimachia pendens</i>	Final
Plant-Dicot	9958	No common name	<i>Lysimachia scopulensis</i>	Final
Plant-Dicot	5104	No common name	<i>Lysimachia venosa</i>	Final
Plant-Dicot	8303	No common name	<i>Melicope cornuta</i> var. <i>cornuta</i>	Final
Plant-Dicot	7046	No common name	<i>Melicope cornuta</i> var. <i>decurrens</i>	Final
Plant-Dicot	5709	No common name	<i>Melicope remyi</i>	Final
Plant-Dicot	1226	No common name	<i>Neraudia angulata</i>	Final
Plant-Dicot	581	No common name	<i>Neraudia ovata</i>	Final
Plant-Dicot	779	No common name	<i>Neraudia sericea</i>	Final
Plant-Dicot	2934	No common name	<i>Phyllostegia bracteata</i>	Final
Plant-Dicot	4533	No common name	<i>Phyllostegia floribunda</i>	Final
Plant-Dicot	10230	No common name	<i>Phyllostegia haliakalae</i>	Final
Plant-Dicot	589	No common name	<i>Phyllostegia hirsuta</i>	Final
Plant-Dicot	7229	No common name	<i>Phyllostegia hispida</i>	Final
Plant-Dicot	1184	No common name	<i>Phyllostegia kaalaensis</i>	Final
Plant-Dicot	590	No common name	<i>Phyllostegia knudsenii</i>	Final
Plant-Dicot	1163	No common name	<i>Phyllostegia mannii</i>	Final
Plant-Dicot	981	No common name	<i>Phyllostegia mollis</i>	Final
Plant-Dicot	591	No common name	<i>Phyllostegia parviflora</i>	Final
Plant-Dicot	10231	No common name	<i>Phyllostegia pilosa</i>	Final
Plant-Dicot	9960	No common name	<i>Phyllostegia renovans</i>	Final
Plant-Dicot	1137	No common name	<i>Phyllostegia velutina</i>	Final
Plant-Dicot	1135	No common name	<i>Phyllostegia waimeae</i>	Final

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Taxa	Entity ID	Common Name	Scientific Name	Critical Habitat Status
Plant-Dicot	1138	No common name	<i>Phyllostegia warshaueri</i>	Final
Plant-Dicot	1139	No common name	<i>Phyllostegia wawrana</i>	Final
Plant-Dicot	7886	No common name	<i>Polyscias bisattenuata</i>	Final
Plant-Dicot	9961	No common name	<i>Polyscias flynnii</i>	Final
Plant-Dicot	7367	No common name	<i>Polyscias lydgatei</i>	Final
Plant-Dicot	778	No common name	<i>Polyscias racemosa</i>	Final
Plant-Dicot	814	No common name	<i>Remya kauaiensis</i>	Final
Plant-Dicot	1083	No common name	<i>Remya montgomeryi</i>	Final
Plant-Dicot	1146	No common name	<i>Sanicula mariversa</i>	Final
Plant-Dicot	601	No common name	<i>Sanicula purpurea</i>	Final
Plant-Dicot	2404	No common name	<i>Schiedea attenuata</i>	Final
Plant-Dicot	10483	No common name	<i>Schiedea diffusa</i> ssp. <i>macraei</i>	Final
Plant-Dicot	1066	No common name	<i>Schiedea haleakalensis</i>	Final
Plant-Dicot	1067	No common name	<i>Schiedea helleri</i>	Final
Plant-Dicot	602	No common name	<i>Schiedea hookeri</i>	Final
Plant-Dicot	10232	No common name	<i>Schiedea jacobii</i>	Final
Plant-Dicot	822	No common name	<i>Schiedea kaalae</i>	Final
Plant-Dicot	1147	No common name	<i>Schiedea kauaiensis</i>	Final
Plant-Dicot	10233	No common name	<i>Schiedea laui</i>	Final
Plant-Dicot	1068	No common name	<i>Schiedea lydgatei</i>	Final
Plant-Dicot	604	No common name	<i>Schiedea membranacea</i>	Final
Plant-Dicot	1148	No common name	<i>Schiedea nuttallii</i>	Final
Plant-Dicot	622	No common name	<i>Schiedea obovata</i>	Final
Plant-Dicot	4030	No common name	<i>Schiedea salicaria</i>	Final
Plant-Dicot	605	No common name	<i>Schiedea sarmentosa</i>	Final
Plant-Dicot	1069	No common name	<i>Schiedea spergulina</i> var. <i>leiopoda</i>	Final
Plant-Dicot	1070	No common name	<i>Schiedea spergulina</i> var. <i>spergulina</i>	Final
Plant-Dicot	623	No common name	<i>Schiedea trinervis</i>	Final
Plant-Dicot	606	No common name	<i>Schiedea verticillata</i>	Final
Plant-Dicot	1075	No common name	<i>Schiedea viscosa</i>	Final
Plant-Dicot	829	No common name	<i>Silene alexandri</i>	Final
Plant-Dicot	1001	No common name	<i>Silene hawaiiensis</i>	Final
Plant-Dicot	830	No common name	<i>Silene lanceolata</i>	Final
Plant-Dicot	1152	No common name	<i>Silene perlmanii</i>	Final
Plant-Dicot	1154	No common name	<i>Spermolepis hawaiiensis</i>	Final
Plant-Dicot	1155	No common name	<i>Stenogyne bifida</i>	Final

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Taxa	Entity ID	Common Name	Scientific Name	Critical Habitat Status
Plant-Dicot	1156	No common name	<i>Stenogyne campanulata</i>	Final
Plant-Dicot	6257	No common name	<i>Stenogyne cranwelliae</i>	Final
Plant-Dicot	839	No common name	<i>Stenogyne kanehoana</i>	Final
Plant-Dicot	10234	No common name	<i>Stenogyne kauaulaensis</i>	Final
Plant-Dicot	2517	No common name	<i>Stenogyne kealiae</i>	Final
Plant-Dicot	845	No common name	<i>Tetramolopium arenarium</i>	Proposed
Plant-Dicot	847	No common name	<i>Tetramolopium filiforme</i>	Final
Plant-Dicot	848	No common name	<i>Tetramolopium lepidotum</i> ssp. <i>lepidotum</i>	Final
Plant-Dicot	849	No common name	<i>Tetramolopium remyi</i>	Final
Plant-Dicot	850	No common name	<i>Tetramolopium rockii</i>	Final
Plant-Dicot	1157	No common name	<i>Trematolobelia singularis</i>	Final
Plant-Dicot	3267	No common name	<i>Varronia rupicola</i>	Final
Plant-Dicot	862	No common name	<i>Vigna o-wahuensis</i>	Final
Plant-Dicot	864	No common name	<i>Viola helenae</i>	Final
Plant-Dicot	866	No common name	<i>Viola lanaiensis</i>	Final
Plant-Dicot	867	No common name	<i>Viola oahuensis</i>	Final
Plant-Dicot	4238	No common name	<i>Wikstroemia villosa</i>	Final
Plant-Dicot	1016	No common name	<i>Xylosma crenatum</i>	Final
Plant-Dicot	717	Nohoanu	<i>Geranium arboreum</i>	Final
Plant-Dicot	2758	Nohoanu	<i>Geranium hanaense</i>	Final
Plant-Dicot	3653	Nohoanu	<i>Geranium hillebrandii</i>	Final
Plant-Dicot	4630	Nohoanu	<i>Geranium kauaiense</i>	Final
Plant-Dicot	939	Nohoanu	<i>Geranium multiflorum</i>	Final
Plant-Dicot	693	Oha	<i>Delissea subcordata</i>	Final
Plant-Dicot	533	‘Oha wai	<i>Clermontia drepanomorpha</i>	Final
Plant-Dicot	671	‘Oha wai	<i>Clermontia lindseyana</i>	Final
Plant-Dicot	1097	‘Oha wai	<i>Clermontia oblongifolia</i> ssp. <i>brevipes</i>	Final
Plant-Dicot	1098	‘Oha wai	<i>Clermontia oblongifolia</i> ssp. <i>mauiensis</i>	Final
Plant-Dicot	672	‘Oha wai	<i>Clermontia peleana</i>	Final
Plant-Dicot	673	‘Oha wai	<i>Clermontia pyrularia</i>	Final
Plant-Dicot	1188	‘Oha wai	<i>Clermontia samuelii</i>	Final
Plant-Dicot	999	Ohai	<i>Sesbania tomentosa</i>	Final
Plant-Dicot	851	‘Ohe‘ohe	<i>Polyscias gymnocarpa</i>	Final
Plant-Dicot	649	Olulu	<i>Brighamia insignis</i>	Final

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Taxa	Entity ID	Common Name	Scientific Name	Critical Habitat Status
Plant-Dicot	860	Opuhe	<i>Urera kaalae</i>	Final
Plant-Dicot	846	Pamakani	<i>Tetramolopium capillare</i>	Final
Plant-Dicot	863	Pamakani	<i>Viola chamissoniana</i> ssp. <i>chamissoniana</i>	Final
Plant-Dicot	3388	Papala	<i>Charpentiera densiflora</i>	Final
Plant-Dicot	1021	Peirson's milk-vetch	<i>Astragalus magdalenae</i> var. <i>peirsonii</i>	Final
Plant-Dicot	727	Pilo	<i>Kadua laxiflora</i>	Final
Plant-Dicot	3387	Pilo kea lau li'i	<i>Melicope rostrata</i>	Final
Plant-Dicot	806	Po'e	<i>Portulaca sclerocarpa</i>	Final
Plant-Dicot	5956	Popolo	<i>Cyanea solanacea</i>	Final
Plant-Dicot	832	Popolo ku mai	<i>Solanum incompletum</i>	Final
Plant-Dicot	650	Pua 'ala	<i>Brighamia rockii</i>	Final
Plant-Dicot	874	Round-leaved chaff-flower	<i>Achyranthes splendens</i> var. <i>rotundata</i>	Final
Plant-Dicot	10229	Sea bean	<i>Mucuna persericea</i>	Final
Plant-Dicot	5358	Tiehm's buckwheat	<i>Eriogonum tiehmii</i>	Proposed
Plant-Dicot	518	Uhiuhi	<i>Mezoneuron kawaiense</i>	Final
Plant-Monocot	788	Carter's panicgrass	<i>Panicum fauriei</i> var. <i>carteri</i>	Final
Plant-Monocot	545	Fosberg's love grass	<i>Eragrostis fosbergii</i>	Final
Plant-Monocot	1497	Hala pepe	<i>Dracaena fernaldii</i>	Final
Plant-Monocot	3737	Hala pepe	<i>Dracaena forbesii</i>	Final
Plant-Monocot	1141	Hala pepe	<i>Dracaena konaensis</i>	Final
Plant-Monocot	801	Hawaiian bluegrass	<i>Poa sandvicensis</i>	Final
Plant-Monocot	6632	Hillebrand's reedgrass	<i>Calamagrostis hillebrandii</i>	Final
Plant-Monocot	951	Hilo ischaemum	<i>Ischaemum byrone</i>	Final
Plant-Monocot	659	Kamanomano	<i>Cenchrus agrimonioides</i>	Final
Plant-Monocot	584	Lau 'ehu	<i>Panicum niuhauense</i>	Final
Plant-Monocot	3054	Lo'ulu	<i>Pritchardia lanigera</i>	Final
Plant-Monocot	1143	Lo'ulu	<i>Pritchardia napaliensis</i>	Final
Plant-Monocot	598	Lo'ulu	<i>Pritchardia remota</i>	Final
Plant-Monocot	1144	Lo'ulu	<i>Pritchardia viscosa</i>	Final
Plant-Monocot	986	Mann's bluegrass	<i>Poa mannii</i>	Final
Plant-Monocot	656	Navajo sedge	<i>Carex specuicola</i>	Final
Plant-Monocot	3671	No common name	<i>Agave eggersiana</i>	Final
Plant-Monocot	1131	No common name	<i>Cyperus fauriei</i>	Final
Plant-Monocot	1032	No common name	<i>Cyperus pennatifolius</i>	Final

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Taxa	Entity ID	Common Name	Scientific Name	Critical Habitat Status
Plant-Monocot	10235	No common name	<i>Festuca molokaiensis</i>	Final
Plant-Monocot	983	No common name	<i>Platanthera holochila</i>	Final
Plant-Monocot	987	No common name	<i>Poa siphonoglossa</i>	Final
Plant-Monocot	6845	Pa'iniu	<i>Astelia waialealae</i>	Final
Plant-Monocot	1108	Pu'uka'a	<i>Cyperus trachysanthos</i>	Final
Plant-Other	1196	Asplenium-leaved diellia	<i>Asplenium dielirectum</i>	Final
Plant-Other	1200	Ihi'ih	<i>Marsilea villosa</i>	Final
Plant-Other	1197	No common name	<i>Asplenium (=Diellia) dielfalcatum (=falcata)</i>	Final
Plant-Other	7529	No common name	<i>Asplenium dielmannii</i>	Final
Plant-Other	1218	No common name	<i>Asplenium dielpallidum</i>	Final
Plant-Other	1194	No common name	<i>Asplenium peruvianum</i> var. <i>insulare</i>	Final
Plant-Other	1211	No common name	<i>Asplenium unisorum</i>	Final
Plant-Other	1198	No common name	<i>Diplazium molokaiense</i>	Final
Plant-Other	9962	No common name	<i>Doryopteris angelica</i>	Final
Plant-Other	2268	No common name	<i>Doryopteris takeuchii</i>	Final
Plant-Other	1202	No common name	<i>Pteris lidgatei</i>	Final
Plant-Other	1193	Palai la'au	<i>Adenophorus periens</i>	Final
Plant-Other	9963	Palapalai aumakua	<i>Dryopteris crinalis</i> var. <i>podosorus</i>	Final
Plant-Other	1205	Pauoa	<i>Ctenitis squamigera</i>	Final
Plant-Other	1207	Wawae'iole	<i>Phlegmariurus mannii</i>	Final
Plant-Other	1208	Wawae'iole	<i>Phlegmariurus nutans</i>	Final
Reptiles	162	Culebra Island giant anole	<i>Anolis roosevelti</i>	Final
Reptiles	10485	Green sea turtle	<i>Chelonia mydas</i>	Final
Reptiles	11175	Green sea turtle	<i>Chelonia mydas</i>	Final
Reptiles	11176	Green sea turtle	<i>Chelonia mydas</i>	Final
Reptiles	11193	Green sea turtle	<i>Chelonia mydas</i>	Final
Reptiles	153	Hawksbill sea turtle	<i>Eretmochelys imbricata</i>	Final
Reptiles	164	Mona boa	<i>Epicrates monensis monensis</i>	Final
Reptiles	165	Mona ground iguana	<i>Cyclura stejnegeri</i>	Final
Reptiles	163	St. Croix ground lizard	<i>Ameiva polops</i>	Final
Snails	1989	Lanai tree snail	<i>Partulina semicarinata</i>	Final
Snails	3385	Lanai tree snail	<i>Partulina variabilis</i>	Final
Snails	418	Newcomb's snail	<i>Erinna newcombi</i>	Final
Snails	3876	Newcomb's tree snail	<i>Newcombia cumingi</i>	Final
Snails	2722	Quitobaquito tryonia	<i>Tryonia quitobaquitae</i>	Proposed

CONCURRENCE

The EPA also made “may affect, not likely to adversely affect” determinations for 392 threatened, endangered, and proposed species entities and 201 designated and proposed critical habitats under U.S. Fish and Wildlife Service jurisdiction for simazine.

