**ATTACHMENT 1-16: Biological Information on Listed Species of Birds and Model Parameterization for Pesticide Effects Determinations**

1. **Introduction**

The purpose of this document is to summarize available information for currently listed, proposed and candidate birds species (primarily from the US Fish and Wildlife Service). Also included are experimental populations. The focus of this effort is to capture information that may be used in ecological risk assessments of pesticides to make species-specific effects determinations. This report focuses on defining parameters, such as body weight and diet, which may be used to estimate pesticide exposures to listed birds. This report also focuses on defining species characteristics that may be used to assess potential indirect effects to the species (*e.g.,* diet and habitat).

A formal quality assurance and quality control plan was implemented in the collection of species specific data. The instructions for extracting information for birds are included in **SUPPLEMENTAL INFORMATION 1**. A template for the worksheet used to record relevant biological information for each species is provided in **SUPPLEMENTAL INFORMATION 2**. **SUPPLEMENTAL INFORMATION 3** contains the completed worksheets containing biological information on each listed bird species or DPS. These worksheets were completed by Brian Anderson, Lewis Brown, Steve Carey, Kris Garber, Elyssa Arnold (formerly Gelmann), Jean Holmes, and Valerie Woodard; and reviewed by Jean Holmes, with some assistance from Kris Garber.

At this time, there are a total of 97 federally listed as endangered and threatened (listed) species, subspecies or populations of birds that are listed under the Endangered Species Act (ESA) and occur in the United States, its territories and its waters. In addition, there are 5 candidate, proposed endangered and proposed threatened species. In addition to the 97 listed species and 5 candidates/proposed, there are also 6 listings that are considered non-essential, experimental populations. These species will be considered in the national level risk assessments for chlorpyrifos, diazinon, and malathion (**Table A 1-16.1**). This assessment does not consider species listed as “foreign”. This is because they occur outside of the action area for pesticide registrations in the US.

**Table A 1-16.1. Number of listed birds by status.**

|  |  |
| --- | --- |
| **Status** | **Number of listings** |
| Endangered | 77 |
| Threatened | 20 |
| Candidate | 2 |
| Proposed Endangered | 3 |
| Proposed Threatened | 1 |
| Non-essential, experimental population | 6 |
| Total | 109 |

1. **No Effect Determinations**

“No Effect” determinations are made for five species. These species were excluded if they are presumed by the Fish and Wildlife Service to be extinct, if the species no longer occurs in the US, if the species has not been observed for decades in the US or the species exists only in captivity and has no designated critical habitat. Specific species that will be excluded from pesticide effects determinations and the reasons for exclusion are provided in **Table A 1-16.2**.

**Table A 1-16.2. Species for which “No Effect” determinations are made.**

|  |  |  |  |
| --- | --- | --- | --- |
| ***Scientific Name*** | **Common Name** | **Listing\*** | **Rationale for “No Effect” determination** |
| *Corvus hawaiiensis* | Hawaiian crow (='alala) | E | Exists only in captivity, no designated critical habitat. |
| *Corvus leucognaphalus* | White necked crow | E | Extirpated from the United States. No designated critical habitat. |
| *Gymnomyza samoensis* | ma’oma’o | C | USFWS believes that this species only occurs in Independent Samoa. Species previously occurred in American Samoa; however it has been extirpated from this US territory\*\*. Therefore, this species does not occur in US or its territories. |
| *Rhynchopsitta pachyrhyncha* | Thick-billed parrot | E | Has not been observed in US (AZ and NM) since 1938\*\*\*. No designated critical habitat. |
| *Zosterops conspicillatus conspicillatus* | Bridled White-eye | E | Most likely extinct. Not observed since 1983. Recent 5-year review by USFWS recommends delisting due to extinction. No final designated critical habitat. |

\*E=endangered; T=threatened, C = candidate

\*\* http://www.fws.gov/policy/library/2014/2014-28536.html

\*\*\* http://www.gpo.gov/fdsys/pkg/FR-2013-07-02/pdf/2013-15945.pdf

For species that are suspected of being extinct, but may still exist, (including Kauai Akialoa (*Hemignathus procerus*), Kauai Òo (*Moho braccatus*), Molokai Thrush (*Myadestes lanaiensis rutha*) and Eskimo curlew (*Numenius borealis*)), effects determinations will be made. In addition, although the Guam Micronesian Kingfisher (*Halcyon cinnamomina cinnamomina*) only exists in captivity, it has a designated critical habitat. Therefore, effects determinations will be made for the critical habitat of this species.

1. **Species considered in National Level Effects Determinations**

There are a total of 109 listings for birds that will be discussed further in this report and included in pesticide risk assessments. Of these species, 27 listed birds have designated critical habitats, while 3 species have proposed critical habitats. The majority of the listed species or subspecies are in the Passeriformes order (N = 47). In addition, there are a number of listed species or subspecies that are in the Gruiformes (N = 13), Charadriiformes (N = 12), Galliformes (N = 5) and Anseriformes (N = 5) orders. Several other orders of birds have four or fewer listed species. **Table A 1-16.3** contains a list of the number of listed species or subspecies that are represented by each order of birds. **Table A 1-16.4** includes the full list of species that will be considered further in these assessments.

**Table A 1-16.3. Orders of birds that have listed species or subspecies and the number of species or subspecies in each order.**

|  |  |  |
| --- | --- | --- |
| **Order** | **Common names of species within order** | **Number of species/subspecies/DPS** |
| Accipitriformes | hawks, kites | 4 |
| Anseriformes | ducks, geese, teals, swans | 5 |
| Apodiformes | swifts and hummingbirds | 1 |
| Caprimulgiformes | nightjars | 1 |
| Charadriiformes | auks, plovers, gulls, sandpipers | 12 |
| Ciconiiformes | herons, bitterns, egrets, ibis | 1 |
| Columbiformes | pigeons and doves | 2 |
| Coraciiformes | kingfishers, hornbills | 1 |
| Cuculiformes | cuckoo | 1 |
| Falconiformes | falcons, condor | 5 |
| Galliformes | Pheasants, partridges, quail | 5 |
| Gruiformes | cranes and rails | 13 |
| Passeriformes | warblers, honeycreepers, vireos | 47 |
| Piciformes | woodpeckers and sapsuckers | 2 |
| Procellariiformes | albatross, petrel and shearwater | 4 |
| Psittaciformes | parrots and parakeets | 3 |
| Strigiformes | owls | 2 |

**Table A 1-16.4. Listed species of birds included in pesticide effects determinations.**

| ***Scientific Name*** | **Common Name** | **Order** | **Listing Status\*** | **Critical Habitat?** | **USFWS Species ID (ENTITY\_ID)** |
| --- | --- | --- | --- | --- | --- |
| *Accipiter striatus venator* | Puerto Rican sharp-shinned hawk | Accipitriformes | E | No | 128 |
| *Acrocephalus familiaris kingi* | Nihoa millerbird (old world warbler) | Passeriformes | E | No | 75 |
| *Acrocephalus luscinia* | Nightingale reed warbler (old world warbler) | Passeriformes | E | No | 1222 |
| *Aerodramus vanikorensis bartschi* | Mariana gray swiftlet | Apodiformes | E | No | 148 |
| *Agelaius xanthomus* | Yellow-shouldered blackbird | Passeriformes | E | Yes | 117 |
| *Amazona viridigenalis* | Red-crowned parrot | Psittaciformes | C | No | 10021 |
| *Amazona vittata* | Puerto Rican parrot | Psittaciformes | E | No | 80 |
| *Ammodramus maritimus mirabilis* | Cape Sable seaside sparrow | Passeriformes | E | Yes | 85 |
| *Ammodramus savannarum floridanus* | Florida grasshopper sparrow | Passeriformes | E | No | 133 |
| *Amphispiza belli clementeae* | San Clemente sage sparrow | Passeriformes | T | No | 116 |
| *Anas laysanensis* | Laysan duck | Anseriformes | E | No | 70 |
| *Anas wyvilliana* | Hawaiian duck (=koloa) | Anseriformes | E | No | 69 |
| *Aphelocoma coerulescens* | Florida scrub-jay | Passeriformes | T | No | 140 |
| *Brachyramphus marmoratus* | Marbled Murrelet | Charadriiformes | T | Yes | 143 |
| *Branta (=Nesochen) sandvicensis* | Hawaiian Goose | Anseriformes | E | No | 73 |
| *Buteo platypterus brunnescens* | Puerto Rican broad-winged hawk | Accipitriformes | E | No | 127 |
| *Buteo solitarius* | Hawaiian hawk (='lo) | Accipitriformes | E\*\* | No | 8386 |
| *Calidris canutus rufa* | Red knot | Charadriiformes | T | No | 8621 |
| *Campephilus principalis* | Ivory-billed woodpecker | Piciformes | E | No | 95 |
| *Caprimulgus noctitherus* | Puerto Rican nightjar | Caprimulgiformes | E | No | 111 |
| *Centrocercus minimus* | Gunnison sage-grouse | Galliformes | T | Yes | 4064 |
| *Charadrius alexandrinus nivosus* | Western snowy plover | Charadriiformes | T | Yes | 132 |
| *Charadrius melodus* | Piping plover (Great Lakes breeding population) | Charadriiformes | E | Yes | 130 |
| *Charadrius melodus* | Piping plover (all birds not listed as endangered) | Charadriiformes | T | Yes | 131 |
| *Chasiempis sandwichensis ibidis* | Oahu elepaio | Passeriformes | E | Yes | 150 |
| *Coccyzus americanus* | Yellow-billed Cuckoo (western DPS) | Cuculiformes | T | Proposed | 6901 |
| *Colinus virginianus ridgwayi* | Masked bobwhite quail | Galliformes | E | No | 89 |
| *Columba inornata wetmorei* | Puerto Rican plain pigeon | Columbiformes | E | No | 101 |
| *Corvus kubaryi* | Mariana crow (=aga) | Passeriformes | E | Yes | 118 |
| *Dendroica angelae* | Elfin-woods warbler | Passeriformes | C | No | 4237 |
| *Dendroica chrysoparia* | Golden-cheeked warbler (=wood) | Passeriformes | E | No | 139 |
| *Empidonax traillii extimus* | Southwestern willow flycatcher | Passeriformes | E | Yes | 149 |
| *Eremophila alpestris strigata* | Streaked Horned lark | Passeriformes | T | Yes | 4296 |
| *Falco femoralis septentrionalis* | Northern aplomado falcon (AZ, NM) | Falconiformes | EXP | No | 9122 |
| *Falco femoralis septentrionalis* | Northern aplomado falcon | Falconiformes | E | No | 126 |
| *Fulica americana alai* | Hawaiian coot | Gruiformes | E | No | 108 |
| *Gallicolumba stairi* | Friendly Ground-Dove (American Samoa DPS) | Columbiformes | C | No | 5170 |
| *Gallinula chloropus guami* | Mariana common moorhen | Gruiformes | E | No | 120 |
| *Gallinula chloropus sandvicensis* | Hawaiian common moorhen | Gruiformes | E | No | 76 |
| *Grus americana* | Whooping crane (AL, AR, GA, IL, IN, IA, KY, LA, MI, MN, MS, MO, NC, OH, SC, TN, VA, WI, WV) | Gruiformes | EXP | No | 7342 |
| *Grus americana* | Whooping crane (Southwestern LA) | Gruiformes | EXP | No | 10124 |
| *Grus americana* | Whooping crane (CO, ID, FL, NM, UT, and the western half of Wyoming) | Gruiformes | EXP | No | 4679 |
| *Grus americana* | Whooping crane | Gruiformes | E | Yes | 67 |
| *Grus canadensis pulla* | Mississippi sandhill crane | Gruiformes | E | Yes | 110 |
| *Gymnogyps californianus* | California condor (specific portions of AZ, NV and UT) | Falconiformes | EXP | No | 1737 |
| *Gymnogyps californianus* | California condor | Falconiformes | E | Yes | 66 |
| *Halcyon cinnamomina cinnamomina* | Guam Micronesian Kingfisher | Coraciiformes | E | Yes | 119 |
| *Hemignathus affinis* | Maui Nukupu`u (honeycreeper) | Passeriformes | E | No | 11333 |
| *Hemignathus hanapepe* | Kauai Nukupu`u (honeycreeper) | Passeriformes | E | No | 100 |
| *Hemignathus munroi* | Akiapola`au (honeycreeper) | Passeriformes | E | No | 65 |
| *Hemignathus procerus* | Kauai Akialoa (honeycreeper) | Passeriformes | E | No | 64 |
| *Himantopus mexicanus knudseni* | Hawaiian stilt | Charadriiformes | E | No | 104 |
| *Lanius ludovicianus mearnsi* | San Clemente loggerhead shrike | Passeriformes | E | No | 115 |
| *Loxioides bailleui* | Palila (honeycreeper) | Passeriformes | E | Yes | 79 |
| *Loxops caeruleirostris* | Akekee | Passeriformes | E | Yes | 6522 |
| *Loxops coccineus coccineus* | Hawaii akepa (honeycreeper) | Passeriformes | E | No | 97 |
| *Loxops coccineus ochraceus* | Maui akepa (honeycreeper) | Passeriformes | E | No | 98 |
|  |  |  |  |  |  |
| *Megapodius laperouse* | Micronesian megapode | Galliformes | E | No | 87 |
| *Melamprosops phaeosoma* | Po`ouli (honeycreeper) | Passeriformes | E | No | 113 |
| *Moho braccatus* | Kauai `O`o (honeyeater) | Passeriformes | E | No | 77 |
| *Myadestes lanaiensis rutha* | Molokai thrush | Passeriformes | E | No | 106 |
| *Myadestes myadestinus* | Large Kauai thrush (=kamao) | Passeriformes | E | No | 105 |
| *Myadestes palmeri* | Small Kauai thrush (=puaiohi) | Passeriformes | E | No | 86 |
| *Mycteria americana* | Wood stork | Ciconiiformes | E | No | 124 |
| *Numenius borealis* | Eskimo Curlew | Charadriiformes | E | No | 91 |
| *Oceanodroma castro* | Band-rumped storm-petrel (Hawaii DPS) | Procellariiformes | C | No | 2859 |
| *Oreomystis bairdi* | Akikiki | Passeriformes | E | Yes | 4136 |
| *Oreomystis mana* | Hawaii creeper | Passeriformes | E | No | 112 |
| *Palmeria dolei* | Crested honeycreeper | Passeriformes | E | Proposed | 74 |
| *Paroreomyza flammea* | Molokai creeper | Passeriformes | E | No | 109 |
| *Paroreomyza maculata* | Oahu creeper | Passeriformes | E | No | 99 |
| *Phoebastria (=Diomedea) albatrus* | Short-tailed albatross | Procellariiformes | E | No | 88 |
| *Picoides borealis* | Red-cockaded woodpecker | Piciformes | E | No | 107 |
| *Pipilo crissalis eremophilus* | Inyo California towhee | Passeriformes | T\*\* | Yes | 137 |
| *Polioptila californica californica* | Coastal California gnatcatcher | Passeriformes | T | Yes | 145 |
| *Polyborus plancus audubonii* | Audubon's crested caracara | Falconiformes | T | No | 125 |
| *Polysticta stelleri* | Steller's eider | Anseriformes | T | Yes | 147 |
| *Pseudonestor xanthophrys* | Maui parrotbill (honeycreeper) | Passeriformes | E | Proposed | 81 |
| *Psittirostra psittacea* | `O`u (honeycreeper) | Passeriformes | E | No | 78 |
| *Pterodroma phaeopygia sandwichensis* | Hawaiian dark-rumped petrel | Procellariiformes | E | No | 82 |
| *Puffinus auricularis newelli* | Newell's Townsend's shearwater | Procellariiformes | T | No | 114 |
| *Rallus longirostris levipes* | Light-footed clapper rail | Gruiformes | E | No | 103 |
| *Rallus longirostris obsoletus* | California clapper rail | Gruiformes | E | No | 102 |
| *Rallus longirostris yumanensis* | Yuma clapper rail | Gruiformes | E | No | 84 |
| *Rallus owstoni* | Guam rail (Experimental pop) | Gruiformes | EXP | No | 4889 |
| *Rallus owstoni* | Guam rail | Gruiformes | E | No | 121 |
| *Rostrhamus sociabilis plumbeus* | Everglade snail kite | Accipitriformes | E | Yes | 1221 |
| *Setophaga kirtlandii (= Dendroica kirtlandii)* | Kirtland's warbler | Passeriformes | E | No | 94 |
| *Somateria fischeri* | Spectacled eider | Anseriformes | T | Yes | 146 |
| *Sterna antillarum* | Least tern | Charadriiformes | E | No | 134 |
| *Sterna antillarum browni* | California least tern | Charadriiformes | E | No | 96 |
| *Sterna dougallii dougallii* | Roseate tern (Northeast population) | Charadriiformes | E | No | 135 |
| *Sterna dougallii dougallii* | Roseate tern (Caribbean population) | Charadriiformes | T | No | 136 |
| *Strix occidentalis caurina* | Northern spotted owl | Strigiformes | T | Yes | 142 |
| *Strix occidentalis lucida* | Mexican spotted owl | Strigiformes | T | Yes | 129 |
| *Synthliboramphus hypoleucus* | Xantus's Murrelet | Charadriiformes | C | No | 6618 |
| *Telespyza cantans* | Laysan finch (honeycreeper) | Passeriformes | E | No | 71 |
| *Telespyza ultima* | Nihoa finch (honeycreeper) | Passeriformes | E | No | 72 |
| *Tympanuchus cupido attwateri* | Attwater's greater prairie-chicken | Galliformes | E | No | 83 |
| *Tympanuchus pallidicinctus* | Lesser prairie-chicken | Galliformes | T | No | 2691 |
| *Vermivora bachmanii* | Bachman's warbler (=wood) | Passeriformes | E | No | 93 |
| *Vireo atricapilla* | Black-capped vireo | Passeriformes | E | No | 138 |
| *Vireo bellii pusillus* | Least Bell's vireo | Passeriformes | E | Yes | 123 |
| *Zosterops rotensis* | Rota bridled white-eye | Passeriformes | E | Yes | 1241 |