“Not likely to adversely affect” determinations were based on conclusions of discountable or insignificant effects. Insignificant effects relate to the size of the impact and should never reach the scale where take of a listed species is expected or critical habitat (including physical and biological features (PBFs)) are likely to be adversely affected. For some species and critical habitat elements, simazine pesticide exposure is expected to be so small in magnitude that the effects will not be noticeable or measurable. For example, some species do not have measurable adverse reactions to direct or indirect herbicide exposure, nor will such an exposure cause a significant reduction in those species’ food resources, shelter availability, or other species on which they depend (e.g., host species, pollinators). Discountable effects apply when exposure to listed species and critical habitat PBFs is extremely unlikely to occur. For example, exposure to simazine for some species within the action area is extremely unlikely based on their specific habitat requirements. Some habitats will preclude exposure to species based on proximity to application areas or other considerations (e.g., species that only occur on mountain peaks, species that only grow on vertical cliff surfaces, or species with specific microhabitat conditions that do not occur near spray drift or runoff areas). All species in this section (i.e., for which EPA determined the registration of simazine was not likely to adversely affect) benefit from general label conservation measures that reduce exposure from off-site transport, including three runoff mitigation points and spray drift buffers. Some species in this section also benefit from six-point Pesticide Use Limitation Areas (PULAs) for simazine, determined through implementation of EPA’s Herbicide Strategy. They are denoted below with a footnote where applicable.

For species considered extinct or extirpated from the United States, in most cases, exposure was either not expected (if presumed extinct) or extremely unlikely to occur (if presumed extirpated).

We concur with most of EPA’s “not likely to adversely affect” determinations as listed in Appendix 4-1 in their biological evaluation (USEPA, 2021) and subsequent coordination. We describe our rationale for concurrence and need for further effects analysis, when applicable, in the sections below. For species that we felt needed additional assessment, we analyzed them further in our Opinion.

Amphibians

The EPA made “not likely to adversely affect” determinations for 13 listed and proposed amphibian species and 15 designated and proposed amphibian critical habitats (Table 4). We concur with some of these determinations.

Table 4. Listed and proposed amphibian species and designated and proposed amphibian critical habitats for which EPA made “not likely to adversely affect” determinations. For two species entities and ten critical habitats (designated with asterisks below), we do not concur with EPA’s “not likely to adversely affect” determinations and analyzed them further in our Opinion.

Entity ID	Common Name	Scientific Name	Species or Critical Habitat (CH) Status
11468	Dixie Valley toad	<i>Anaxyrus williamsi</i>	Endangered
199*	Frosted flatwoods salamander	<i>Ambystoma cingulatum</i>	Threatened
3849	Jemez Mountains salamander	<i>Plethodon neomexicanus</i>	Endangered
8302	Kern Canyon slender salamander	<i>Batrachoseps simatus</i>	Proposed Threatened
1740	Mountain yellow-legged frog (northern DPS)	<i>Rana muscosa</i>	Endangered
7847	Ozark hellbender	<i>Cryptobranchus alleganiensis bishop</i>	Endangered
192	Red Hills salamander	<i>Phaeognathus hubrichti</i>	Threatened
5688	Relictual slender salamander	<i>Batrachoseps relictus</i>	Proposed Endangered
200	Shenandoah salamander	<i>Plethodon shenandoah</i>	Endangered
1313	West Virginia spring salamander	<i>Gyrinophilus subterraneus</i>	Proposed Endangered
6096* ¹	Western spadefoot	<i>Spea hammondi</i>	Proposed Threatened
202	Wyoming toad	<i>Anaxyrus baxteri</i>	Endangered
1707	Yosemite toad	<i>Anaxyrus canorus</i>	Threatened
204*	Arroyo (=arroyo southwestern) toad	<i>Anaxyrus californicus</i>	Final CH
6346*	Austin blind salamander	<i>Eurycea waterlooensis</i>	Final CH
5065*	Black warrior (=Sipsey Fork) waterdog	<i>Necturus alabamensis</i>	Final CH
203*	California tiger salamander	<i>Ambystoma californiense</i>	Final CH

¹EPA provided a determination for western spadefoot entity ID 6096, which is now an unlisted entity. The species was proposed as two Distinct Population Segments (DPS) with entity IDs 12393 (northern DPS) and 12394 (southern DPS). We addressed the two proposed DPSs in our Opinion.

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Entity ID	Common Name	Scientific Name	Species or Critical Habitat (CH) Status
4773*	California tiger salamander	<i>Ambystoma californiense</i>	Final CH
8395*	California tiger salamander	<i>Ambystoma californiense</i>	Final CH
11468	Dixie Valley toad	<i>Anaxyrus williamsi</i>	Proposed CH
5434*	Georgetown salamander	<i>Eurycea naufragia</i>	Final CH
3849	Jemez Mountains salamander	<i>Plethodon neomexicanus</i>	Final CH
8231*	Jollyville Plateau salamander	<i>Eurycea tonkawae</i>	Final CH
1740	Mountain yellow-legged frog (Northern DPS)	<i>Rana muscosa</i>	Final CH
2932*	Neuse River waterdog	<i>Necturus lewisi</i>	Final CH
7610*	Salado salamander	<i>Eurycea chisholmensis</i>	Final CH
1313	West Virginia spring salamander	<i>Gyrinophilus subterraneus</i>	Proposed CH
1707	Yosemite toad	<i>Anaxyrus canorus</i>	Final CH

For many species or designated critical habitats in Table 4, effects are expected to be discountable as exposure to simazine is extremely unlikely to occur based on land uses within the range, habitat preference of the species, and/or occurrence in protected areas or other sites where simazine usage is not anticipated.

- Wyoming toads are found in herbaceous wetlands, riparian grasslands, ponds, and small seepage lakes in shortgrass communities of Laramie Basin in Albany County, Wyoming. Adult Wyoming toads eat insects, predominantly ants, and tadpoles eat algae (USFWS, 2012). As of 2024, they are only found on two National Wildlife Refuges (i.e., Mortenson Lake and Wyoming Toad Conservation Area) and two release sites protected by Safe Harbor Agreements (USFWS, 2024a). We do not expect Wyoming toads to use agricultural lands or non-agricultural simazine use sites, and they do not move far from their habitats. Simazine has been previously used on a limited number of refuges, but simazine has not been reported for use on refuges in Wyoming.
- Relictual and Shenandoah salamanders are found in remote areas where we do not expect simazine use or runoff exposure; for these two species, their ranges do not overlap with the U.S. Department of Agriculture's Crop Sequence Boundary data 2017-2024 (USDA, 2025), referred to as "CSB data" throughout, meaning agricultural land was not present in their species' ranges in this time frame. In addition, we do not expect non-agricultural simazine use will lead to exposure for these species, given that their preferred habitat is located outside of use areas.
- The Jemez Mountain salamander, Kern Canyon slender salamander, and Red Hills salamander are terrestrial amphibians, and we do not expect them to occur on agricultural or non-agricultural simazine use sites. Jemez Mountain salamanders (and their critical habitat) and Kern Canyon slender salamanders are found at high elevations primarily on

federal lands where we do not expect simazine use. Similarly, Red Hills salamanders occur in forests on slopes and moist ravines in several counties in Alabama.

- The West Virginia spring salamander and its critical habitat are found in caves in Greenbrier County, West Virginia. As of 2023, habitat within this cave system was not degraded, and there was no evidence that nearby land use activities over the past 50 years affected water quality in the cave (USFWS, 2023a).
- The Dixie Valley toad, mountain yellow-legged frog, and Yosemite toad are found on federal lands (e.g., Department of Defense, Bureau of Land Management, National Forests, National Parks) where we expect simazine will not be used. We do not expect agricultural croplands or turf to be grown where these species occur. The Dixie Valley toad, mountain yellow-legged frog, and Yosemite toad critical habitats do not overlap with agriculture (i.e., CSB=0).

Therefore, we concur with EPA's "not likely to adversely affect" determinations for these amphibians and their critical habitats.

For the Ozark hellbender, we expect estimated environmental concentrations (EECs) of simazine, after accounting for conservation measures, including those developed using EPA's Herbicide Strategy, will be below the threshold for which we anticipate adverse effects to occur. Therefore, we expect effects of simazine to be insignificant, as they are not anticipated to be meaningfully measured, detected, or evaluated. We concur with EPA's "not likely to adversely affect" determinations for the Ozark hellbender.

For several species or designated critical habitats in Table 4, we could not conclude that the effects of simazine exposure are likely to be insignificant or discountable. Even after accounting for conservation measures, including those developed using EPA's Herbicide Strategy, we expect simazine exposure and EECs to exceed sublethal endpoints for the frosted flatwoods salamander and western spadefoot from agricultural or non-agricultural simazine uses. In addition, the Arroyo toad, Austin blind salamander, black warrior waterdog, California tiger salamander (3 DPSs), Georgetown salamander, Jemez Mountains salamander, Jollyville Plateau salamander, Neuse River waterdog, and Salado salamander critical habitats overlap with registered simazine use sites and simazine EECs are above levels where we anticipate adverse effects to affect at least one critical habitat PBF (e.g., vegetation or water quality). Therefore, we do not concur with EPA's "not likely to adversely affect" determinations for these species and critical habitats and addressed them further in our Opinion.

Aquatic Invertebrates (Bivalves, Crustaceans, Aq. Insects, and Snails)

The EPA made “not likely to adversely affect” determinations for 25 listed and proposed aquatic invertebrate species and 57 designated and proposed aquatic invertebrate critical habitats under Fish and Wildlife Service jurisdiction (Table 5). We concur with some of these determinations.

Table 5. Listed and proposed aquatic invertebrate species and designated and proposed aquatic invertebrate critical habitats for which EPA made “not likely to adversely affect” determinations. For four species entities and 26 critical habitats (designated with asterisks below), we do not concur with EPA’s “not likely to adversely affect” determinations and analyzed them further in our Opinion.

Taxa	Entity ID	Common Name	Scientific Name	Species or Critical Habitat (CH) Status
Crustaceans	2977*	Black Creek crayfish	<i>Procambarus pictus</i>	Proposed Endangered
Crustaceans	8172	Diminutive amphipod	<i>Gammarus hyallelloides</i>	Endangered
Crustaceans	10794*	Miami Cave crayfish	<i>Procambarus milleri</i>	Proposed Threatened
Crustaceans	6596	Pecos amphipod	<i>Gammarus pecos</i>	Endangered
Crustaceans	483	Socorro isopod	<i>Thermosphaeroma thermophilus</i>	Endangered
Crustaceans	487*	Squirrel Chimney Cave shrimp	<i>Palaemonetes cummingi</i>	Threatened
Bivalves	10840	Alabama hickorynut	<i>Obovaria unicolor</i>	Proposed Endangered
Bivalves	11676*	Balcones spike	<i>Fusconaia iheringi</i>	Endangered
Bivalves	12388	No common name	<i>Obovaria</i> cf. <i>unicolor</i>	Proposed Threatened
Bivalves	11656	Ouachita fanshell	<i>Cyprogenia</i> sp. cf. <i>aberti</i>	Threatened
Bivalves	9802	Salina mucket	<i>Potamilus metnecktayi</i>	Proposed Endangered
Insects	439	Ash Meadows naucorid	<i>Ambrysus amargosus</i>	Threatened
Insects	1849	Meltwater lednian stonefly	<i>Lednia tumana</i>	Threatened
Insects	10123	Western glacier stonefly	<i>Zapada glacier</i>	Threatened
Snails	403	Alamosa springsnail	<i>Tryonia alamosae</i>	Endangered
Snails	404	Bruneau Hot springsnail	<i>Pyrgulopsis bruneauensis</i>	Endangered
Snails	4162	Chupadera springsnail	<i>Pyrgulopsis chupaderae</i>	Endangered
Snails	4437	Diamond tryonia	<i>Pseudotryonia adamantina</i>	Endangered
Snails	5362	Gonzales tryonia	<i>Tryonia circumstriata</i> (=stocktonensis)	Endangered

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Taxa	Entity ID	Common Name	Scientific Name	Species or Critical Habitat (CH) Status
Snails	6240	Oblong rocksnail	<i>Leptoxis compacta</i>	Proposed Endangered
Snails	4479	Phantom springsnail	<i>Pyrgulopsis texana</i>	Endangered
Snails	6138	Phantom tryonia	<i>Tryonia cheatumi</i>	Endangered
Snails	1380	San Bernardino springsnail	<i>Pyrgulopsis bernardina</i>	Threatened
Snails	408	Socorro springsnail	<i>Pyrgulopsis neomexicana</i>	Endangered
Snails	4766	Three Forks springsnail	<i>Pyrgulopsis trivialis</i>	Endangered
Crustaceans	5153	Big Sandy crayfish	<i>Cambarus callainus</i>	Final CH
Crustaceans	2977*	Black Creek crayfish	<i>Procambarus pictus</i>	Proposed CH
Crustaceans	8172	Diminutive amphipod	<i>Gammarus hyalleloides</i>	Final CH
Crustaceans	6596	Pecos amphipod	<i>Gammarus pecos</i>	Final CH
Crustaceans	492	Riverside fairy shrimp ²	<i>Streptocephalus woottoni</i>	Final CH
Bivalves	380*	Alabama moccasinshell	<i>Medionidus acutissimus</i>	Final CH
Bivalves	4411	Alabama pearlshell	<i>Margaritifera marrianae</i>	Final CH
Bivalves	4210	Altamaha spinymussel	<i>Elliptio spinosa</i>	Final CH
Bivalves	354*	Appalachian elktoe	<i>Alasmidonta raveneliana</i>	Final CH
Bivalves	7048*	Atlantic pigtoe	<i>Fusconaia masoni</i>	Final CH
Bivalves	9222*	Canoe Creek clubshell	<i>Pleurobema athearni</i>	Final CH
Bivalves	370	Carolina heelsplitter	<i>Lasmigona decorata</i>	Final CH
Bivalves	386	Chipola slabshell	<i>Elliptio chipolaensis</i>	Final CH
Bivalves	381*	Coosa moccasinshell	<i>Medionidus parvulus</i>	Final CH
Bivalves	355*	Cumberland elktoe	<i>Alasmidonta atropurpurea</i>	Final CH
Bivalves	353*	Cumberlandian combshell	<i>Epioblasma brevidens</i>	Final CH
Bivalves	382*	Dark pigtoe	<i>Pleurobema furvum</i>	Final CH
Bivalves	5380*	False spike	<i>Fusconaia mitchelli</i>	Final CH
Bivalves	375	Fat threeridge (mussel)	<i>Amblema neislerii</i>	Final CH
Bivalves	372*	Finelined pocketbook	<i>Hamiota altilis</i>	Final CH
Bivalves	1559*	Fluted kidneyshell	<i>Ptychobranhus subtentus</i>	Final CH
Bivalves	1369	Fuzzy pigtoe	<i>Pleurobema strodeanum</i>	Final CH
Bivalves	11577*	Guadalupe orb	<i>Cyclonaias necki</i>	Final CH
Bivalves	384	Gulf moccasinshell	<i>Medionidus penicillatus</i>	Final CH
Bivalves	6827*	Kentucky creekshell	<i>Villosa ortmanni</i>	Proposed CH
Bivalves	10838*	Longsolid	<i>Fusconaia subrotunda</i>	Final CH

² Critical habitat is included in a six-point Pesticide Use Limitation Area (PULA) for all uses with three exceptions; see the main Biological Opinion

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Taxa	Entity ID	Common Name	Scientific Name	Species or Critical Habitat (CH) Status
Bivalves	4086	Neosho mucket	<i>Lampsilis rafinesqueana</i>	Final CH
Bivalves	385	Ochlockonee moccasinshell	<i>Medionidus simpsonianus</i>	Final CH
Bivalves	357*	Orangenacre mucket	<i>Hamiota perovalis</i>	Final CH
Bivalves	371	Oval pigtoe	<i>Pleurobema pyriforme</i>	Final CH
Bivalves	377	Ovate clubshell	<i>Pleurobema perovatum</i>	Final CH
Bivalves	358*	Oyster mussel	<i>Epioblasma capsaeformis</i>	Final CH
Bivalves	366	Purple bankclimber (mussel)	<i>Elliptoideus sloatianus</i>	Final CH
Bivalves	7363	Round ebonyshell	<i>Reginaia rotulata</i>	Final CH
Bivalves	10837*	Round hickorynut	<i>Obovaria subrotunda</i>	Final CH
Bivalves	9802	Salina mucket	<i>Potamilus metnecktayi</i>	Proposed CH
Bivalves	373	Shinyrayed pocketbook	<i>Hamiota subangulata</i>	Final CH
Bivalves	6841*	Slabside pearlymussel	<i>Pleuonaia dolabelloides</i>	Final CH
Bivalves	378*	Southern clubshell	<i>Pleurobema decisum</i>	Final CH
Bivalves	7949	Southern kidneyshell	<i>Ptychobranhus jonesi</i>	Final CH
Bivalves	383*	Southern pigtoe	<i>Pleurobema georgianum</i>	Final CH
Bivalves	7349	Southern sandshell	<i>Hamiota australis</i>	Final CH
Bivalves	7372	Suwannee moccasinshell	<i>Medionidus walkeri</i>	Final CH
Bivalves	6534	Tapered pigtoe	<i>Fusconaia burkei</i>	Final CH
Bivalves	9967*	Texas fawnsfoot	<i>Truncilla macrodon</i>	Final CH
Bivalves	9968*	Texas pimpleback	<i>Cyclonaias petrina</i>	Final CH
Bivalves	379*	Triangular kidneyshell	<i>Ptychobranhus greenii</i>	Final CH
Bivalves	4074*	Yellow lance	<i>Elliptio lanceolata</i>	Final CH
Insects	439	Ash Meadows naucorid	<i>Ambrysus amargosus</i>	Final CH
Snails	4437	Diamond tryonia	<i>Pseudotryonia adamantina</i>	Final CH
Snails	5362	Gonzales tryonia	<i>Tryonia circumstriata</i> (=stocktonensis)	Final CH
Snails	2561*	Interrupted (=Georgia) rocksnail	<i>Leptoxis foremani</i>	Final CH
Snails	4479	Phantom springsnail	<i>Pyrgulopsis texana</i>	Final CH
Snails	6138	Phantom tryonia	<i>Tryonia cheatumi</i>	Final CH
Snails	3364	Rough hornsnail	<i>Pleurocera foremani</i>	Final CH
Snails	1380	San Bernardino springsnail	<i>Pyrgulopsis bernardina</i>	Final CH
Snails	4766	Three Forks springsnail	<i>Pyrgulopsis trivialis</i>	Final CH

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We do not expect aquatic invertebrates to occur on simazine use sites. Thus, we do not expect any individuals or their habitats to be exposed by direct spray and consider only the effects of runoff or spray drift.

For many species or designated critical habitats in Table 5, effects are expected to be discountable as exposure to simazine is extremely unlikely to occur based on land uses within the range, habitat preference of the species, and/or occurrence in protected areas or other sites where simazine usage is not anticipated.

- The Socorro isopod is found in three areas in New Mexico; two populations are captively managed, and one is native to an ephemeral spring in the city of Socorro. We do not expect the Socorro isopod to be exposed to simazine because the occupied spring is at a higher elevation than any nearby agricultural lands where simazine may be used. We do not expect simazine to runoff into the isopod's occupied areas (pers. comm., New Mexico Field Office, 2025).
- The Ash Meadows naucorid and its critical habitat are found primarily in Ash Meadows National Wildlife Refuge, and the meltwater lednian stonefly and western glacier stonefly are found primarily in Glacier National Park. We do not expect simazine use on the refuge based on past usage data obtained from a PUP database query (see Table 26 in the main body of the Opinion). The Glacier National Park stoneflies are found in high elevation glacier-fed springs, where we expect runoff from agricultural and non-agricultural pesticide use is extremely unlikely.
- The San Bernardino and Three Forks springsnails are found at high elevations where we do not expect the species to be exposed to simazine runoff. The diminutive amphipod, Pecos amphipod, diamond tryonia, Gonzales tryonia, phantom springsnail, and phantom tryonia occur in springs that are upland of areas where simazine may be used (USFWS, 2013b), so we expect runoff of simazine into their habitats will not occur. In addition, critical habitats for these six species occur primarily on state, federal, or protected lands (e.g., The Nature Conservancy) in Texas (USFWS, 2013c) where we do not expect simazine use will occur. The Socorro springsnail occurs in a privately owned spring where there is little water on the landscape and low likelihood of runoff (USFWS, 2020a). The Chupadera springsnail occurs in a single spring in the Rio Grande Valley of New Mexico that is believed to be fed by waters from the Magdalena Mountains (USFWS, 2024b) where we do not expect simazine to be used. In addition, the Alamosa springsnail and Three Forks springsnail do not overlap with agricultural (i.e., CSB=0) or non-agricultural simazine use sites; we also do not expect simazine exposure from agricultural (i.e., CSB=0) or non-agricultural use near their critical habitats.

The Bruneau Hot springsnail occurs in geothermal springs in Idaho that are primarily administered by Bureau of Land Management (USFWS, 2002), and the oblong rocksnail occurs in the Cahaba River in Alabama. Based on simazine toxicity data for aquatic snails, concentrations at which we expect mortality (3,700 µg a.i./L) and sublethal effects (330 µg a.i./L) will not occur based on their habitat preferences. Therefore, we expect that the effects of

simazine exposure on these species are not expected to reach a scale where they can be meaningfully measured, detected, or evaluated, and are thus considered insignificant.

For the following critical habitats, we expect insignificant effects from simazine exposure based on EECs for agricultural and non-agricultural simazine use, after incorporating conservation measures, including those developed using EPA's Herbicide Strategy: Alabama pearlshell, Altamaha spinymussel, Carolina heelsplitter, Chipola slabshell, fat threeridge (mussel), fuzzy pigtoe, Gulf moccasinshell, Neosho mucket, Ochlockonee moccasinshell, oval pigtoe, ovate clubshell, purple bankclimber (mussel), round ebonyshell, shinyrayed pocketbook, southern kidneyshell, southern sandshell, Suwannee moccasinshell, tapered pigtoe, and rough hornsnail. While these critical habitats include water quality PBFs, we expect the simazine concentration in their waterbodies to be below levels where any adverse effects to these PBFs are anticipated.

We concur with EPA's "not likely to adversely affect" determinations for these aquatic invertebrates and their critical habitats.

For the following aquatic invertebrates, occupied areas occur near simazine use sites, we expect simazine may run off into waterways, and we expect simazine exposure and EECs to exceed sublethal endpoints, therefore, we did not concur with EPA's "not likely to adversely affect determinations" and analyzed them further in our Opinion: Black Creek crayfish, Miami Cave crayfish, Squirrel Chimney Cave shrimp, and Balcones spike. Similarly, we addressed the following critical habitats in our Opinion: Big Sandy crayfish, Black Creek crayfish, Riverside fairy shrimp, Alabama moccasinshell, Appalachian elktoe, Atlantic pigtoe, Canoe Creek clubshell, Coosa moccasinshell, Cumberland elktoe, Cumberlandian combshell, dark pigtoe, false spike, finelined pocketbook, fluted kidneyshell, Guadalupe orb, Kentucky creekshell, longsolid, orangenacre mucket, oyster mussel, round hickorynut, slabside pearlymussel, southern clubshell, southern pigtoe, Texas fawnsfoot, Texas pimpleback, triangular kidneyshell, yellow lance, and interrupted rocksnail.

Birds

The EPA made “not likely to adversely affect” determinations for 40 proposed and listed bird species entities and 13 designated and proposed bird critical habitats (Table 6). We concur with most of these determinations.

Table 6. Listed and proposed bird species and designated and proposed bird critical habitats for which EPA made “not likely to adversely affect” determinations. For nine species entities and one critical habitat (designated with asterisks below), we did not concur with EPA’s “not likely to adversely affect” determinations and we analyzed them further in our Opinion.

Entity ID	Common Name	Scientific Name	Species or Critical Habitat (CH) Status
3492	Black-capped petrel	<i>Pterodroma hasitata</i>	Endangered
66	California condor	<i>Gymnogyps californianus</i>	Endangered
1737	California condor	<i>Gymnogyps californianus</i>	EXPN ³
17570	California condor	<i>Gymnogyps californianus</i>	EXPN
102	California Ridgway’s rail	<i>Rallus obsoletus obsoletus</i>	Endangered
11729	California spotted owl	<i>Strix occidentalis occidentalis</i>	Proposed Endangered
11730	California spotted owl	<i>Strix occidentalis occidentalis</i>	Proposed Threatened
85	Cape Sable seaside sparrow	<i>Ammospiza maritima mirabilis</i>	Endangered
145	Coastal California gnatcatcher	<i>Poliophtila californica californica</i>	Threatened
11319	Eastern black rail ⁴	<i>Laterallus jamaicensis</i> ssp. <i>jamaicensis</i>	Threatened
1221	Everglade snail kite	<i>Rostrhamus sociabilis plumbeus</i>	Endangered
133	Florida grasshopper sparrow ⁴	<i>Ammodramus savannarum floridanus</i>	Endangered
140*	Florida scrub-jay	<i>Aphelocoma coerulescens</i>	Threatened
139	Golden-cheeked warbler	<i>Setophaga chrysoparia</i>	Endangered
4064*	Gunnison sage-grouse	<i>Centrocercus minimus</i>	Threatened
82	Hawaiian petrel	<i>Pterodroma sandwichensis</i>	Endangered

³ EXPN = non-essential experimental population

⁴ Species is included in a six-point Pesticide Use Limitation Area (PULA) for citrus in Florida

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Entity ID	Common Name	Scientific Name	Species or Critical Habitat (CH) Status
137	Inyo California towhee	<i>Melospiza crissalis eremophilus</i>	Threatened
95	Ivory-billed woodpecker	<i>Campephilus principalis</i>	Endangered
123*	Least Bell's vireo	<i>Vireo bellii pusillus</i>	Endangered
103	Light-footed Ridgway's rail	<i>Rallus obsoletus levipes</i>	Endangered
143	Marbled murrelet	<i>Brachyramphus marmoratus</i>	Threatened
89	Masked bobwhite (quail)	<i>Colinus virginianus ridgwayi</i>	Endangered
129	Mexican spotted owl	<i>Strix occidentalis lucida</i>	Threatened
10220	Mt. Rainier white-tailed ptarmigan	<i>Lagopus leucura rainierensis</i>	Threatened
126*	Northern Aplomado falcon	<i>Falco femoralis septentrionalis</i>	Endangered
142	Northern spotted owl	<i>Strix occidentalis caurina</i>	Threatened
130*	Piping plover	<i>Charadrius melodus</i>	Endangered
131*	Piping plover	<i>Charadrius melodus</i>	Threatened
107*	Red-cockaded woodpecker	<i>Picoides borealis</i>	Endangered
135	Roseate tern	<i>Sterna dougallii dougallii</i>	Endangered
136	Roseate tern	<i>Sterna dougallii dougallii</i>	Threatened
8621	Rufa red knot	<i>Calidris canutus rufa</i>	Threatened
115	San Clemente loggerhead shrike	<i>Lanius ludovicianus mearnsi</i>	Endangered
88	Short-tailed albatross	<i>Phoebastria (=Diomedea) albatrus</i>	Endangered
149	Southwestern willow flycatcher	<i>Empidonax traillii extimus</i>	Endangered
6345	Thick-billed parrot	<i>Rhynchopsitta pachyrhyncha</i>	Endangered
132	Western snowy plover	<i>Charadrius nivosus nivosus</i>	Threatened
124*	Wood stork	<i>Mycteria americana</i>	Threatened
6901*	Yellow-billed cuckoo	<i>Coccyzus americanus</i>	Threatened
84	Yuma Ridgway's rail	<i>Rallus obsoletus yumanensis</i>	Endangered
11666*	Cactus ferruginous pygmy owl	<i>Glaucidium brasilianum cactorum</i>	Final CH
66	California condor	<i>Gymnogyps californianus</i>	Final CH

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Entity ID	Common Name	Scientific Name	Species or Critical Habitat (CH) Status
85	Cape Sable seaside sparrow	<i>Ammospiza maritima mirabilis</i>	Final CH
145	Coastal California gnatcatcher	<i>Polioptila californica californica</i>	Final CH
1221	Everglade snail kite	<i>Rostrhamus sociabilis plumbeus</i>	Final CH
4064	Gunnison sage-grouse	<i>Centrocercus minimus</i>	Final CH
137	Inyo California towhee	<i>Melospiza crissalis eremophilus</i>	Final CH
143	Marbled murrelet	<i>Brachyramphus marmoratus</i>	Final CH
129	Mexican spotted owl	<i>Strix occidentalis lucida</i>	Final CH
142	Northern spotted owl	<i>Strix occidentalis caurina</i>	Final CH
8621	Rufa red knot	<i>Calidris canutus rufa</i>	Proposed CH
149	Southwestern willow flycatcher	<i>Empidonax traillii extimus</i>	Final CH
132	Western snowy plover	<i>Charadrius nivosus nivosus</i>	Final CH

We expect adverse effects to birds that forage on contaminated prey items on simazine use sites. We do not expect impacts to birds that consume prey items off-site. Given we do not expect effects to terrestrial animals off-site, we do not expect reductions in prey availability from simazine exposure.

For many species or designated critical habitats in Table 6, effects are expected to be discountable as exposure to simazine is extremely unlikely to occur based on land uses within the range, habitat preference of the species, and/or occurrence in protected areas or other sites where simazine usage is not anticipated.

- We proposed to delist the ivory-billed woodpecker with reopened comment period on January 11, 2022, but we have not finalized delisting (USFWS, 2021a). We no longer believe the species is extant in the wild and there are no captive individuals.
- The black-capped petrel, California Ridgway's rail, California spotted owl, Cape Sable seaside sparrow, eastern black rail, Everglade snail kite, golden-cheeked warbler (wood), Hawaiian petrel, Inyo California towhee, light-footed Ridgway's rail, marbled murrelet, masked bobwhite (quail), Mexican spotted owl, Mt. Rainier white-tailed ptarmigan, northern spotted owl, roseate terns, rufa red knot, San Clemente loggerhead shrike, short-tailed albatross, southwestern willow flycatcher, thick-billed parrot, and western snowy plover occur in habitats where we expect agricultural and non-agricultural simazine use will not occur (e.g., forests, sandy beaches, marine areas, canyons, alpine areas).