\*E=endangered; T=threatened, C = candidate, P = proposed, EXP = experimental population

\*\*Proposed for delisting

1. **Diets**

The diets of listed birds include a wide variety of aquatic and terrestrial animals and plants (**Table A 1-16.5**). The majority of listed birds (74%) consume terrestrial invertebrates. Many birds also consume seeds (33%) or fruit (32%). Many species have diets that include a variety of food items. **Tables A 1-16.6 and A 1-16.7** define the terrestrial plant parts and terrestrial animals, respectively, consumed by listed birds. **Table A 1-16.8** defines the aquatic animals and plants consumed by each listed bird. Additional details and source information are provided in **SUPPLEMENTAL INFORMATION 3**.

**Table A 1-16.5. Number of listed species by taxa with each dietary item categories.**

|  |  |  |
| --- | --- | --- |
| **Dietary item** | | **Number of species** |
| Plant matter | Algae | 3 |
| Aquatic plants | 11 |
| Broadleaf plants | 23 |
| Flowers | 5 |
| Fruit | 31 |
| Grass | 14 |
| Nectar | 12 |
| Seeds | 34 |
| Invertebrates | Freshwater | 18 |
| Saltwater | 22 |
| Terrestrial, above ground | 78 |
| Terrestrial, below ground | 4 |
| Vertebrates | Amphibians (terrestrial) | 9 |
| Birds (and chicks) | 17 |
| Bird eggs | 5 |
| Carrion | 7 |
| Fish (freshwater) and amphibians | 12 |
| Fish (saltwater) | 17 |
| Mammals | 16 |
| Reptiles | 14 |

**Table A 1-16.6. Diets of listed birds: terrestrial plants.**

| ***Scientific Name*** | **Common Name** | **Grass** | **Leaves** | **Fruit** | **Seeds** | **Flowers** | **Nectar** |
| --- | --- | --- | --- | --- | --- | --- | --- |
| *Accipiter striatus venator* | Puerto Rican sharp-shinned hawk | No | No | No | No | No | No |
| *Acrocephalus familiaris kingi* | Nihoa millerbird (old world warbler) | No | No | No | No | No | No |
| *Acrocephalus luscinia* | Nightingale reed warbler (old world warbler) | No | No | No | No | No | No |
| *Aerodramus vanikorensis bartschi* | Mariana gray swiftlet | No | No | No | No | No | No |
| *Agelaius xanthomus* | Yellow-shouldered blackbird | No | No | Yes | Yes | No | Yes |
| *Amazona viridigenalis* | Red-crowned parrot | No | Yes | Yes | Yes | Yes | No |
| *Amazona vittata* | Puerto Rican parrot | No | Yes | Yes | Yes | No | No |
| *Ammodramus maritimus mirabilis* | Cape Sable seaside sparrow | No | No | No | Yes | No | No |
| *Ammodramus savannarum floridanus* | Florida grasshopper sparrow | No | No | No | Yes | No | No |
| *Amphispiza belli clementeae* | San Clemente sage sparrow | Yes | Yes | Yes | Yes | Yes | No |
| *Anas laysanensis* | Laysan duck | Yes | Yes | No | Yes | No | No |
| *Anas wyvilliana* | Hawaiian duck (=koloa) | Yes | Yes | No | Yes | No | No |
| *Aphelocoma coerulescens* | Florida scrub-jay | No | No | Yes | Yes | No | No |
| *Brachyramphus marmoratus* | Marbled Murrelet | No | No | No | No | No | No |
| *Branta (=Nesochen) sandvicensis* | Hawaiian Goose | Yes | Yes | Yes | Yes | No | No |
| *Buteo platypterus brunnescens* | Puerto Rican broad-winged hawk | No | No | No | No | No | No |
| *Buteo solitarius* | Hawaiian hawk (='lo) | No | No | No | No | No | No |
| *Calidris canutus rufa* | Red knot | No | No | No | No | No | No |
| *Campephilus principalis* | Ivory-billed woodpecker | No | No | Yes | Yes | No | No |
| *Caprimulgus noctitherus* | Puerto Rican nightjar | No | No | No | No | No | No |
| *Centrocercus minimus* | Gunnison sage-grouse | No | Yes | No | No | No | No |
| *Charadrius alexandrinus nivosus* | Western snowy plover | No | No | No | No | No | No |
| *Charadrius melodus* | Piping plover (Great Lakes breeding population) | No | No | No | No | No | No |
| *Charadrius melodus* | Piping plover (all birds not listed as endangered) | No | No | No | No | No | No |
| *Chasiempis sandwichensis ibidis* | Oahu elepaio | No | No | No | No | No | No |
| *Coccyzus americanus* | Yellow-billed Cuckoo (western DPS) | No | No | Yes | Yes | No | No |
| *Colinus virginianus ridgwayi* | Masked bobwhite quail | Yes | Yes | Yes | Yes | No | No |
| *Columba inornata wetmorei* | Puerto Rican plain pigeon | Yes | Yes | No | Yes | No | No |
| *Corvus kubaryi* | Mariana crow (=aga) | Yes | Yes | Yes | Yes | No | No |
| *Dendroica angelae* | Elfin-woods warbler | No | No | No | No | No | No |
| *Dendroica chrysoparia* | Golden-cheeked warbler (=wood) | No | No | No | No | No | No |
| *Empidonax traillii extimus* | Southwestern willow flycatcher | No | No | No | No | No | No |
| *Eremophila alpestris strigata* | Streaked Horned lark | No | No | No | Yes | No | No |
| *Falco femoralis septentrionalis* | Northern aplomado falcon (AZ, NM) | No | No | No | No | No | No |
| *Falco femoralis septentrionalis* | Northern aplomado falcon | No | No | No | No | No | No |
| *Fulica americana alai* | Hawaiian coot | No | No | No | No | No | No |
| *Gallicolumba stairi* | Friendly Ground-Dove (American Samoa DPS) | Yes | Yes | Yes | Yes | No | No |
| *Gallinula chloropus guami* | Mariana common moorhen | Yes | Yes | No | No | No | No |
| *Gallinula chloropus sandvicensis* | Hawaiian common moorhen | Yes | Yes | Yes | Yes | No | No |
| *Grus americana* | Whooping crane (AL, AR, GA, IL, IN, IA, KY, LA, MI, MN, MS, MO, NC, OH, SC, TN, VA, WI, WV) | No | No | Yes | Yes | No | No |
| *Grus americana* | Whooping crane (Southwestern LA) | No | No | Yes | Yes | No | No |
| *Grus americana* | Whooping crane (CO, ID, FL, NM, UT, and the western half of Wyoming) | No | No | Yes | Yes | No | No |
| *Grus americana* | Whooping crane | No | No | Yes | Yes | No | No |
| *Grus canadensis pulla* | Mississippi sandhill crane | Yes | Yes | Yes | Yes | No | No |
| *Gymnogyps californianus* | California condor (specific portions of AZ, NV and UT) | No | No | No | No | No | No |
| *Gymnogyps californianus* | California condor | No | No | No | No | No | No |
| *Halcyon cinnamomina cinnamomina* | Guam Micronesian Kingfisher | No | No | No | No | No | No |
| *Hemignathus affinis* | Maui Nukupu`u (honeycreeper) | No | No | No | No | No | Yes |
| *Hemignathus hanapepe* | Kauai Nukupu`u (honeycreeper) | No | No | No | No | No | Yes |
| *Hemignathus munroi* | Akiapola`au (honeycreeper) | No | No | No | No | No | Yes |
| *Hemignathus procerus* | Kauai Akialoa (honeycreeper) | No | No | No | No | No | Yes |
| *Himantopus mexicanus knudseni* | Hawaiian stilt | No | No | No | No | No | No |
| *Lanius ludovicianus mearnsi* | San Clemente loggerhead shrike | No | No | No | No | No | No |
| *Loxioides bailleui* | Palila (honeycreeper) | No | Yes | Yes | Yes | Yes | No |
| *Loxops caeruleirostris* | Akekee | No | No | No | No | No | No |
| *Loxops coccineus coccineus* | Hawaii akepa (honeycreeper) | No | Yes | Yes | No | No | Yes |
| *Loxops coccineus ochraceus* | Maui akepa (honeycreeper) | No | No | No | No | No | Yes |
| *Megapodius laperouse* | Micronesian megapode | No | No | No | Yes | No | No |
| *Melamprosops phaeosoma* | Po`ouli (honeycreeper) | No | No | No | No | No | No |
| *Moho braccatus* | Kauai `O`o (honeyeater) | No | No | Yes | No | No | Yes |
| *Myadestes lanaiensis rutha* | Molokai thrush | No | No | Yes | No | No | No |
| *Myadestes myadestinus* | Large Kauai thrush (=kamao) | No | No | Yes | No | No | No |
| *Myadestes palmeri* | Small Kauai thrush (=puaiohi) | No | No | Yes | No | No | No |
| *Mycteria americana* | Wood stork | No | No | No | No | No | No |
| *Numenius borealis* | Eskimo Curlew | No | No | Yes | No | No | No |
| *Oceanodroma castro* | Band-rumped storm-petrel (Hawaii DPS) | No | No | No | No | No | No |
| *Oreomystis bairdi* | Akikiki | No | No | Yes | No | No | Yes |
| *Oreomystis mana* | Hawaii creeper | No | No | No | No | No | No |
| *Palmeria dolei* | Crested honeycreeper | No | No | No | No | No | Yes |
| *Paroreomyza flammea* | Molokai creeper | No | No | No | No | No | No |
| *Paroreomyza maculata* | Oahu creeper | No | No | No | No | No | No |
| *Phoebastria (=Diomedea) albatrus* | Short-tailed albatross | No | No | No | No | No | No |
| *Picoides borealis* | Red-cockaded woodpecker | No | No | Yes | Yes | No | No |
| *Pipilo crissalis eremophilus* | Inyo California towhee | No | No | Yes | Yes | No | No |
| *Polioptila californica californica* | Coastal California gnatcatcher | No | No | Yes | Yes | No | No |
| *Polyborus plancus audubonii* | Audubon's crested caracara | No | No | No | No | No | No |
| *Polysticta stelleri* | Steller's eider | No | No | No | No | No | No |
| *Porzana tabuensis* | Spotless Crake (American Samoa pop) | Yes | Yes | Yes | Yes | No | No |
| *Pseudonestor xanthophrys* | Maui parrotbill (honeycreeper) | No | No | No | No | No | No |
| *Psittirostra psittacea* | `O`u (honeycreeper) | No | Yes | Yes | No | No | Yes |
| *Pterodroma phaeopygia sandwichensis* | Hawaiian dark-rumped petrel | No | No | No | No | No | No |
| *Puffinus auricularis newelli* | Newell's Townsend's shearwater | No | No | No | No | No | No |
| *Rallus longirostris levipes* | Light-footed clapper rail | No | No | No | No | No | No |
| *Rallus longirostris obsoletus* | California clapper rail | No | No | No | No | No | No |
| *Rallus longirostris yumanensis* | Yuma clapper rail | No | No | No | No | No | No |
| *Rallus owstoni* | Guam rail (Experimental pop) | No | Yes | No | Yes | No | No |
| *Rallus owstoni* | Guam rail | No | Yes | No | Yes | No | No |
| *Rostrhamus sociabilis plumbeus* | Everglade snail kite | No | No | No | No | No | No |
| *Setophaga kirtlandii (= Dendroica kirtlandii)* | Kirtland's warbler | No | No | Yes | No | No | No |
| *Somateria fischeri* | Spectacled eider | No | Yes | No | No | No | No |
| *Sterna antillarum* | Least tern | No | No | No | No | No | No |
| *Sterna antillarum browni* | California least tern | No | No | No | No | No | No |
| *Sterna dougallii dougallii* | Roseate tern (Northeast population) | No | No | No | No | No | No |
| *Sterna dougallii dougallii* | Roseate tern (Caribbean population) | No | No | No | No | No | No |
| *Strix occidentalis caurina* | Northern spotted owl | No | No | No | No | No | No |
| *Strix occidentalis lucida* | Mexican spotted owl | No | No | No | No | No | No |
| *Synthliboramphus hypoleucus* | Xantus's Murrelet | No | No | No | No | No | No |
| *Telespyza cantans* | Laysan finch (honeycreeper) | Yes | Yes | No | Yes | No | No |
| *Telespyza ultima* | Nihoa finch (honeycreeper) | No | No | No | Yes | Yes | No |
| *Tympanuchus cupido attwateri* | Attwater's greater prairie-chicken | Yes | Yes | No | No | Yes | No |
| *Tympanuchus pallidicinctus* | Lesser prairie-chicken | Yes | Yes | No | Yes | No | No |
| *Vermivora bachmanii* | Bachman's warbler (=wood) | No | No | No | No | No | No |
| *Vireo atricapilla* | Black-capped vireo | No | No | No | No | No | No |
| *Vireo bellii pusillus* | Least Bell's vireo | No | No | No | No | No | No |
| *Zosterops rotensis* | Rota bridled white-eye | No | No | Yes | Yes | No | Yes |