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For several species or designated critical habitats in Table 6, we expect concentrations of simazine to be below the level for which we expect adverse effects to listed species or their habitats. As such, any effects are expected to be insignificant because they are not anticipated to be meaningfully measured, detected, or evaluated.

- California condors occur in two non-essential experimental populations (EXPNs); one occurs in the northern California, Oregon, and Nevada (entity ID 11570) and one occurs in Arizona, Utah, and southern Nevada (entity ID 1737). Both EXPNs were released primarily on federal lands (e.g., Redwoods National Park and Vermillion Cliffs National Monument). The California condor's primary food source is carrion, which we do not expect to be affected by simazine use. Based on simazine's low bioaccumulation factors, we do not expect simazine to remain in high concentrations in their carrion food items.
- Coastal California gnatcatchers, Florida grasshopper sparrows, and Yuma Ridgway's rail may fly over or near agricultural fields, but we do not expect them to forage on simazine use sites.
- For rufa red knot critical habitat, none of the PBFs are relevant to the types that we anticipate will be affected by pesticides (i.e., vegetation composition or structure, arthropod prey, non-arthropod prey, water quality, pollinators, host fish, and habitat function). For the Cape Sable seaside sparrow, coastal California gnatcatcher, Gunnison sage-grouse, Inyo California towhee, marbled murrelet, Mexican spotted owl, and the northern spotted owl, vegetation composition (e.g., sage scrub, chaparral, grassland, riparian, forests) and structure (e.g., dense riparian vegetation, mature forests) are PBFs that may be affected by exposure to simazine. However, because simazine use is not expected to occur in the habitats designated as critical habitats for these species, we expect that the effects of the level of exposure will be discountable. PBFs mentioned for the southwestern willow flycatcher and western snowy plover include "insect prey populations" and "small invertebrates," which could be impacted by simazine exposure. While areas of critical habitat for these species may experience offsite runoff, spray drift exposure, and some level of adverse effects to resources that provide food and habitat to birds, we expect, at most, insignificant effects to relevant PBFs will occur because the critical habitats for these species occur in areas where we do not expect simazine will be used (e.g., dense riparian vegetation, sandy beaches/mud flats).
- The critical habitat designations for the California condor and the Everglade snail kite were published in the mid-1970s before the Service began using PBFs to describe the essential elements of a species' critical habitat. Based on the habitat requirements discussed in those species' recovery plans and five-year reviews, we glean that the likely essential elements of California condor and Everglade snail kite critical habitats—vast canyons for ample air space and sufficient water bodies for access to Florida apple snails, respectively—would not be impacted by exposure to simazine.

Because they may forage on agricultural or non-agricultural simazine use sites where we expect EECs to exceed levels where adverse effects occur, we do not concur with EPA's "not likely to adversely affect" determinations for Florida scrub-jay, Gunnison sage-grouse, Least Bell's vireo,

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northern Aplomado falcon, piping plover, red-cockaded woodpecker, wood stork, and yellow-billed cuckoo. We analyzed effects to these species further in our Opinion. We also analyzed the cactus ferruginous pygmy owl critical habitat further in our Opinion.

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Fishes

EPA made “not likely to adversely affect” determinations for 28 listed and proposed fish species entities and 35 designated fish critical habitats that are under Fish and Wildlife Service jurisdiction (Table 7). We concur with some of these determinations.

Table 7. Listed and proposed fish species and designated and proposed fish critical habitats for which EPA made “not likely to adversely affect” determinations. For 14 species entities and 12 critical habitats (designated with asterisks below), we did not concur with EPA’s “not likely to adversely affect” determinations and we analyzed them further in our Opinion.

Entity ID	Common Name	Scientific Name	Species and Critical Habitat (CH) Status
274	Ash Meadows Amargosa pupfish	<i>Cyprinodon nevadensis mionectes</i>	Endangered
264	Ash Meadows speckled dace	<i>Rhinichthys osculus nevadensis</i>	Endangered
213	Big Bend gambusia	<i>Gambusia gaigei</i>	Endangered
280*	Big Spring spinedace	<i>Lepidomeda mollispinis pratensis</i>	Threatened
265*	Clover Valley speckled dace	<i>Rhinichthys osculus oligoporus</i>	Endangered
266*	Desert dace	<i>Eremichthys acros</i>	Threatened
217	Devil’s Hole pupfish	<i>Cyprinodon diabolis</i>	Endangered
283*	Hiko White River springfish	<i>Crenichthys baileyi grandis</i>	Endangered
209*	Humpback chub	<i>Gila cypha</i>	Threatened
261	Hutton tui chub	<i>Gila bicolor ssp.</i>	Threatened
268*	Independence Valley speckled dace	<i>Rhinichthys osculus lethoporus</i>	Endangered
227	Kendall Warm Springs dace	<i>Rhinichthys osculus thermalis</i>	Endangered
248	Little Kern golden trout	<i>Oncorhynchus aguabonita whitei</i>	Threatened
273*	Loach minnow	<i>Tiaroga cobitis</i>	Endangered
2392	Long Valley speckled dace	<i>Rhinichthys nevadensis caldera</i>	Proposed Endangered
218*	Owens pupfish	<i>Cyprinodon radiosus</i>	Endangered
226*	Pahranagat roundtail chub	<i>Gila robusta jordani</i>	Endangered
223	Paiute cutthroat trout	<i>Oncorhynchus clarkii seleniris</i>	Threatened
271	Pygmy madtom	<i>Noturus stanauli</i>	Endangered
9503	Pygmy madtom	<i>Noturus stanauli</i>	EXP ⁵
284*	Railroad Valley springfish	<i>Crenichthys nevadae</i>	Threatened

⁵ EXPN = non-essential experimental population

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Entity ID	Common Name	Scientific Name	Species and Critical Habitat (CH) Status
2659*	Santa Ana speckled dace	<i>Rhinichthys gabrielino</i>	Proposed Threatened
296*	Spikedace	<i>Meda fulgida</i>	Endangered
231	Warm Springs pupfish	<i>Cyprinodon nevadensis pectoralis</i>	Endangered
292	Warner sucker	<i>Catostomus warnerensis</i>	Threatened
282	White River spinedace	<i>Lepidomeda albivallis</i>	Endangered
285*	White River springfish	<i>Crenichthys baileyi baileyi</i>	Endangered
3280*	Zuni bluehead sucker	<i>Catostomus discobolus yarrowi</i>	Endangered
236	Alabama cavefish	<i>Speoplatyrhinus poulsoni</i>	Final CH
252*	Alabama sturgeon	<i>Scaphirhynchus suttkusi</i>	Final CH
299*	Arkansas River shiner	<i>Notropis girardi</i>	Final CH
274	Ash Meadows Amargosa pupfish	<i>Cyprinodon nevadensis mionectes</i>	Final CH
264	Ash Meadows speckled dace	<i>Rhinichthys osculus nevadensis</i>	Final CH
286*	Atlantic sturgeon (Gulf subspecies)	<i>Acipenser oxyrinchus (=oxyrhynchus) desotoi</i>	Final CH
276	Beautiful shiner	<i>Cyprinella formosa</i>	Final CH
5288	Carolina madtom	<i>Noturus furiosus</i>	Final CH
7150*	Chucky madtom	<i>Noturus crypticus</i>	Final CH
215*	Colorado pikeminnow	<i>Ptychocheilus lucius</i>	Final CH
294*	Conasauga logperch	<i>Percina jenkinsi</i>	Final CH
305	Delta smelt	<i>Hypomesus transpacificus</i>	Final CH
266	Desert dace	<i>Eremichthys acros</i>	Final CH
275	Desert pupfish	<i>Cyprinodon macularius</i>	Final CH
6557*	Diamond darter	<i>Crystallaria cincotta</i>	Final CH
209*	Humpback chub	<i>Gila cypha</i>	Final CH
287*	June sucker	<i>Chasmistes liorus</i>	Final CH
238	Leopard darter	<i>Percina pantherina</i>	Final CH
281	Little Colorado spinedace	<i>Lepidomeda vittata</i>	Final CH
248	Little Kern golden trout	<i>Oncorhynchus aguabonita whitei</i>	Final CH
257*	Niangua darter	<i>Etheostoma nianguae</i>	Final CH
279	Pecos bluntnose shiner	<i>Notropis simus pecosensis</i>	Final CH
284	Railroad Valley springfish	<i>Crenichthys nevadae</i>	Final CH
290*	Razorback sucker	<i>Xyrauchen texanus</i>	Final CH
309	Rio Grande silvery minnow	<i>Hybognathus amarus</i>	Final CH
3596	Sharpnose shiner	<i>Notropis oxyrhynchus</i>	Final CH

Entity ID	Common Name	Scientific Name	Species and Critical Habitat (CH) Status
246	Slender chub	<i>Erimystax cahni</i>	Final CH
7670	Smalleye shiner	<i>Notropis buccula</i>	Final CH
258	Smoky madtom	<i>Noturus baileyi</i>	Final CH
243	Waccamaw silverside	<i>Menidia extensa</i>	Final CH
285	White River springfish	<i>Crenichthys baileyi baileyi</i>	Final CH
314*	White sturgeon	<i>Acipenser transmontanus</i>	Final CH
259	Yaqui catfish	<i>Ictalurus pricei</i>	Final CH
263	Yaqui chub	<i>Gila purpurea</i>	Final CH
3280	Zuni bluehead sucker	<i>Catostomus discobolus yarrowi</i>	Final CH

Given the aquatic habitat requirements for fish, none of these species will occur on simazine use sites, which suggests there is no risk of consequences resulting from on-field exposure, though exposure to fish may occur off-field through runoff.

For many species or designated critical habitats in Table 7, effects are expected to be discountable as exposure to simazine is extremely unlikely to occur based on land uses within the range, habitat preference of the species, and/or occurrence in protected areas or other sites where simazine usage is not anticipated.

- The Ash Meadows Amargosa pupfish and its critical habitat, Ash Meadows speckled dace and its critical habitat, and Warm Springs pupfish solely occur on Ash Meadows National Wildlife Refuge. The Devils Hole pupfish is endemic to Devils Hole, which is a geographically disjunct unit of Death Valley National Park that is surrounded by Ash Meadows National Wildlife Refuge. We expect simazine will not be used on the refuge based on past simazine usage data (see Table 28 in the main body of the Opinion).
- White River spinedace are only found on protected lands (i.e., Nevada Department of Wildlife). Neither agricultural nor non-agricultural simazine uses are considered threats to the species.
- Big Bend gambusia is only known from Big Bend National Park lands, where herbicides are rarely used (USFWS, 2023b). Similarly, Kendall Warm Springs dace and Paiute cutthroat trout are only found on property administered by the U.S. Forest Service, and simazine is not labeled for use for forestry. Herbicides are noted as a low threat to the Kendall Warm Springs dace because the Forest avoids using herbicides when possible and conducts specific consultations when herbicides or other habitat management is needed (USFWS, 2007; USFS, 2022). For the Paiute cutthroat trout, we do not expect agricultural or non-agricultural simazine use sites occur near the species habitat (USFWS, 2020b).
- The Little Kern golden trout and its critical habitat are found at high elevations where we do not expect simazine use nor runoff.

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- The species' range for Hutton tui chub does not occur near agricultural (i.e., CSB=0) or non-agricultural simazine use sites.
- The Warner sucker is found in a closed basin system fed primarily by snowmelt from surrounding mountains and rainfall.
- Critical habitats for beautiful shiner, Carolina madtom, desert dace, desert pupfish, Little Colorado spinedace, smoky madtom, Waccamaw silverside, White River springfish, Yaqui catfish, Yaqui chub, and zuni bluehead sucker do not occur near agricultural (CSB=0) or non-agricultural simazine use sites.

For several species or designated critical habitats in Table 7, we expect concentrations of simazine to be below the level for which we expect adverse effects to listed species or their habitats. As such, any effects are expected to be insignificant because they are not anticipated to be meaningfully measured, detected, or evaluated.

- Based on habitat preferences for the Long Valley speckled dace and pygmy madtom, we expect EECs for agricultural and non-agricultural simazine use, after incorporating conservation measures, including those developed using EPA's Herbicide Strategy, are below thresholds where we expect adverse effects.
- For Pecos bluntnose shiner, Alabama cavefish, delta smelt, leopard darter, Rio Grande silvery minnow, sharpnose shiner, slender chub, and smalleye shiner critical habitats, EECs for agricultural and non-agricultural simazine use, after incorporating conservation measures, including those developed using EPA's Herbicide Strategy, are below thresholds where we expect adverse effects. While these critical habitats include water quality PBFs, we expect the simazine concentration in their waterbodies will be below levels where we would anticipate any adverse effects to occur to this PBF.

Because occupied areas occur near simazine use sites, we expect simazine may run off into waterways and simazine EECs will exceed sublethal endpoints, we did not concur with EPA's "not likely to adversely affect determinations" and analyzed the following fish further in our Opinion: Big Spring spinedace, Clover Valley speckled dace, desert dace, Hiko White River springfish, humpback chub, Independence Valley speckled dace, loach minnow, Owens pupfish, Pahrangat roundtail chub, Railroad Valley springfish, Santa Ana speckled dace, spikedace, White River springfish, and Zuni bluehead sucker. Similarly, we addressed the following fish critical habitats in our Opinion: Alabama sturgeon, Arkansas River shiner, Atlantic sturgeon (Gulf subspecies), chunky madtom, Colorado pikeminnow, Conasauga logperch, diamond darter, humpback chub, June sucker, Niangua darter, razorback sucker, and white sturgeon.

Mammals

The EPA made “not likely to adversely affect” determinations for 50 listed and proposed mammal species entities and 21 designated and proposed mammal critical habitats under Fish and Wildlife Service jurisdiction (Table 8). We concur with most of EPA’s mammal determinations.

Table 8. Listed and proposed mammal species and designated and proposed mammal critical habitats for which EPA made “not likely to adversely affect” determinations. For five species and two critical habitats (designated with asterisks below), we did not concur with EPA’s “not likely to adversely affect” determinations, so we analyzed them further in our Opinion.