**Table A 1-16.7. Diets of listed birds: terrestrial animals.**

| ***Scientific Name*** | **Common Name** | **Terrestrial Inverts** | **Soil dwelling inverts** | **Mammals** | **Birds** | **Bird eggs** | **Reptiles** | **Amphibians (terrestrial)** | **Carrion** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *Accipiter striatus venator* | Puerto Rican sharp-shinned hawk | No | No | No | Yes | No | No | No | No |
| *Acrocephalus familiaris kingi* | Nihoa millerbird (old world warbler) | Yes | No | No | No | No | No | No | No |
| *Acrocephalus luscinia* | Nightingale reed warbler (old world warbler) | Yes | No | No | No | No | Yes | No | No |
| *Aerodramus vanikorensis bartschi* | Mariana gray swiftlet | Yes | No | No | No | No | No | No | No |
| *Agelaius xanthomus* | Yellow-shouldered blackbird | Yes | No | No | No | No | No | No | No |
| *Amazona viridigenalis* | Red-crowned parrot | No | No | No | No | No | No | No | No |
| *Amazona vittata* | Puerto Rican parrot | No | No | No | No | No | No | No | No |
| *Ammodramus maritimus mirabilis* | Cape Sable seaside sparrow | Yes | No | No | No | No | No | No | No |
| *Ammodramus savannarum floridanus* | Florida grasshopper sparrow | Yes | No | No | No | No | No | No | No |
| *Amphispiza belli clementeae* | San Clemente sage sparrow | Yes | No | No | No | No | No | No | No |
| *Anas laysanensis* | Laysan duck | Yes | No | No | No | No | No | No | No |
| *Anas wyvilliana* | Hawaiian duck (=koloa) | No | Yes | No | No | No | No | No | No |
| *Aphelocoma coerulescens* | Florida scrub-jay | Yes | No | Yes | Yes | Yes | Yes | Yes | No |
| *Brachyramphus marmoratus* | Marbled Murrelet | No | No | No | No | No | No | No | No |
| *Branta (=Nesochen) sandvicensis* | Hawaiian Goose | No | No | No | No | No | No | No | No |
| *Buteo platypterus brunnescens* | Puerto Rican broad-winged hawk | Yes | No | Yes | Yes | No | Yes | Yes | No |
| *Buteo solitarius* | Hawaiian hawk (='lo) | Yes | No | Yes | Yes | No | No | No | No |
| *Calidris canutus rufa* | Red knot | No | No | No | No | No | No | No | No |
| *Campephilus principalis* | Ivory-billed woodpecker | Yes | No | No | No | No | No | No | No |
| *Caprimulgus noctitherus* | Puerto Rican nightjar | Yes | No | No | No | No | No | No | No |
| *Centrocercus minimus* | Gunnison sage-grouse | Yes | No | No | No | No | No | No | No |
| *Charadrius alexandrinus nivosus* | Western snowy plover | Yes | No | No | No | No | No | No | No |
| *Charadrius melodus* | Piping plover (Great Lakes breeding population) | Yes | No | No | No | No | No | No | No |
| *Charadrius melodus* | Piping plover (all birds not listed as endangered) | Yes | No | No | No | No | No | No | No |
| *Chasiempis sandwichensis ibidis* | Oahu elepaio | Yes | No | No | No | No | No | No | No |
| *Coccyzus americanus* | Yellow-billed Cuckoo (western DPS) | Yes | No | No | Yes | Yes | Yes | Yes | Yes |
| *Colinus virginianus ridgwayi* | Masked bobwhite quail | Yes | No | No | No | No | No | No | No |
| *Columba inornata wetmorei* | Puerto Rican plain pigeon | No | No | No | No | No | No | No | No |
| *Corvus kubaryi* | Mariana crow (=aga) | Yes | No | Yes | No | Yes | Yes | No | No |
| *Dendroica angelae* | Elfin-woods warbler | Yes | No | No | No | No | No | No | No |
| *Dendroica chrysoparia* | Golden-cheeked warbler (=wood) | Yes | No | No | No | No | No | No | No |
| *Empidonax traillii extimus* | Southwestern willow flycatcher | Yes | No | No | No | No | No | No | No |
| *Eremophila alpestris strigata* | Streaked Horned lark | Yes | No | No | No | No | No | No | No |
| *Falco femoralis septentrionalis* | Northern aplomado falcon (AZ, NM) | Yes | No | Yes | Yes | No | Yes | No | No |
| *Falco femoralis septentrionalis* | Northern aplomado falcon | Yes | No | Yes | Yes | No | Yes | No | No |
| *Fulica americana alai* | Hawaiian coot | Yes | No | No | No | No | No | No | No |
| *Gallicolumba stairi* | Friendly Ground-Dove (American Samoa DPS) | Yes | No | No | No | No | No | No | No |
| *Gallinula chloropus guami* | Mariana common moorhen | Yes | No | No | No | No | No | No | No |
| *Gallinula chloropus sandvicensis* | Hawaiian common moorhen | No | No | No | No | No | No | No | No |
| *Grus americana* | Whooping crane (AL, AR, GA, IL, IN, IA, KY, LA, MI, MN, MS, MO, NC, OH, SC, TN, VA, WI, WV) | Yes | No | Yes | Yes | No | No | Yes | No |
| *Grus americana* | Whooping crane (Southwestern LA) | Yes | No | Yes | Yes | No | No | Yes | No |
| *Grus americana* | Whooping crane (CO, ID, FL, NM, UT, and the western half of Wyoming) | Yes | No | Yes | Yes | No | No | Yes | No |
| *Grus americana* | Whooping crane | Yes | No | Yes | Yes | No | No | Yes | No |
| *Grus canadensis pulla* | Mississippi sandhill crane | Yes | Yes | Yes | Yes | No | Yes | Yes | No |
| *Gymnogyps californianus* | California condor (specific portions of AZ, NV and UT) | No | No | No | No | No | No | No | Yes |
| *Gymnogyps californianus* | California condor | No | No | No | No | No | No | No | Yes |
| *Halcyon cinnamomina cinnamomina* | Guam Micronesian Kingfisher | Yes | Yes | Yes | Yes | No | Yes | No | No |
| *Hemignathus affinis* | Maui Nukupu`u (honeycreeper) | Yes | No | No | No | No | No | No | No |
| *Hemignathus hanapepe* | Kauai Nukupu`u (honeycreeper) | Yes | No | No | No | No | No | No | No |