Entity ID	Common Name	Scientific Name	Species or Critical Habitat (CH) Status
41	Alabama beach mouse	<i>Peromyscus polionotus ammobates</i>	Endangered
28	Amargosa vole	<i>Microtus californicus scirpensis</i>	Endangered
5	Black-footed ferret	<i>Mustela nigripes</i>	Endangered
7572	Black-footed ferret	<i>Mustela nigripes</i>	EXPN ⁶
24	Canada lynx	<i>Lynx canadensis</i>	Threatened
34	Choctawhatchee beach mouse	<i>Peromyscus polionotus allophrys</i>	Endangered
11653	Fisher	<i>Pekania pennanti</i>	Endangered
8	Florida panther	<i>Puma (=Felis) concolor coryi</i>	Endangered
60	Florida salt marsh vole	<i>Microtus pennsylvanicus dukecampbelli</i>	Endangered
37	Fresno kangaroo rat	<i>Dipodomys nitratooides exilis</i>	Endangered
38	Giant kangaroo rat	<i>Dipodomys ingens</i>	Endangered
21	Gray bat	<i>Myotis grisescens</i>	Endangered
2	Grizzly bear	<i>Ursus arctos horribilis</i>	Threatened
12372	Grizzly bear	<i>Ursus arctos horribilis</i>	EXPN
22	Gulf Coast jaguarundi	<i>Puma yagouaroundi cacomitli</i>	Endangered
18	Jaguar	<i>Panthera onca</i>	Endangered
31	Key Largo cotton mouse	<i>Peromyscus gossypinus allapaticola</i>	Endangered

⁶ EXPN = non-essential experimental population

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Entity ID	Common Name	Scientific Name	Species or Critical Habitat (CH) Status
32	Key Largo woodrat	<i>Neotoma floridana smalli</i>	Endangered
46	Lower Keys marsh rabbit	<i>Sylvilagus palustris hefneri</i>	Endangered
13	Mexican wolf	<i>Canis lupus baileyi</i>	Endangered
10484	Mexican wolf	<i>Canis lupus baileyi</i>	EXPN
16	Morro Bay kangaroo rat	<i>Dipodomys heermanni morroensis</i>	Endangered
43	Mount Graham red squirrel	<i>Tamiasciurus fremonti grahamensis</i>	Endangered
5210	New Mexico meadow jumping mouse	<i>Zapus hudsonius luteus</i>	Endangered
4016	North American wolverine	<i>Gulo gulo luscus</i>	Threatened
10043*	Northern long-eared bat	<i>Myotis septentrionalis</i>	Endangered
30	Ocelot	<i>Leopardus (=Felis) pardalis</i>	Endangered
25	Ozark big-eared bat	<i>Corynorhinus (=Plecotus) townsendii ingens</i>	Endangered
10078	Pacific Marten, Coastal DPS	<i>Martes caurina</i>	Threatened
35	Perdido Key beach mouse	<i>Peromyscus polionotus trissyllepsis</i>	Endangered
52	Preble's meadow jumping mouse	<i>Zapus hudsonius preblei</i>	Threatened
1240	Pygmy rabbit	<i>Brachylagus idahoensis</i>	Endangered
14*	Red wolf	<i>Canis rufus</i>	Endangered
55	Riparian brush rabbit	<i>Sylvilagus bachmani riparius</i>	Endangered
62	Riparian woodrat (=San Joaquin Valley)	<i>Neotoma fuscipes riparia</i>	Endangered
17	Salt marsh harvest mouse	<i>Reithrodontomys raviventris</i>	Endangered
63*	San Bernardino Merriam's kangaroo rat	<i>Dipodomys merriami parvus</i>	Endangered
6*	San Joaquin kit fox	<i>Vulpes macrotis mutica</i>	Endangered
57	Sierra Nevada bighorn sheep	<i>Ovis canadensis sierrae</i>	Endangered
11260	Sierra Nevada red fox	<i>Vulpes vulpes necator</i>	Endangered
29	Silver rice rat	<i>Oryzomys palustris natator</i>	Endangered
9	Sonoran pronghorn	<i>Antilocapra americana sonoriensis</i>	Endangered

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Entity ID	Common Name	Scientific Name	Species or Critical Habitat (CH) Status
10141	Sonoran pronghorn	<i>Antilocapra americana sonoriensis</i>	EXPN
53	Southeastern beach mouse ⁷	<i>Peromyscus polionotus niveiventris</i>	Threatened
33	Southern mountain caribou	<i>Rangifer tarandus</i> ssp. <i>caribou</i>	Endangered
45	Southern sea otter	<i>Enhydra lutris nereis</i>	Threatened
54	St. Andrew beach mouse	<i>Peromyscus polionotus peninsularis</i>	Endangered
40	Tipton kangaroo rat	<i>Dipodomys nitratoideus nitratoideus</i>	Endangered
20	Utah prairie dog	<i>Cynomys parvidens</i>	Threatened
27*	Virginia big-eared bat	<i>Corynorhinus</i> (=Plecotus) <i>townsendii virginianus</i>	Endangered
41	Alabama beach mouse	<i>Peromyscus polionotus ammobates</i>	Final CH
28	Amargosa vole	<i>Microtus californicus scirpensis</i>	Final CH
24	Canada lynx	<i>Lynx canadensis</i>	Final CH
34	Choctawhatchee beach mouse	<i>Peromyscus polionotus allophrys</i>	Final CH
11653	Fisher	<i>Pekania pennanti</i>	Proposed CH
37	Fresno kangaroo rat	<i>Dipodomys nitratoideus exilis</i>	Final CH
2	Grizzly bear	<i>Ursus arctos horribilis</i>	Proposed CH
18	Jaguar	<i>Panthera onca</i>	Final CH
31	Key Largo cotton mouse	<i>Peromyscus gossypinus allapaticola</i>	Proposed CH
16	Morro Bay kangaroo rat	<i>Dipodomys heermanni morroensis</i>	Final CH
43	Mount Graham red squirrel	<i>Tamiasciurus fremonti grahamensis</i>	Final CH

⁷ Species is included in a six-point Pesticide Use Limitation Area (PULA) for citrus in Florida

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Entity ID	Common Name	Scientific Name	Species or Critical Habitat (CH) Status
5210*	New Mexico meadow jumping mouse	<i>Zapus hudsonius luteus</i>	Final CH
10078	Pacific marten, Coastal DPS	<i>Martes caurina</i>	Final CH
56	Peninsular bighorn sheep	<i>Ovis canadensis nelsoni</i>	Final CH
35	Perdido Key beach mouse	<i>Peromyscus polionotus trissyllepsis</i>	Final CH
52*	Preble's meadow jumping mouse	<i>Zapus hudsonius preblei</i>	Final CH
57	Sierra Nevada bighorn sheep	<i>Rangifer tarandus ssp. caribou</i>	Final CH
29	Silver rice rat	<i>Oryzomys palustris natator</i>	Final CH
33	Southern mountain caribou	<i>Ovis canadensis sierrae</i>	Final CH
54	St. Andrew beach mouse	<i>Peromyscus polionotus peninsularis</i>	Final CH
7	West Indian manatee	<i>Trichechus manatus</i>	Final CH

We expect adverse effects to mammals that forage on contaminated prey items on simazine use sites. We do not expect impacts to mammals that consume prey items off-site. Given we do not expect effects to terrestrial animals off-site, we do not expect reductions in prey availability from simazine exposure.

For many species or designated critical habitats in Table 8, effects are expected to be discountable as exposure to simazine is extremely unlikely to occur based on land uses within the range, habitat preference of the species, and/or occurrence in protected areas or other sites where simazine usage is not anticipated.

- For the Amargosa vole, Canada lynx, Choctawhatchee beach mouse, Florida panther, Florida salt marsh vole, Key Largo cotton mouse, Key Largo woodrat, lower Keys marsh rabbit, Mexican wolf, Mount Graham red squirrel, North American wolverine, Ozark big-eared bat, Pacific marten, Perdido Key beach mouse, Sierra Nevada bighorn sheep, Sierra Nevada red fox, silver rice rat, southern mountain caribou, southern sea otter, and St. Andrew beach mouse, we do not expect simazine will be used on or near their preferred habitats (e.g., sandy beaches, forests, remote or mountainous areas).
- For the Alabama beach mouse, black-footed ferret, fisher, Fresno kangaroo rat, giant kangaroo rat, gray bat, grizzly bear, Gulf Coast jaguarundi, jaguar, Morro Bay kangaroo

rat, New Mexico meadow jumping mouse, ocelot, Preble's meadow jumping mouse, pygmy rabbit, riparian brush rabbit, riparian woodrat, salt marsh harvest mouse, Sonoran pronghorn, southeastern beach mouse, Tipton kangaroo rat, Utah prairie dog, West Indian manatee, we do not expect them to occur on non-agricultural use sites or forage on agricultural fields where simazine may be used. Though the Utah prairie dog forages and burrows on alfalfa fields and Preble's meadow jumping mouse may occur on alfalfa hayfields, simazine is only labeled for use on alfalfa in Washington and Oregon, and neither of these species occur in those states.

- The remaining mammal critical habitats in Table 8 occur where we expect simazine will not be used, and the critical habitat PBFs focus on features that would not be affected by simazine exposure (e.g., forest characteristics for Canada lynx, grizzly bear, Key Largo cotton mouse, Pacific marten, and southern mountain caribou; coastal and dune vegetation for beach mice and kangaroo rats).

The northern long-eared bat, red wolf, San Bernardino Merriam's kangaroo rat, San Joaquin kit fox, and Virginia big-eared bat occur on agricultural or non-agricultural simazine use sites, so we do not concur with EPA's "not likely to adversely affect" determinations. In addition, for the New Mexico meadow jumping mouse and Preble's meadow jumping mouse critical habitats, vegetation, including forbs and herbs, is included as PBFs, and we expect effects could occur from simazine use. Therefore, we included these species and critical habitats in our Opinion.

Reptiles

The EPA made “not likely to adversely affect” determinations for 42 listed and proposed reptile species entities and 16 proposed and designated reptile critical habitats (Table 9). We concur with most of EPA’s reptile determinations.

Table 9. Listed and proposed reptile species and designated and proposed reptile critical habitats for which EPA made “not likely to adversely affect” determinations. For six species and three critical habitats (designated with asterisks below), we did not concur with EPA’s “not likely to adversely affect” determinations, so we analyzed them further in our Opinion.

Entity ID	Common Name	Scientific Name	Species or Critical Habitat (CH) Status
168	Alabama red-bellied turtle	<i>Pseudemys alabamensis</i>	Endangered
183*	Alameda whipsnake (=striped racer)	<i>Masticophis lateralis euryxanthus</i>	Threatened
4936	Alligator snapping turtle	<i>Macrochelys temminckii</i>	Proposed Threatened
176	American crocodile	<i>Crocodylus acutus</i>	Threatened
167	Atlantic salt marsh snake	<i>Nerodia clarkii taeniata</i>	Threatened
6097	Black pinesnake	<i>Pituophis melanoleucus lodingi</i>	Threatened
178	Blue-tailed mole skink ⁸	<i>Eumeces egregius lividus</i>	Threatened
151	Blunt-nosed leopard lizard	<i>Gambelia silus</i>	Endangered
182	Bog turtle ⁹	<i>Glyptemys muhlenbergii</i>	Threatened
12358	Bolson tortoise	<i>Gopherus flavomarginatus</i>	Endangered
175	Coachella Valley fringe-toed lizard	<i>Uma inornata</i>	Threatened
180	Copperbelly water snake	<i>Nerodia erythrogaster neglecta</i>	Threatened

⁸ Species is included in a six-point Pesticide Use Limitation Area (PULA) for citrus in Florida

⁹ Species is included in a six-point Pesticide Use Limitation Area (PULA) for all uses with three exceptions; see the main Biological Opinion

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Entity ID	Common Name	Scientific Name	Species or Critical Habitat (CH) Status
185*	Desert tortoise	<i>Gopherus agassizii</i>	Threatened
3064	Dunes sagebrush lizard	<i>Sceloporus arenicolus</i>	Endangered
7800	Eastern massasauga (=rattlesnake)	<i>Sistrurus catenatus</i>	Threatened
169	Flattened musk turtle	<i>Sternotherus depressus</i>	Threatened
11191	Green sea turtle	<i>Chelonia mydas</i>	Threatened
11192	Green sea turtle	<i>Chelonia mydas</i>	Threatened
153	Hawksbill sea turtle	<i>Eretmochelys imbricata</i>	Endangered
155	Kemp's ridley sea turtle	<i>Lepidochelys kempii</i>	Endangered
2084	Key ring-necked snake	<i>Diadophis punctatus acricus</i>	Proposed Endangered
154	Leatherback sea turtle	<i>Dermochelys coriacea</i>	Endangered
9707	Loggerhead sea turtle	<i>Caretta caretta</i>	Threatened
9941	Loggerhead sea turtle	<i>Caretta caretta</i>	Endangered
3722	Louisiana pinesnake	<i>Pituophis ruthveni</i>	Threatened
3271	Narrow-headed gartersnake	<i>Thamnophis rufipunctatus</i>	Threatened
166	New Mexican ridge-nosed rattlesnake	<i>Crotalus willardi obscurus</i>	Threatened
1783	Northern Mexican gartersnake	<i>Thamnophis eques megalops</i>	Threatened
1686	Northwestern pond turtle	<i>Actinemys marmorata</i>	Proposed Threatened
160	Olive ridley sea turtle	<i>Lepidochelys olivacea</i>	Threatened
5989	Olive ridley sea turtle	<i>Lepidochelys olivacea</i>	Endangered
11660	Pearl River map turtle	<i>Graptemys pearlensis</i>	Threatened
170*	Plymouth redbelly turtle (=Plymouth redbelly cooter)	<i>Pseudemys rubriventris bangsi</i>	Endangered

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Entity ID	Common Name	Scientific Name	Species or Critical Habitat (CH) Status
5944	Rim rock crowned snake	<i>Tantilla oolitica</i>	Proposed Endangered
171	Ringed map turtle	<i>Graptemys oculifera</i>	Threatened
152*	San Francisco garter snake	<i>Thamnophis sirtalis tetrataenia</i>	Endangered
179*	Sand skink	<i>Neoseps reynoldsi</i>	Threatened
10253*	Short-tailed snake	<i>Stilosoma extenuatum</i>	Proposed Threatened
6620	Sonoyta mud turtle	<i>Kinosternon sonoriense longifemorale</i>	Endangered
5248	Southwestern pond turtle	<i>Actinemys pallida</i>	Proposed Threatened
11657	Suwannee alligator snapping turtle	<i>Macrochelys suwanniensis</i>	Threatened
172	Yellow-blotched map turtle	<i>Graptemys flavimaculata</i>	Threatened
6097	Black pinesnake	<i>Pituophis melanoleucus lodingi</i>	Final CH
1583	Cedar Key mole skink	<i>Plestiodon egregius insularis</i>	Proposed CH
185	Desert tortoise	<i>Gopherus agassizii</i>	Final CH
11191	Green sea turtle	<i>Chelonia mydas</i>	Final CH
11192	Green sea turtle	<i>Chelonia mydas</i>	Final CH
155	Kemp's ridley sea turtle	<i>Lepidochelys kempii</i>	Proposed CH
2084	Key ring-necked snake	<i>Diadophis punctatus acricus</i>	Proposed CH
154	Leatherback sea turtle	<i>Dermochelys coriacea</i>	Final CH
9707	Loggerhead sea turtle	<i>Caretta caretta</i>	Final CH
3722	Louisiana pinesnake	<i>Pituophis ruthveni</i>	Proposed CH

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Entity ID	Common Name	Scientific Name	Species or Critical Habitat (CH) Status
3271*	Narrow-headed gartersnake	<i>Thamnophis rufipunctatus</i>	Final CH
166	New Mexican ridge-nosed rattlesnake	<i>Crotalus willardi obscurus</i>	Final CH
1783*	Northern Mexican gartersnake	<i>Thamnophis eques megalops</i>	Final CH
170*	Plymouth redbelly turtle (Plymouth redbelly cooter)	<i>Pseudemys rubriventris bangsi</i>	Final CH
5944	Rim rock crowned snake	<i>Tantilla oolitica</i>	Proposed CH
6620	Sonoyta mud turtle	<i>Kinosternon sonoriense longifemorale</i>	Final CH

We expect adverse effects to reptiles that forage on contaminated prey items on simazine use sites. We do not expect impacts to reptiles that consume prey items off-site. Given we do not expect effects to terrestrial animals off-site, we do not expect reductions in prey availability from simazine exposure.

For many species or designated critical habitats in Table 9, effects are expected to be discountable as exposure to simazine is extremely unlikely to occur based on land uses within the range, habitat preference of the species, and/or occurrence in protected areas or other sites where simazine usage is not anticipated.

- The Bolson tortoise was reintroduced on a private property with a Safe Harbor Agreement and at Sevilleta National Wildlife Refuge, and both populations are managed for conservation (New Mexico Field Office, pers. comm., 2025). Therefore, we do not expect simazine will be used near the Bolson tortoise or its habitat.
- The Sonoyta mud turtle occurs in fresh water and depends on aquatic habitat and nearby terrestrial habitat. Their aquatic habitats include streams and natural and manmade ponds, and they are opportunistic carnivores that feed on aquatic invertebrates. The U.S. portions of the Sonoyta mud turtle range and critical habitat are entirely on lands managed by the National Park Service (Quitobaquito Springs, Organ Pipe Cactus National Monument) where we do not expect simazine use sites occur.
- The Alabama red-belly turtle, alligator snapping turtle, Atlantic salt marsh snake, black pine snake, blue-tailed mole skink, blunt-nosed leopard lizard, Coachella Valley fringe-toed lizard, dunes sagebrush lizard, eastern massasauga, flattened musk turtle, Key ring-necked snake, Louisiana pine snake, narrow-headed gartersnake, New Mexican ridge-nosed rattlesnake, northwestern pond turtle, Pearl River map turtle, rim rock crowned snake, ringed map turtle, southwestern pond turtle, Suwannee alligator snapping turtle,

and yellow-blotched map turtle do not forage on agricultural or non-agricultural simazine use sites.

- Critical habitats for the Cedar Key mole skink, desert tortoise, Key ring-necked snake, New Mexican ridge-nosed rattlesnake, northern Mexican gartersnake, and rim rock crowned snake do not overlap with agricultural (i.e., CSB=0) or non-agricultural simazine use sites.
- The black pine snake and Louisiana pine snake critical habitat PBFs focus on forest structure, including herbaceous vegetation, and we expect discountable effects from exposure to forest understory from simazine exposure.

For several species or designated critical habitats in Table 9, we expect concentrations of simazine to be below the level for which we expect adverse effects to listed species or their habitats. As such, any effects are expected to be insignificant because they are not anticipated to be meaningfully measured, detected, or evaluated.

- For the green sea turtle, hawksbill sea turtle, Kemp's ridley sea turtle, leatherback sea turtle, loggerhead sea turtle, and olive ridley sea turtle, we share federal jurisdiction with the National Marine Fisheries Service (NMFS). We have lead responsibility on nesting beaches, and NMFS has lead responsibility on the marine environment. Therefore, our conclusions apply for sea turtles while in terrestrial habitats (i.e., on beaches). All sea turtles lay eggs on beaches, and at least one species (e.g., green sea turtles in Hawai'i) uses beaches to bask. We anticipate sea turtle exposures will be through contact with spray drift or consumption of contaminated food items (i.e., invertebrates or fish) while they are near shore. We expect exposure to sea turtle eggs through spray drift from nearby agricultural fields depositing on top of nests then penetrating through sand to contact egg surfaces to result in insignificant effects. Because sea turtles do not forage while on land, we do not expect dietary exposure in terrestrial habitat. We do not expect simazine will cause more than insignificant effects to prey availability. We also expect that simazine will not accumulate in marine prey items, therefore, dietary exposure will cause no more than insignificant effects. Critical habitats for green, Hawksbill, Kemp's ridley, leatherback, and loggerhead sea turtles either do not include PBF definitions (e.g., Hawksbill) or we do not expect PBFs will be affected by simazine (e.g., green). For more information, see the sea turtle qualitative effects analyses in the BE (Chapter 4).
- The American crocodile is an opportunistic feeder and may occur and rarely forage on residential or agricultural areas, but they primarily feed in water or on aquatic edges. Similarly, the copperbelly water snake typically feeds in aquatic areas and has been observed to forage on terrestrial areas, which could rarely include a simazine use site. However, we expect feeding on simazine use sites is rare and extremely unlikely to lead to dietary concentrations of simazine from which an individual of either species would experience adverse effects.
- Bog turtles may hibernate in agricultural and other man-made ditches, but they are not known to forage on these sites. We expect this level of simazine exposure to be below which adverse effects would be measurable.

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We do not concur with EPA's "not likely to adversely affect" determinations for the Alameda whipsnake, desert tortoise, Plymouth redbelly turtle, San Francisco garter snake, sand skink, short-tailed snake, or critical habitats for the narrow-headed gartersnake, northern Mexican gartersnake, or Plymouth redbelly turtle. Critical habitat PBFs for the narrow-headed gartersnake (USFWS, 2021b) and northern Mexican gartersnake (USFWS, 2021c) include "dense aquatic and wetland vegetation", and both critical habitats overlap simazine use sites. Plymouth redbelly turtle critical habitat overlaps with simazine use sites, and essential features are defined in the 1980 final critical habitat rule to include aquatic vegetation (USFWS, 1980). Therefore, we analyzed these species and critical habitats further in our Opinion.

Terrestrial Invertebrates (Arachnids, Terrestrial Insects, Snails)

The EPA made “not likely to adversely affect” determinations for 51 listed and proposed terrestrial invertebrate species entities and 19 designated and proposed terrestrial invertebrate critical habitats (Table 10). We concur with most of these “not likely to adversely affect” determinations.

Table 10. Listed and proposed terrestrial invertebrate species and designated and proposed terrestrial invertebrate critical habitats for which EPA made “not likely to adversely affect” determinations. For five species and four critical habitats (designated with asterisks below), we did not concur with EPA’s “not likely to adversely affect” determinations and we analyzed them further in our Opinion.

Taxa	Entity ID	Common Name	Scientific Name	Species and Critical Habitat (CH) Status
Arachnids	464	Bee Creek Cave harvestman	<i>Texella reddelli</i>	Endangered
Arachnids	465	Bone Cave harvestman	<i>Texella reyesi</i>	Endangered
Arachnids	469	Cokendolpher Cave harvestman	<i>Texella cokendolpheri</i>	Endangered
Arachnids	473	Government Canyon Bat Cave meshweaver	<i>Cicurina vespera</i>	Endangered
Arachnids	470	Government Canyon Bat Cave spider	<i>Tayshaneta microps</i>	Endangered
Arachnids	471	Madla Cave meshweaver	<i>Cicurina madla</i>	Endangered
Arachnids	472	Robber Baron Cave meshweaver	<i>Cicurina baronia</i>	Endangered
Arachnids	468	Spruce-fir moss spider	<i>Microhexura montivaga</i>	Endangered
Arachnids	466	Tooth Cave pseudoscorpion	<i>Tartarocreagris texana</i>	Endangered
Arachnids	467	Tooth Cave spider	<i>Tayshaneta myopica</i>	Endangered
Insects	459	[no common name] beetle	<i>Rhadine infernalis</i>	Endangered
Insects	461	[no common name] beetle	<i>Rhadine exilis</i>	Endangered
Insects	440	American burying beetle	<i>Nicrophorus americanus</i>	Threatened
Insects	10161	American burying beetle	<i>Nicrophorus americanus</i>	EXP ¹⁰
Insects	5067	Bartram's scrub-hairstreak butterfly	<i>Strymon acis bartrami</i>	Endangered
Insects	6400	Bog buck moth	<i>Hemileuca maia menyanthevora</i> (= <i>H. iroquois</i>)	Endangered
Insects	447	Coffin Cave mold beetle	<i>Batrisodes texanus</i>	Endangered

¹⁰ EXPN = non-essential experimental population

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Taxa	Entity ID	Common Name	Scientific Name	Species and Critical Habitat (CH) Status
Insects	3412	Dakota skipper	<i>Hesperia dacotae</i>	Threatened
Insects	452	Delhi Sands flower-loving fly	<i>Rhaphiomidas terminatus abdominalis</i>	Endangered
Insects	435*	Delta green ground beetle	<i>Elaphrus viridis</i>	Threatened
Insects	11740	Eastern regal fritillary	<i>Argynnis idalia idalia</i>	Proposed Endangered
Insects	8083	Florida leafwing butterfly ¹¹	<i>Anaea troglodyta floridalis</i>	Endangered
Insects	5066*	Franklin's bumble bee	<i>Bombus franklini</i>	Endangered
Insects	460	Helotes mold beetle	<i>Batrissodes ventyvi</i>	Endangered
Insects	445*	Hine's emerald dragonfly	<i>Somatochlora hineana</i>	Endangered
Insects	448	Kretschmarr Cave mold beetle	<i>Texamaurops reddelli</i>	Endangered
Insects	451	Laguna Mountains skipper	<i>Pyrgus ruralis lagunae</i>	Endangered
Insects	422	Lotis blue butterfly	<i>Lycaeides argyrognomon lotis</i>	Endangered
Insects	4508	Miami blue butterfly	<i>Cyclargus thomasi bethunebakeri</i>	Endangered
Insects	10909	Miami tiger beetle ¹¹	<i>Cicindelidia floridana</i>	Endangered
Insects	424	Mitchell's satyr butterfly ¹²	<i>Neonympha mitchellii mitchellii</i>	Endangered
Insects	9001	Mount Charleston blue butterfly	<i>Icaricia (Plebejus) shasta charlestonensis</i>	Endangered
Insects	442	Northeastern beach tiger beetle	<i>Habroscelimorpha dorsalis dorsalis</i>	Threatened
Insects	434	Pawnee montane skipper	<i>Hesperia leonardus montana</i>	Threatened
Insects	443	Puritan tiger beetle	<i>Ellipsoptera puritana</i>	Threatened
Insects	426*	Quino checkerspot butterfly	<i>Euphydryas editha quino</i> (=E. e. wrighti)	Endangered
Insects	1260	Sacramento Mountains checkerspot butterfly	<i>Euphydryas anicia cloudcrofti</i>	Endangered
Insects	455*	Saint Francis' satyr butterfly	<i>Neonympha mitchellii francisci</i>	Endangered
Insects	4910	Salt Creek Tiger beetle	<i>Cicindela nevadica lincolniana</i>	Endangered

¹¹ Species is included in a six-point Pesticide Use Limitation Area (PULA) for citrus in Florida

¹² Species is included in a six-point Pesticide Use Limitation Area (PULA) for all agricultural uses

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Taxa	Entity ID	Common Name	Scientific Name	Species and Critical Habitat (CH) Status
Insects	429	Schaus swallowtail butterfly	<i>Heraclides aristodemus ponceanus</i>	Endangered
Insects	1324	Silverspot	<i>Speyeria nokomis nokomis</i>	Threatened
Insects	449	Tooth Cave ground beetle	<i>Rhadine persephone</i>	Endangered
Insects	437	Uncompahgre fritillary butterfly	<i>Boloria acrocne</i>	Endangered
Snails	389	Chittenango ovate amber snail	<i>Novisuccinea chittenangoensis</i>	Threatened
Snails	390	Flat-spined three-toothed snail	<i>Triodopsis platysayoides</i>	Threatened
Snails	391	Iowa Pleistocene snail	<i>Discus macclintocki</i>	Endangered
Snails	387	Morro shoulderband (=Banded dune) snail	<i>Helminthoglypta walkeriana</i>	Threatened
Snails	392	Noonday snail	<i>Mesodon clarki nantahala</i>	Threatened
Snails	393	Painted snake coiled forest snail	<i>Anguispira picta</i>	Threatened
Snails	394	Stock Island tree snail	<i>Orthalicus reses</i> (not incl. <i>nesodryas</i>)	Threatened
Snails	395	Virginia fringed mountain snail	<i>Polygyriscus virginianus</i>	Endangered
Arachnids	469	Cokendolpher Cave harvestman	<i>Texella cokendolpheri</i>	Final CH
Arachnids	471	Madla Cave meshweaver	<i>Cicurina madla</i>	Final CH
Arachnids	472	Robber Baron Cave meshweaver	<i>Cicurina baronia</i>	Final CH
Arachnids	468	Spruce-fir moss spider	<i>Microhexura montivaga</i>	Final CH
Insects	459	[no common name] beetle	<i>Rhadine infernalis</i>	Final CH
Insects	461	[no common name] beetle	<i>Rhadine exilis</i>	Final CH
Insects	5067*	Bartram's scrub-hairstreak butterfly	<i>Strymon acis bartrami</i>	Final CH
Insects	3412*	Dakota skipper	<i>Hesperia dacotae</i>	Final CH
Insects	8083*	Florida leafwing butterfly	<i>Anaea troglodyta floridalis</i>	Final CH
Insects	460	Helotes mold beetle	<i>Batrissodes ventyvi</i>	Final CH
Insects	445*	Hine's emerald dragonfly	<i>Somatochlora hineana</i>	Final CH
Insects	451	Laguna Mountains skipper	<i>Pyrgus ruralis lagunae</i>	Final CH

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Taxa	Entity ID	Common Name	Scientific Name	Species and Critical Habitat (CH) Status
Insects	10909	Miami tiger beetle ¹³	<i>Cicindelidia floridana</i>	Final CH
Insects	9001	Mount Charleston blue butterfly	<i>Icaricia (Plebejus) shasta charlestonensis</i>	Final CH
Insects	431	Oregon silverspot butterfly	<i>Speyeria zerene hippolyta</i>	Final CH
Insects	434	Pawnee montane skipper	<i>Hesperia leonardus montana</i>	Proposed CH
Insects	426	Quino checkerspot butterfly	<i>Euphydryas editha quino</i> (= <i>E. e. wrighti</i>)	Final CH
Insects	1260	Sacramento Mountains checkerspot butterfly	<i>Euphydryas anicia cloudcrofti</i>	Proposed CH
Insects	4910	Salt Creek tiger beetle	<i>Cicindela nevadica lincolniana</i>	Final CH

For many species or designated critical habitats in Table 10, effects are expected to be discountable as exposure to simazine is extremely unlikely to occur based on land uses within the range, habitat preference of the species, and/or occurrence in protected areas or other sites where simazine usage is not anticipated.

- The Laguna Mountains skipper, Mount Charleston blue butterfly, Pawnee montane skipper, spruce-fir moss spider, Sacramento Mountains checkerspot butterfly, Uncompahgre fritillary butterfly, and silverspot are found in high-elevation mountainous areas where we do not expect agricultural or non-agricultural simazine use to occur. In addition, critical habitats for the Laguna Mountains skipper, Mount Charleston blue butterfly, and Sacramento Mountains checkerspot butterfly do not overlap agricultural (i.e., CSB = 0) or non-agricultural simazine use sites.
- We did not define PBFs for the Pawnee montane skipper's critical habitat, but we mentioned the species requires bunchgrasses. Though there is no shapefile available, the Pawnee montane skipper's critical habitat is a portion of its range where we do not expect agricultural or non-agricultural simazine use.
- The spruce-fir moss spider critical habitat rule mentions that the critical habitat may be affected by pesticide or herbicide use for controlling noxious species (i.e., habitat function), which we do not expect to be affected by simazine use due to the habitat's distance from simazine use sites. Spruce-fir moss spider critical habitats are also in mountainous areas where we expect simazine use will not occur.