| *Hemignathus munroi* | Akiapola`au (honeycreeper) | Yes | No | No | No | No | No | No | No |
| *Hemignathus procerus* | Kauai Akialoa (honeycreeper) | Yes | No | No | No | No | No | No | No |
| *Himantopus mexicanus knudseni* | Hawaiian stilt | No | No | No | No | No | No | No | No |
| *Lanius ludovicianus mearnsi* | San Clemente loggerhead shrike | Yes | No | Yes | Yes | No | Yes | No | No |
| *Loxioides bailleui* | Palila (honeycreeper) | Yes | No | No | No | No | No | No | No |
| *Loxops caeruleirostris* | Akekee | Yes | No | No | No | No | No | No | No |
| *Loxops coccineus coccineus* | Hawaii akepa (honeycreeper) | Yes | No | No | No | No | No | No | No |
| *Loxops coccineus ochraceus* | Maui akepa (honeycreeper) | Yes | No | No | No | No | No | No | No |
| *Megapodius laperouse* | Micronesian megapode | Yes | No | No | No | No | No | No | No |
| *Melamprosops phaeosoma* | Po`ouli (honeycreeper) | Yes | No | No | No | No | No | No | No |
| *Moho braccatus* | Kauai `O`o (honeyeater) | Yes | No | No | No | No | No | No | No |
| *Myadestes lanaiensis rutha* | Molokai thrush | Yes | No | No | No | No | No | No | No |
| *Myadestes myadestinus* | Large Kauai thrush (=kamao) | Yes | No | No | No | No | No | No | No |
| *Myadestes palmeri* | Small Kauai thrush (=puaiohi) | Yes | No | No | No | No | No | No | No |
| *Mycteria americana* | Wood stork | No | No | No | No | No | No | No | No |
| *Numenius borealis* | Eskimo Curlew | Yes | No | No | No | No | No | No | No |
| *Oceanodroma castro* | Band-rumped storm-petrel (Hawaii DPS) | No | No | No | No | No | No | No | No |
| *Oreomystis bairdi* | Akikiki | Yes | No | No | No | No | No | No | No |
| *Oreomystis mana* | Hawaii creeper | Yes | No | No | No | No | No | No | No |
| *Palmeria dolei* | Crested honeycreeper | Yes | No | No | No | No | No | No | No |
| *Paroreomyza flammea* | Molokai creeper | Yes | No | No | No | No | No | No | No |
| *Paroreomyza maculata* | Oahu creeper | Yes | No | No | No | No | No | No | No |
| *Phoebastria (=Diomedea) albatrus* | Short-tailed albatross | No | No | No | No | No | No | No | No |
| *Picoides borealis* | Red-cockaded woodpecker | Yes | No | No | No | No | No | No | No |
| *Pipilo crissalis eremophilus* | Inyo California towhee | Yes | No | No | No | No | No | No | No |
| *Polioptila californica californica* | Coastal California gnatcatcher | Yes | No | No | No | No | No | No | No |
| *Polyborus plancus audubonii* | Audubon's crested caracara | Yes | Yes | Yes | Yes | No | Yes | Yes | Yes |
| *Polysticta stelleri* | Steller's eider | No | No | No | No | No | No | No | No |
| *Pseudonestor xanthophrys* | Maui parrotbill (honeycreeper) | Yes | No | No | No | No | No | No | No |
| *Psittirostra psittacea* | `O`u (honeycreeper) | Yes | No | No | No | No | No | No | No |
| *Pterodroma phaeopygia sandwichensis* | Hawaiian dark-rumped petrel | No | No | No | No | No | No | No | No |
| *Puffinus auricularis newelli* | Newell's Townsend's shearwater | No | No | No | No | No | No | No | No |
| *Rallus longirostris levipes* | Light-footed clapper rail | No | No | No | No | No | No | No | No |
| *Rallus longirostris obsoletus* | California clapper rail | Yes | No | No | No | No | No | No | No |
| *Rallus longirostris yumanensis* | Yuma clapper rail | No | No | No | No | No | No | No | No |
| *Rallus owstoni* | Guam rail (Experimental pop) | Yes | No | No | No | No | Yes | No | Yes |
| *Rallus owstoni* | Guam rail | Yes | No | No | No | No | Yes | No | Yes |
| *Rostrhamus sociabilis plumbeus* | Everglade snail kite | No | No | No | No | No | No | No | No |
| *Setophaga kirtlandii (= Dendroica kirtlandii)* | Kirtland's warbler | Yes | No | No | No | No | No | No | No |
| *Somateria fischeri* | Spectacled eider | No | No | No | No | No | No | No | No |
| *Sterna antillarum* | Least tern | No | No | No | No | No | No | No | No |
| *Sterna antillarum browni* | California least tern | No | No | No | No | No | No | No | No |
| *Sterna dougallii dougallii* | Roseate tern (Northeast population) | No | No | No | No | No | No | No | No |
| *Sterna dougallii dougallii* | Roseate tern (Caribbean population) | No | No | No | No | No | No | No | No |
| *Strix occidentalis caurina* | Northern spotted owl | Yes | No | Yes | Yes | No | No | No | No |
| *Strix occidentalis lucida* | Mexican spotted owl | Yes | No | Yes | Yes | No | Yes | No | No |
| *Synthliboramphus hypoleucus* | Xantus's Murrelet | No | No | No | No | No | No | No | No |
| *Telespyza cantans* | Laysan finch (honeycreeper) | Yes | No | No | No | Yes | No | No | Yes |
| *Telespyza ultima* | Nihoa finch (honeycreeper) | Yes | No | No | No | Yes | No | No | No |
| *Tympanuchus cupido attwateri* | Attwater's greater prairie-chicken | Yes | No | No | No | No | No | No | No |
| *Tympanuchus pallidicinctus* | Lesser prairie-chicken | Yes | No | No | No | No | No | No | No |
| *Vermivora bachmanii* | Bachman's warbler (=wood) | Yes | No | No | No | No | No | No | No |
| *Vireo atricapilla* | Black-capped vireo | Yes | No | No | No | No | No | No | No |
| *Vireo bellii pusillus* | Least Bell's vireo | Yes | No | No | No | No | No | No | No |
| *Zosterops rotensis* | Rota bridled white-eye | Yes | No | No | No | No | No | No | No |