¹³ Critical habitat is included in a six-point Pesticide Use Limitation Area (PULA) for citrus in Florida

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- The American burying beetle, bog buck moth, Chittenango ovate amber snail, Dakota skipper, Delhi Sands flower-loving fly, flat-spined three-toothed snail, Iowa Pleistocene snail, lotis blue butterfly, meltwater lednian stonefly, Miami blue butterfly, Mitchells satyr butterfly, Morro shoulderband snail, noonday snail, northeastern beach tiger beetle, painted snake coiled forest snail, Schaus swallowtail butterfly, Stock Island tree snail, Virginia fringed mountain snail, and western glacier stonefly occur in habitat types (e.g., arid and sandy areas, naturally eroding cliffs, forests, native grasslands) or remote locations where we do not expect agricultural or non-agricultural simazine use.
- The eastern regal fritillary only occurs on Fort Indiantown Gap National Guard Training Center property, and it does not occur in degraded areas like croplands or development because they require native prairie and grasslands.
- The Bartram's scrub-hairstreak butterfly, Florida leafwing butterfly, and Miami tiger beetle are found in pine rockland habitats in Florida where we expect simazine will not be used. All but one acre of the Miami tiger beetle's designated critical habitat is managed for conservation publicly or privately.
- The Oregon silverspot butterfly's critical habitat does not overlap agricultural or non-agricultural uses of simazine.

For several species or designated critical habitats in Table 10, we expect concentrations of simazine to be below the level for which we expect adverse effects to listed species or their habitats. As such, any effects are expected to be insignificant because they are not anticipated to be meaningfully measured, detected, or evaluated.

- The two *Rhadine* beetles, Bee Creek Cave harvestman, Bone Cave harvestman, Coffin Cave mold beetle, Cokendolpher Cave harvestman, Government Canyon Bat Cave meshweaver, Government Canyon Bat Cave spider, Helotes mold beetle, Kretschmarr Cave mold beetle, Madla Cave meshweaver, Robber Baron Cave meshweaver, Tooth Cave ground beetle, Tooth Cave pseudoscorpion, and Tooth Cave spider occur in caves, as do any designated critical habitats for these species. Due to the aqueous half-life of simazine, it is possible that there are still measurable levels present in the water as it enters the cave. While we expect recharge of karst cave systems, or the process of aboveground water reaching the groundwater supply, will often take weeks to months, the aqueous half-life of simazine is long enough to be present within this time-period. However, we expect simazine EECs for both non-agricultural and agricultural uses, after accounting for conservation measures, including those developed using EPA's Herbicide Strategy, will be below the threshold at which we anticipate adverse effects to occur.
- The Quino checkerspot butterfly's critical habitat PBFs do not include any features (i.e., plants) that would be affected by simazine exposure.
- The Salt Creek tiger beetle forages in saline wetlands, mud flats, and streambanks with salt deposits. We do not expect the species to forage on agricultural or non-agricultural simazine use sites. In addition, their critical habitat PBFs include "vegetated wetlands" that are used for shelter (i.e., shade), sources of prey, and protection of core habitats.

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Simazine will adversely affect sensitive plants, but we do not expect simazine exposure to significantly change the structure of exposed vegetated wetlands in the Salt Creek tiger beetle's critical habitat.

We do not concur with EPA's "not likely to adversely affect" determinations for the delta green ground beetle, Franklin's bumble bee, Hine's emerald dragonfly, Saint Francis' satyr butterfly, Quino checkerspot butterfly, or critical habitats for the Bartram's scrub-hairstreak butterfly, Dakota skipper, Florida leafwing butterfly, or Hine's emerald dragonfly. Critical habitat PBFs for these species include herbaceous vegetation that would be affected by simazine exposure. Therefore, we analyzed these species and critical habitats further in our Opinion.

Plants

The EPA made “not likely to adversely affect” determinations for 143 listed and proposed plant species and 70 designated and proposed plant critical habitats (Table 11). We concur with most of these determinations.

Table 11. Listed and proposed plant species and designated and proposed plant critical habitats for which EPA made “not likely to adversely affect” determinations. For one species and 23 critical habitats (designated with an asterisk below), we did not concur with EPA’s “not likely to adversely affect” determination, and we analyzed it further in our Opinion.

Taxa	Entity ID	Common Name	Scientific Name	Species and Critical Habitat (CH) Status
Dicot	7054	Acuña cactus	<i>Echinomastus erectocentrus</i> var. <i>acunensis</i>	Endangered
Dicot	703	Arizona hedgehog cactus	<i>Echinocereus arizonicus</i> ssp. <i>arizonicus</i>	Endangered
Dicot	523	Ash-grey paintbrush	<i>Castilleja cinerea</i>	Threatened
Dicot	813	Autumn buttercup	<i>Ranunculus aestivalis</i> (= <i>acriiformis</i>)	Endangered
Dicot	749	Barneby ridge-cress	<i>Lepidium barnebyanum</i>	Endangered
Dicot	5797	Bartram’s stonecrop	<i>Graptopetalum bartramii</i>	Threatened
Dicot	506	Bear Valley sandwort	<i>Arenaria ursina</i>	Threatened
Dicot	2884	Beardless cinchweed	<i>Pectis imberbis</i>	Endangered
Dicot	7136	Big Pine partridge pea	<i>Chamaecrista lineata</i> <i>keyensis</i>	Endangered
Dicot	1173	Big-leaved crownbeard	<i>Verbesina dissita</i>	Threatened
Dicot	1004	Blue Ridge goldenrod	<i>Solidago spithamea</i>	Threatened
Dicot	791	Brady pincushion cactus	<i>Pediocactus bradyi</i>	Endangered
Dicot	630	Braun’s rock-cress	<i>Arabis perstellata</i>	Endangered
Dicot	681	Bunched cory cactus	<i>Coryphantha ramillosa</i>	Threatened

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Taxa	Entity ID	Common Name	Scientific Name	Species and Critical Habitat (CH) Status
Dicot	614	California taraxacum	<i>Taraxacum californicum</i>	Endangered
Dicot	526	Catalina Island mountain-mahogany	<i>Cercocarpus traskiae</i>	Endangered
Dicot	925	Chisos Mountain hedgehog cactus	<i>Echinocereus chisoensis</i> var. <i>chisoensis</i>	Threatened
Dicot	796	Clay phacelia	<i>Phacelia argillacea</i>	Endangered
Dicot	1149	Clay reed-mustard	<i>Schoenocrambe argillacea</i>	Threatened
Dicot	886	Coachella Valley milk-vetch	<i>Astragalus lentiginosus</i> var. <i>coachellae</i>	Endangered
Dicot	744	Cooley's water-willow	<i>Justicia cooleyi</i>	Endangered
Dicot	710	Cushenbury buckwheat	<i>Eriogonum ovalifolium</i> var. <i>vineum</i>	Endangered
Dicot	1086	Cushenbury milk-vetch	<i>Astragalus albens</i>	Endangered
Dicot	1134	Cushenbury oxytheca	<i>Oxytheca parishii</i> var. <i>goodmaniana</i>	Endangered
Dicot	704	Davis' green pitaya	<i>Echinocereus viridiflorus</i> var. <i>davisii</i>	Endangered
Dicot	1174	Desert yellowhead	<i>Yermo xanthocephalus</i>	Threatened
Dicot	1125	Dudley Bluffs bladderpod	<i>Lesquerella congesta</i>	Threatened
Dicot	1061	Dudley Bluffs twinpod	<i>Physaria obcordata</i>	Threatened
Dicot	553	El Dorado bedstraw	<i>Galium californicum</i> ssp. <i>sierrae</i>	Endangered
Dicot	4179	Fickeisen plains cactus	<i>Pediocactus peeblesianus</i> ssp. <i>fickeiseniae</i>	Endangered
Dicot	1525	Florida semaphore cactus	<i>Consolea corallicola</i>	Endangered
Dicot	668	Fountain thistle	<i>Cirsium fontinale</i> var. <i>fontinale</i>	Endangered

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Taxa	Entity ID	Common Name	Scientific Name	Species and Critical Habitat (CH) Status
Dicot	2823	Franciscan manzanita	<i>Arctostaphylos franciscana</i>	Endangered
Dicot	831	Fringed campion	<i>Silene polypetala</i>	Endangered
Dicot	9929	Gierisch mallow	<i>Sphaeralcea gierischii</i>	Endangered
Dicot	819	Green pitcher-plant	<i>Sarracenia oreophila</i>	Endangered
Dicot	888	Heliotrope milk-vetch	<i>Astragalus montii</i>	Threatened
Dicot	959	Heller's blazingstar	<i>Liatris helleri</i>	Threatened
Dicot	812	Hinckley oak	<i>Quercus hinckleyi</i>	Threatened
Dicot	501	Hoffmann's rock-cress	<i>Arabis hoffmannii</i>	Endangered
Dicot	1020	Holmgren milk-vetch	<i>Astragalus holmgreniorum</i>	Endangered
Dicot	1120	Holy Ghost ipomopsis	<i>Ipomopsis sancti-spiritus</i>	Endangered
Dicot	902	Howell's spineflower	<i>Chorizanthe howellii</i>	Endangered
Dicot	515	Island barberry	<i>Berberis pinnata</i> ssp. <i>insularis</i>	Endangered
Dicot	1170	Island malacothrix	<i>Malacothrix squalida</i>	Endangered
Dicot	557	Island rush-rose	<i>Helianthemum greenei</i>	Threatened
Dicot	689	Jones cycladenia	<i>Cycladenia humilis</i> var. <i>jonesii</i>	Threatened
Dicot	878	Kearney's blue-star	<i>Amsonia kearneyana</i>	Endangered
Dicot	1227	Key tree cactus	<i>Pilosocereus robinii</i>	Endangered
Dicot	1010	Kneeland Prairie penny-cress	<i>Thlaspi californicum</i>	Endangered
Dicot	792	Knowlton's cactus	<i>Pediocactus knowltonii</i>	Endangered
Dicot	751	Kodachrome bladderpod	<i>Lesquerella tumulosa</i>	Endangered
Dicot	701	Kuenzler hedgehog cactus	<i>Echinocereus fendleri</i> var. <i>kuenzleri</i>	Threatened

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Taxa	Entity ID	Common Name	Scientific Name	Species and Critical Habitat (CH) Status
Dicot	544	Laguna Beach liveforever	<i>Dudleya stolonifera</i>	Threatened
Dicot	510	Lane Mountain milk-vetch	<i>Astragalus jaegerianus</i>	Endangered
Dicot	998	Large-flowered skullcap	<i>Scutellaria montana</i>	Threatened
Dicot	3295	Lassics lupine	<i>Lupinus constancei</i>	Endangered
Dicot	853	Last Chance townsendia	<i>Townsendia aprica</i>	Threatened
Dicot	625	Little amphianthus	<i>Amphianthus pusillus</i>	Threatened
Dicot	705	Lloyd's Mariposa cactus	<i>Sclerocactus mariposensis</i>	Threatened
Dicot	990	Maguire primrose	<i>Primula maguirei</i>	Threatened
Dicot	840	Malheur wire-lettuce	<i>Stephanomeria malheurensis</i>	Endangered
Dicot	639	Mancos milk-vetch	<i>Astragalus humillimus</i>	Endangered
Dicot	519	Mariposa pussypaws	<i>Calyptridium pulchellum</i>	Threatened
Dicot	1027	Mexican flannelbush	<i>Fremontodendron mexicanum</i>	Endangered
Dicot	817	Miccosukee gooseberry	<i>Ribes echinellum</i>	Threatened
Dicot	1096	Morefield's leather flower	<i>Clematis morefieldii</i>	Endangered
Dicot	1058	Mountain golden heather	<i>Hudsonia montana</i>	Threatened
Dicot	680	Nellie's cory cactus	<i>Escobaria minima</i>	Endangered
Dicot	797	North Park phacelia	<i>Phacelia formosula</i>	Endangered
Dicot	620	Northern wild monkshood	<i>Aconitum noveboracense</i>	Threatened
Dicot	4284	Ocmulgee skullcap	<i>Scutellaria ocmulgee</i>	Proposed Threatened
Dicot	640	Osterhout milkvetch	<i>Astragalus osterhoutii</i>	Endangered
Dicot	559	Otay tarplant	<i>Deinandra (=Hemizonia) conjugens</i>	Threatened

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Taxa	Entity ID	Common Name	Scientific Name	Species and Critical Habitat (CH) Status
Dicot	4724	Pagosa skyrocket	<i>Ipomopsis polyantha</i>	Endangered
Dicot	505*	Pallid manzanita	<i>Arctostaphylos pallida</i>	Threatened
Dicot	1283	Parachute beardtongue	<i>Penstemon debilis</i>	Threatened
Dicot	928	Parish's daisy	<i>Erigeron parishii</i>	Threatened
Dicot	1000	Pedate checker-mallow	<i>Sidalcea pedata</i>	Endangered
Dicot	793	Peebles Navajo cactus	<i>Pediocactus peeblesianus</i> ssp. <i>peeblesianus</i>	Endangered
Dicot	1021	Peirson's milk-vetch	<i>Astragalus magdalenae</i> var. <i>peirsonii</i>	Threatened
Dicot	713	Penland alpine fen mustard	<i>Eutrema penlandii</i>	Threatened
Dicot	1079	Penland beardtongue	<i>Penstemon penlandii</i>	Endangered
Dicot	550	Pine Hill flannelbush	<i>Fremontodendron californicum</i> ssp. <i>decumbens</i>	Endangered
Dicot	960	Pondberry	<i>Lindera melissifolia</i>	Endangered
Dicot	632	Presidio manzanita	<i>Arctostaphylos hookeri</i> var. <i>ravenii</i>	Endangered
Dicot	943	Roan Mountain bluet	<i>Hedyotis purpurea</i> var. <i>montana</i>	Endangered
Dicot	958	San Bernardino Mountains bladderpod	<i>Lesquerella kingii</i> ssp. <i>bernardina</i>	Endangered
Dicot	571	San Clemente Island woodland-star	<i>Lithophragma maximum</i>	Endangered
Dicot	802	San Diego mesa-mint	<i>Pogogyne abramsii</i>	Endangered
Dicot	496	San Diego thornmint	<i>Acanthomintha ilicifolia</i>	Threatened
Dicot	827	San Francisco Peaks ragwort	<i>Packera franciscana</i>	Threatened