**Table A 1-16.8. Diets of listed birds: aquatic organisms.**

| ***Scientific Name*** | **Common Name** | **Algae** | **Aquatic plants** | **FW inverts** | **SW inverts** | **FW fish and amphibians** | **SW fish** |
| --- | --- | --- | --- | --- | --- | --- | --- |
| *Accipiter striatus venator* | Puerto Rican sharp-shinned hawk | No | No | No | No | No | No |
| *Acrocephalus familiaris kingi* | Nihoa millerbird (old world warbler) | No | No | No | No | No | No |
| *Acrocephalus luscinia* | Nightingale reed warbler (old world warbler) | No | No | No | No | No | No |
| *Aerodramus vanikorensis bartschi* | Mariana gray swiftlet | No | No | No | No | No | No |
| *Agelaius xanthomus* | Yellow-shouldered blackbird | No | No | No | No | No | No |
| *Amazona viridigenalis* | Red-crowned parrot | No | No | No | No | No | No |
| *Amazona vittata* | Puerto Rican parrot | No | No | No | No | No | No |
| *Ammodramus maritimus mirabilis* | Cape Sable seaside sparrow | No | No | Yes | Yes | No | No |
| *Ammodramus savannarum floridanus* | Florida grasshopper sparrow | No | No | No | No | No | No |
| *Amphispiza belli clementeae* | San Clemente sage sparrow | No | No | No | No | No | No |
| *Anas laysanensis* | Laysan duck | Yes | No | No | Yes | No | No |
| *Anas wyvilliana* | Hawaiian duck (=koloa) | Yes | Yes | Yes | Yes | No | No |
| *Aphelocoma coerulescens* | Florida scrub-jay | No | No | No | No | No | No |
| *Brachyramphus marmoratus* | Marbled Murrelet | No | No | No | Yes | No | Yes |
| *Branta (=Nesochen) sandvicensis* | Hawaiian Goose | No | No | No | No | No | No |
| *Buteo platypterus brunnescens* | Puerto Rican broad-winged hawk | No | No | No | No | No | No |
| *Buteo solitarius* | Hawaiian hawk (='lo) | No | No | No | No | No | No |
| *Calidris canutus rufa* | Red knot | No | No | No | Yes | No | No |
| *Campephilus principalis* | Ivory-billed woodpecker | No | No | No | No | No | No |
| *Caprimulgus noctitherus* | Puerto Rican nightjar | No | No | No | No | No | No |
| *Centrocercus minimus* | Gunnison sage-grouse | No | No | No | No | No | No |
| *Charadrius alexandrinus nivosus* | Western snowy plover | No | No | No | Yes | No | Yes |
| *Charadrius melodus* | Piping plover (Great Lakes breeding population) | No | No | Yes | No | No | No |
| *Charadrius melodus* | Piping plover (all birds not listed as endangered) | No | No | Yes | Yes | No | No |
| *Chasiempis sandwichensis ibidis* | Oahu elepaio | No | No | No | No | No | No |
| *Coccyzus americanus* | Yellow-billed Cuckoo (western DPS) | No | No | No | No | No | No |
| *Colinus virginianus ridgwayi* | Masked bobwhite quail | No | No | No | No | No | No |
| *Columba inornata wetmorei* | Puerto Rican plain pigeon | No | No | No | No | No | No |
| *Corvus kubaryi* | Mariana crow (=aga) | No | No | No | No | No | No |
| *Dendroica angelae* | Elfin-woods warbler | No | No | No | No | No | No |
| *Dendroica chrysoparia* | Golden-cheeked warbler (=wood) | No | No | No | No | No | No |
| *Empidonax traillii extimus* | Southwestern willow flycatcher | No | No | No | No | No | No |
| *Eremophila alpestris strigata* | Streaked Horned lark | No | No | No | No | No | No |
| *Falco femoralis septentrionalis* | Northern aplomado falcon (AZ, NM) | No | No | No | No | No | No |
| *Falco femoralis septentrionalis* | Northern aplomado falcon | No | No | No | No | No | No |
| *Fulica americana alai* | Hawaiian coot | No | Yes | Yes | Yes | Yes | Yes |
| *Gallicolumba stairi* | Friendly Ground-Dove (American Samoa DPS) | No | No | No | No | No | No |
| *Gallinula chloropus guami* | Mariana common moorhen | No | Yes | Yes | No | No | No |
| *Gallinula chloropus sandvicensis* | Hawaiian common moorhen | Yes | No | Yes | Yes | No | No |
| *Grus americana* | Whooping crane (AL, AR, GA, IL, IN, IA, KY, LA, MI, MN, MS, MO, NC, OH, SC, TN, VA, WI, WV) | No | Yes | Yes | No | Yes | No |
| *Grus americana* | Whooping crane (Southwestern LA) | No | Yes | Yes | No | Yes | No |
| *Grus americana* | Whooping crane (CO, ID, FL, NM, UT, and the western half of Wyoming) | No | Yes | Yes | No | Yes | No |
| *Grus americana* | Whooping crane | No | Yes | Yes | No | Yes | No |
| *Grus canadensis pulla* | Mississippi sandhill crane | No | Yes | Yes | Yes | Yes | No |
| *Gymnogyps californianus* | California condor (specific portions of AZ, NV and UT) | No | No | No | No | No | No |
| *Gymnogyps californianus* | California condor | No | No | No | No | No | No |
| *Halcyon cinnamomina cinnamomina* | Guam Micronesian Kingfisher | No | No | Yes | Yes | Yes | Yes |
| *Hemignathus affinis* | Maui Nukupu`u (honeycreeper) | No | No | No | No | No | No |
| *Hemignathus hanapepe* | Kauai Nukupu`u (honeycreeper) | No | No | No | No | No | No |
| *Hemignathus munroi* | Akiapola`au (honeycreeper) | No | No | No | No | No | No |
| *Hemignathus procerus* | Kauai Akialoa (honeycreeper) | No | No | No | No | No | No |
| *Himantopus mexicanus knudseni* | Hawaiian stilt | No | No | Yes | Yes | Yes | Yes |
| *Lanius ludovicianus mearnsi* | San Clemente loggerhead shrike | No | No | No | No | No | No |
| *Loxioides bailleui* | Palila (honeycreeper) | No | No | No | No | No | No |
| *Loxops caeruleirostris* | Akekee | No | No | No | No | No | No |
| *Loxops coccineus coccineus* | Hawaii akepa (honeycreeper) | No | No | No | No | No | No |
| *Loxops coccineus ochraceus* | Maui akepa (honeycreeper) | No | No | No | No | No | No |
| *Megapodius laperouse* | Micronesian megapode | No | No | No | No | No | No |
| *Melamprosops phaeosoma* | Po`ouli (honeycreeper) | No | No | No | No | No | No |
| *Moho braccatus* | Kauai `O`o (honeyeater) | No | No | No | No | No | No |
| *Myadestes lanaiensis rutha* | Molokai thrush | No | No | No | No | No | No |
| *Myadestes myadestinus* | Large Kauai thrush (=kamao) | No | No | No | No | No | No |
| *Myadestes palmeri* | Small Kauai thrush (=puaiohi) | No | No | No | No | No | No |
| *Mycteria americana* | Wood stork | No | No | No | No | Yes | Yes |
| *Numenius borealis* | Eskimo Curlew | No | No | Yes | Yes | No | No |
| *Oceanodroma castro* | Band-rumped storm-petrel (Hawaii DPS) | No | No | No | Yes | No | Yes |
| *Oreomystis bairdi* | Akikiki | No | No | No | No | No | No |
| *Oreomystis mana* | Hawaii creeper | No | No | No | No | No | No |
| *Palmeria dolei* | Crested honeycreeper | No | No | No | No | No | No |
| *Paroreomyza flammea* | Molokai creeper | No | No | No | No | No | No |
| *Paroreomyza maculata* | Oahu creeper | No | No | No | No | No | No |
| *Phoebastria (=Diomedea) albatrus* | Short-tailed albatross | No | No | No | Yes | No | Yes |
| *Picoides borealis* | Red-cockaded woodpecker | No | No | No | No | No | No |
| *Pipilo crissalis eremophilus* | Inyo California towhee | No | No | No | No | No | No |
| *Polioptila californica californica* | Coastal California gnatcatcher | No | No | No | No | No | No |
| *Polyborus plancus audubonii* | Audubon's crested caracara | No | No | Yes | Yes | Yes | Yes |
| *Polysticta stelleri* | Steller's eider | No | Yes | Yes | Yes | No | No |
| *Pseudonestor xanthophrys* | Maui parrotbill (honeycreeper) | No | No | No | No | No | No |
| *Psittirostra psittacea* | `O`u (honeycreeper) | No | No | No | No | No | No |
| *Pterodroma phaeopygia sandwichensis* | Hawaiian dark-rumped petrel | No | No | No | Yes | No | Yes |
| *Puffinus auricularis newelli* | Newell's Townsend's shearwater | No | No | No | No | No | Yes |
| *Rallus longirostris levipes* | Light-footed clapper rail | No | No | No | Yes | No | No |
| *Rallus longirostris obsoletus* | California clapper rail | No | No | No | Yes | No | No |
| *Rallus longirostris yumanensis* | Yuma clapper rail | No | No | No | Yes | No | Yes |
| *Rallus owstoni* | Guam rail (Experimental pop) | No | No | No | No | No | No |
| *Rallus owstoni* | Guam rail | No | No | No | No | No | No |
| *Rostrhamus sociabilis plumbeus* | Everglade snail kite | No | No | Yes | No | No | No |
| *Setophaga kirtlandii (= Dendroica kirtlandii)* | Kirtland's warbler | No | No | No | No | No | No |
| *Somateria fischeri* | Spectacled eider | No | Yes | No | Yes | No | No |
| *Sterna antillarum* | Least tern | No | No | No | No | Yes | Yes |
| *Sterna antillarum browni* | California least tern | No | No | No | No | Yes | Yes |
| *Sterna dougallii dougallii* | Roseate tern (Northeast population) | No | No | No | No | No | Yes |
| *Sterna dougallii dougallii* | Roseate tern (Caribbean population) | No | No | No | No | No | Yes |
| *Strix occidentalis caurina* | Northern spotted owl | No | No | No | No | No | No |
| *Strix occidentalis lucida* | Mexican spotted owl | No | No | No | No | No | No |
| *Synthliboramphus hypoleucus* | Xantus's Murrelet | No | No | No | Yes | No | Yes |
| *Telespyza cantans* | Laysan finch (honeycreeper) | No | No | No | No | No | No |
| *Telespyza ultima* | Nihoa finch (honeycreeper) | No | No | No | No | No | No |
| *Tympanuchus cupido attwateri* | Attwater's greater prairie-chicken | No | No | No | No | No | No |
| *Tympanuchus pallidicinctus* | Lesser prairie-chicken | No | No | No | No | No | No |
| *Vermivora bachmanii* | Bachman's warbler (=wood) | No | No | No | No | No | No |
| *Vireo atricapilla* | Black-capped vireo | No | No | No | No | No | No |
| *Vireo bellii pusillus* | Least Bell's vireo | No | No | No | No | No | No |
| *Zosterops rotensis* | Rota bridled white-eye | No | No | No | No | No | No |

1. **Exposure models**

Species-specific diets will be used to assess potential direct effects through consumption of pesticide-contaminated dietary items. These diets will also be used to consider potential indirect effects. For direct effects, exposures to the pesticide through the diet are assessed using either T-REX or KABAM, depending upon whether the species’ diet includes terrestrial or aquatic food items. If the species consumes plants, invertebrates or vertebrates (amphibians, reptiles, birds or mammals) that inhabit terrestrial areas, T-REX should be used (n = 87). If the species consumes aquatic organisms, then KABAM should be used (n = 36). **Table A 1-16.9** lists the models that will be run for each species. T-REX and KABAM require body weight (BW) in order to generate dose-based pesticide exposure estimates.If all other parameters are kept equal, decreases in the species BW parameter result in increases in risk. Therefore, for all listed birds, the lowest available BW value is used (**Table A 1-16.9**).