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Taxa	Entity ID	Common Name	Scientific Name	Species and Critical Habitat (CH) Status
Dicot	873	San Mateo thornmint	<i>Acanthomintha obovata</i> ssp. <i>duttonii</i>	Endangered
Dicot	698	Santa Barbara Island liveforever	<i>Dudleya traskiae</i>	Endangered
Dicot	1115	Santa Clara Valley dudleya	<i>Dudleya setchellii</i>	Endangered
Dicot	574	Santa Cruz Island bush-mallow	<i>Malacothamnus fasciculatus</i> var. <i>nesioticus</i>	Endangered
Dicot	1011	Santa Cruz Island fringe-pod	<i>Thysanocarpus conchuliferus</i>	Endangered
Dicot	609	Santa Cruz Island rockcress	<i>Sibara filifolia</i>	Endangered
Dicot	1267	Scotts Valley polygonum	<i>Polygonum hickmanii</i>	Endangered
Dicot	1378	Scotts Valley spineflower	<i>Chorizanthe robusta</i> var. <i>hartwegii</i>	Endangered
Dicot	638	Sentry milk-vetch	<i>Astragalus cremnophylax</i> var. <i>cremnophylax</i>	Endangered
Dicot	1831	Short's bladderpod	<i>Physaria globosa</i>	Endangered
Dicot	794	Siler pincushion cactus	<i>Pediocactus</i> (= <i>Echinocactus</i> , = <i>Utahia</i>) <i>sileri</i>	Threatened
Dicot	1009	Slender-petaled mustard	<i>Thelypodium stenopetalum</i>	Endangered
Dicot	548	Southern mountain wild-buckwheat	<i>Eriogonum kennedyi</i> var. <i>austromontanum</i>	Threatened
Dicot	718	Spreading avens	<i>Geum radiatum</i>	Endangered
Dicot	660	Spring-loving centaury	<i>Centaureum namophilum</i>	Threatened
Dicot	913	Terlingua Creek cat's-eye	<i>Cryptantha crassipes</i>	Endangered
Dicot	843	Texas snowbells	<i>Styrax platanifolius</i> ssp. <i>texanus</i>	Endangered

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Taxa	Entity ID	Common Name	Scientific Name	Species and Critical Habitat (CH) Status
Dicot	842	Tiburon jewelflower	<i>Streptanthus niger</i>	Endangered
Dicot	652	Tiburon mariposa lily	<i>Calochortus tiburonensis</i>	Threatened
Dicot	871	Todsen's pennyroyal	<i>Hedeoma todsenii</i>	Endangered
Dicot	1089	Triple-ribbed milk-vetch	<i>Astragalus tricarlinatus</i>	Endangered
Dicot	2458	Webber's ivesia	<i>Ivesia webberi</i>	Threatened
Dicot	7948	Wedge spurge	<i>Chamaesyce deltoidea serpyllum</i>	Endangered
Dicot	884	Welsh's milkweed	<i>Asclepias welshii</i>	Threatened
Dicot	611	Wenatchee Mountains checkermallow	<i>Sidalcea oregana</i> var. <i>calva</i>	Endangered
Dicot	979	White-rayed pentachaeta	<i>Pentachaeta bellidiflora</i>	Endangered
Dicot	1035	Winkler cactus	<i>Pediocactus winkleri</i>	Threatened
Dicot	707	Zuni fleabane	<i>Erigeron rhizomatus</i>	Threatened
Monocot	1172	Canelo Hills ladies'-tresses	<i>Spiranthes delitescens</i>	Endangered
Monocot	844	Eureka dune grass	<i>Swallenia alexandrae</i>	Threatened
Monocot	551	Gentner's fritillary	<i>Fritillaria gentneri</i>	Endangered
Monocot	6782	Guadalupe fescue	<i>Festuca ligulata</i>	Endangered
Monocot	723	Harper's beauty	<i>Harperocallis flava</i>	Endangered
Monocot	807	Little Aguja (=Creek) pondweed	<i>Potamogeton clystocarpus</i>	Endangered
Monocot	935	Minnesota dwarf trout lily	<i>Erythronium propullans</i>	Endangered
Monocot	656	Navajo sedge	<i>Carex specuicola</i>	Threatened
Monocot	857	Persistent trillium	<i>Trillium persistens</i>	Endangered
Monocot	1042	Relict trillium	<i>Trillium reliquum</i>	Endangered
Monocot	594	San Bernardino bluegrass	<i>Poa atropurpurea</i>	Endangered

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Taxa	Entity ID	Common Name	Scientific Name	Species and Critical Habitat (CH) Status
Monocot	742	Small whorled pogonia	<i>Isotria medeoloides</i>	Threatened
Monocot	1153	White irisette	<i>Sisyrinchium dichotomum</i>	Endangered
Other	1209	Alabama streak-sorus fern	<i>Thelypteris pilosa</i> var. <i>alabamensis</i>	Threatened
Other	1195	American hart's-tongue fern	<i>Asplenium scolopendrium</i> var. <i>americanum</i>	Threatened
Other	1203	Black spored quillwort	<i>Isoetes melanospora</i>	Endangered
Other	9721	Florida bristle fern	<i>Trichomanes punctatum</i> ssp. <i>floridanum</i>	Endangered
Other	1191	Florida torreyia	<i>Torreya taxifolia</i>	Endangered
Other	1199	Louisiana quillwort	<i>Isoetes louisianensis</i>	Endangered
Other	1204	Mat-forming quillwort	<i>Isoetes tegetiformans</i>	Endangered
Other	1220	Rock gnome lichen	<i>Gymnoderma lineare</i>	Endangered
Other	1190	Santa Cruz cypress	<i>Cupressus abramsiana</i>	Threatened
Other	1935	Whitebark pine	<i>Pinus albicaulis</i>	Threatened
Dicot	2211*	Aboriginal Prickly-apple	<i>Harrisia</i> (=Cereus) <i>aboriginum</i> (=gracilis)	Final CH
Dicot	776	Ash Meadows blazingstar	<i>Mentzelia leucophylla</i>	Final CH
Dicot	941	Ash Meadows gumplant	<i>Grindelia fraxinipratensis</i>	Final CH
Dicot	743	Ash Meadows ivesia	<i>Ivesia kingii</i> var. <i>eremica</i>	Final CH
Dicot	641	Ash meadows milk-vetch	<i>Astragalus phoenix</i>	Final CH
Dicot	926	Ash Meadows sunray	<i>Enceliopsis nudicaulis</i> var. <i>corrugata</i>	Final CH
Dicot	523	Ash-grey paintbrush	<i>Castilleja cinerea</i>	Final CH
Dicot	539*	Baker's larkspur	<i>Delphinium bakeri</i>	Final CH
Dicot	506	Bear Valley sandwort	<i>Arenaria ursina</i>	Final CH

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Taxa	Entity ID	Common Name	Scientific Name	Species and Critical Habitat (CH) Status
Dicot	2884	beardless chinchweed	<i>Pectis imberbis</i>	Final CH
Dicot	630	Braun's rock-cress	<i>Arabis perstellata</i>	Final CH
Dicot	507	Braunton's milk-vetch	<i>Astragalus brauntonii</i>	Final CH
Dicot	1723*	Bushy whitlow-wort	<i>Paronychia congesta</i>	Proposed CH
Dicot	614	California taraxacum	<i>Taraxacum californicum</i>	Final CH
Dicot	8336	Cape Sable Thoroughwort ¹⁴	<i>Chromolaena frustrata</i>	Final CH
Dicot	710	Cushenbury buckwheat	<i>Eriogonum ovalifolium</i> var. <i>vineum</i>	Final CH
Dicot	1086*	Cushenbury milk-vetch	<i>Astragalus albens</i>	Final CH
Dicot	1134	Cushenbury oxytheca	<i>Oxytheca parishii</i> var. <i>goodmaniana</i>	Final CH
Dicot	1174	Desert yellowhead	<i>Yermo xanthocephalus</i>	Final CH
Dicot	4179	Fickeisen plains cactus	<i>Pediocactus peeblesianus</i> ssp. <i>fickeiseniae</i>	Final CH
Dicot	887	Fish Slough milk-vetch	<i>Astragalus lentiginosus</i> var. <i>piscinensis</i>	Final CH
Dicot	1710*	Fleshy-fruit glade-cress	<i>Leavenworthia crassa</i>	Final CH
Dicot	1525*	Florida semaphore Cactus	<i>Consolea corallicola</i>	Final CH
Dicot	1119*	Gaviota Tarplant	<i>Deinandra increscens</i> ssp. <i>villosa</i>	Final CH
Dicot	9929	Gierisch mallow	<i>Sphaeralcea gierischii</i>	Final CH
Dicot	709	Gypsum wild-buckwheat	<i>Eriogonum gypsophilum</i>	Final CH
Dicot	1020	Holmgren milk-vetch	<i>Astragalus holmgreniorum</i>	Final CH
Dicot	510	Lane Mountain milk-vetch	<i>Astragalus jaegerianus</i>	Final CH

¹⁴ Critical habitat is included in a six-point Pesticide Use Limitation Area (PULA) for citrus, avocados, and olives

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Taxa	Entity ID	Common Name	Scientific Name	Species and Critical Habitat (CH) Status
Dicot	626	Large-flowered fiddleneck	<i>Amsinckia grandiflora</i>	Final CH
Dicot	3295	Lassics lupine	<i>Lupinus constancei</i>	Final CH
Dicot	546*	Lompoc yerba santa	<i>Eriodictyon capitatum</i>	Final CH
Dicot	1058	Mountain golden heather	<i>Hudsonia montana</i>	Final CH
Dicot	11017	Navasota False Foxglove	<i>Agalinis navasotensis</i>	Proposed CH
Dicot	6617*	Neches River rose-mallow	<i>Hibiscus dasycalyx</i>	Final CH
Dicot	4284	Ocmulgee skullcap	<i>Scutellaria ocmulgee</i>	Proposed CH
Dicot	559*	Otay tarplant	<i>Deinandra (=Hemizonia) conjugens</i>	Final CH
Dicot	4724	Pagosa skyrocket	<i>Ipomopsis polyantha</i>	Final CH
Dicot	1283	Parachute beardtongue	<i>Penstemon debilis</i>	Final CH
Dicot	928	Parish's daisy	<i>Erigeron parishii</i>	Final CH
Dicot	958	San Bernardino Mountains bladderpod	<i>Lesquerella kingii</i> ssp. <i>bernardina</i>	Final CH
Dicot	827	San Francisco Peaks ragwort	<i>Packera franciscana</i>	Final CH
Dicot	7270*	Sand dune phacelia	<i>Phacelia argentea</i>	Final CH
Dicot	1378	Scotts Valley spineflower	<i>Chorizanthe robusta</i> var. <i>hartwegii</i>	Final CH
Dicot	1831	Short's bladderpod	<i>Physaria globosa</i>	Final CH
Dicot	548	Southern mountain wild-buckwheat	<i>Eriogonum kennedyi</i> var. <i>austromontanum</i>	Final CH
Dicot	660	Spring-loving centaury	<i>Centaurium namophilum</i>	Final CH
Dicot	871	Todsen's pennyroyal	<i>Hedeoma todsenii</i>	Final CH
Dicot	6490	Umtanum desert buckwheat	<i>Eriogonum codium</i>	Final CH

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Taxa	Entity ID	Common Name	Scientific Name	Species and Critical Habitat (CH) Status
Dicot	1166	Vail Lake ceanothus	<i>Ceanothus ophiochilus</i>	Final CH
Dicot	511	Ventura Marsh Milk-vetch ¹⁵	<i>Astragalus pycnostachyus</i> var. <i>lanosissimus</i>	Final CH
Dicot	2458	Webber's ivesia	<i>Ivesia webberi</i>	Final CH
Dicot	884	Welsh's milkweed	<i>Asclepias welshii</i>	Final CH
Dicot	611	Wenatchee Mountains checkermallow	<i>Sidalcea oregana</i> var. <i>calva</i>	Final CH
Dicot	576*	Willowy monardella	<i>Monardella viminea</i>	Final CH
Monocot	580*	Colusa grass	<i>Neostapfia colusana</i>	Final CH
Monocot	4712	Florida pineland crabgrass ¹⁶	<i>Digitaria pauciflora</i>	Proposed CH
Monocot	1189*	Golden sedge	<i>Carex lutea</i>	Final CH
Monocot	858*	Greene's tuctoria	<i>Tuctoria greenei</i>	Final CH
Monocot	6782	Guadalupe fescue	<i>Festuca ligulata</i>	Final CH
Monocot	582*	Hairy Orcutt grass	<i>Orcuttia pilosa</i>	Final CH
Monocot	528*	Purple amole	<i>Chlorogalum purpureum</i>	Final CH
Monocot	787*	Sacramento Orcutt grass	<i>Orcuttia viscida</i>	Final CH
Monocot	594	San Bernardino bluegrass	<i>Poa atropurpurea</i>	Final CH
Monocot	496	San Diego thornmint	<i>Acanthomintha ilicifolia</i>	Final CH
Monocot	786*	San Joaquin Valley Orcutt grass	<i>Orcuttia inaequalis</i>	Final CH
Monocot	583*	Slender Orcutt grass	<i>Orcuttia tenuis</i>	Final CH
Monocot	859*	Solano grass	<i>Tuctoria mucronata</i>	Final CH
Monocot	870*	Texas wild-rice	<i>Zizania texana</i>	Final CH

¹⁵ Critical habitat is included in a six-point Pesticide Use Limitation Area (PULA) for all agricultural uses

¹⁶ Critical habitat is included in a six-point Pesticide Use Limitation Area (PULA) for all agricultural uses

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Taxa	Entity ID	Common Name	Scientific Name	Species and Critical Habitat (CH) Status
Monocot	516*	Thread-leaved brodiaea	<i>Brodiaea filifolia</i>	Final CH
Other	9721	Florida bristle fern	<i>Trichomanes punctatum</i> ssp. <i>floridanum</i>	Final CH

Of the plants that we concur are “not likely to be adversely affected” by the proposed action, 91 are found in remote locations (e.g., *Astragalus magdalenae* var. *peirsonii*, *Consolea corallicola*), forests (e.g., *Asplenium scolopendrium* var. *americanum*, *Pinus albicaulis*, *Trillium reliquum*), mountainous or high elevation areas (e.g., *Lesquerella kingii* ssp. *bernardina*, *Physaria obcordata*), or protected areas (e.g., *Berberis pinnata* ssp. *insularis*, *Cercocarpus traskiae*, *Malacothrix squalida*, *Pediocactus knowltonii*) where we do not expect agricultural or non-agricultural simazine use to occur. The remaining species’ ranges may overlap with small areas that have been treated with simazine in the past, but the species occur in habitats where we expect simazine will not be used (e.g., rocky outcrops, sand dunes, mountains, desert scrub, nature preserves). Therefore, we expect that the effects of simazine exposure on these species are extremely unlikely to occur and are thus discountable.

Similarly, the plant critical habitats that we concur are “not likely to be adversely affected” by the proposed action are designated or proposed in remote locations (e.g., *Astragalus holmgreniorum*), forests (e.g., *Arabis perstellata*, *Scutellaria ocmulgee*), or high elevation areas (e.g., *Lesquerella kingii* ssp. *bernardina*, *Sidalcea oregana* var. *calva*). The Ash Meadows critical habitats occur primarily on Ash Meadows National Refuge; while much of the area was agriculture in the past, we do not expect active agriculture or non-agricultural uses of simazine to occur near these species or their critical habitats based on visual assessments of satellite imagery. These critical habitats do not overlap with agricultural or non-agricultural simazine use sites, therefore, we anticipate discountable effects for these plant critical habitat PBFs from simazine exposure.

The pallid manzanita occurs on residential yards and residential herbicide use is a listed threat (USFWS, 2015). We do not concur with EPA’s “not likely to adversely affect” due to potential exposure from non-agricultural uses of simazine, so we considered this species in our Opinion. For 31 plant critical habitats, we are unable to concur with EPA’s “not likely to adversely affect” determination, and we analyzed them further in our Opinion.

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