As noted in the Problem Formulation, to improve efficiency and expand EFED’s modeling capabilities to other, non-dietary routes of exposure for terrestrial organisms, the Terrestrial Effects Determination (TED) tool was developed. This tool integrates T-REX, T-HERPS and the earthworm fugacity model, along with several other models used by EFED. When this document indicates that T-REX or the earthworm fugacity models should be run for a species, the TED tool will be run. Assessors could also run the current version of T-REX. As discussed in the terrestrial exposure appendix, KABAM will not be run for chlorpyrifos, diazinon or malathion. In its place, BCF values will used to estimate exposure through consumption of aquatic food items.

**Table A 1-16.9. Models and Body weights used to estimate dietary exposures to listed birds.**

| ***Scientific Name*** | **Common Name** | **T-REX?** | **KABAM?** | **BW (g)** |
| --- | --- | --- | --- | --- |
| *Accipiter striatus venator* | Puerto Rican sharp-shinned hawk | Yes | No | 82 |
| *Acrocephalus familiaris kingi* | Nihoa millerbird (old world warbler) | Yes | No | 15 |
| *Acrocephalus luscinia* | Nightingale reed warbler (old world warbler) | Yes | No | 34.4 |
| *Aerodramus vanikorensis bartschi* | Mariana gray swiftlet | Yes | No | 6.4 |
| *Agelaius xanthomus* | Yellow-shouldered blackbird | Yes | No | 35.5 |
| *Amazona viridigenalis* | Red-crowned parrot | Yes | No | 293 |
| *Amazona vittata* | Puerto Rican parrot | Yes | No | 270 |
| *Ammodramus maritimus mirabilis* | Cape Sable seaside sparrow | Yes | Yes | 19.8 |
| *Ammodramus savannarum floridanus* | Florida grasshopper sparrow | Yes | No | 13.4 |
| *Amphispiza belli clementeae* | San Clemente sage sparrow | Yes | No | 16.8 |
| *Anas laysanensis* | Laysan duck | Yes | Yes | 420 |
| *Anas wyvilliana* | Hawaiian duck (=koloa) | Yes | Yes | 460 |
| *Aphelocoma coerulescens* | Florida scrub-jay | Yes | No | 59 |
| *Brachyramphus marmoratus* | Marbled Murrelet | No | Yes | 222 |
| *Branta (=Nesochen) sandvicensis* | Hawaiian Goose | Yes | No | 1500 |
| *Buteo platypterus brunnescens* | Puerto Rican broad-winged hawk | Yes | No | 380 |
| *Buteo solitarius* | Hawaiian hawk (='lo) | Yes | No | 441 |
| *Calidris canutus rufa* | Red knot | No | Yes | 90 |
| *Campephilus principalis* | Ivory-billed woodpecker | Yes | No | 454 |
| *Caprimulgus noctitherus* | Puerto Rican nightjar | Yes | No | 33.8 |
| *Centrocercus minimus* | Gunnison sage-grouse | Yes | No | 1100 |
| *Charadrius alexandrinus nivosus* | Western snowy plover | Yes | Yes | 34 |
| *Charadrius melodus* | Piping plover (Great Lakes breeding population) | Yes | Yes | 40 |
| *Charadrius melodus* | Piping plover (all birds not listed as endangered) | Yes | Yes | 40 |
| *Chasiempis sandwichensis ibidis* | Oahu elepaio | Yes | No | 12.5 |
| *Coccyzus americanus* | Yellow-billed Cuckoo (western DPS) | Yes | No | 52.3 |
| *Colinus virginianus ridgwayi* | Masked bobwhite quail | Yes | No | 178 |
| *Columba inornata wetmorei* | Puerto Rican plain pigeon | Yes | No | 494 |
| *Corvus kubaryi* | Mariana crow (=aga) | Yes | No | 240 |
| *Dendroica angelae* | Elfin-woods warbler | Yes | No | 6.9 |
| *Dendroica chrysoparia* | Golden-cheeked warbler (=wood) | Yes | No | 9.4 |
| *Empidonax traillii extimus* | Southwestern willow flycatcher | Yes | No | 12 |
| *Eremophila alpestris strigata* | Streaked Horned lark | Yes | No | 30.8 |
| *Falco femoralis septentrionalis* | Northern aplomado falcon (AZ, NM) | Yes | No | 325 |
| *Falco femoralis septentrionalis* | Northern aplomado falcon | Yes | No | 325 |
| *Fulica americana alai* | Hawaiian coot | Yes | Yes | 427 |
| *Gallicolumba stairi* | Friendly Ground-Dove (American Samoa DPS) | Yes | No | 58 |
| *Gallinula chloropus guami* | Mariana common moorhen | Yes | Yes | 334 |
| *Gallinula chloropus sandvicensis* | Hawaiian common moorhen | Yes | Yes | 334 |
| *Grus americana* | Whooping crane (AL, AR, GA, IL, IN, IA, KY, LA, MI, MN, MS, MO, NC, OH, SC, TN, VA, WI, WV) | Yes | Yes | 5400 |
| *Grus americana* | Whooping crane (Southwestern LA) | Yes | Yes | 5400 |
| *Grus americana* | Whooping crane (CO, ID, FL, NM, UT, and the western half of Wyoming) | Yes | Yes | 5400 |
| *Grus americana* | Whooping crane | Yes | Yes | 5400 |
| *Grus canadensis pulla* | Mississippi sandhill crane | Yes | Yes | 2450 |
| *Gymnogyps californianus* | California condor (specific portions of AZ, NV and UT) | Yes | No | 8500 |
| *Gymnogyps californianus* | California condor | Yes | No | 8500 |
| *Halcyon cinnamomina cinnamomina* | Guam Micronesian Kingfisher | Yes | Yes | 50.5 |
| *Hemignathus affinis* | Maui Nukupu`u (honeycreeper) | Yes | No | 23 |
| *Hemignathus hanapepe* | Kauai Nukupu`u (honeycreeper) | Yes | No | 23 |
| *Hemignathus munroi* | Akiapola`au (honeycreeper) | Yes | No | 28 |
| *Hemignathus procerus* | Kauai Akialoa (honeycreeper) | Yes | No | 34 |
| *Himantopus mexicanus knudseni* | Hawaiian stilt | No | Yes | 166 |
| *Lanius ludovicianus mearnsi* | San Clemente loggerhead shrike | Yes | No | 45 |
| *Loxioides bailleui* | Palila (honeycreeper) | Yes | No | 38 |
| *Loxops caeruleirostris* | Akekee | Yes | No | 9.5 |
| *Loxops coccineus coccineus* | Hawaii akepa (honeycreeper) | Yes | No | 10 |
| *Loxops coccineus ochraceus* | Maui akepa (honeycreeper) | Yes | No | 10 |
| *Megapodius laperouse* | Micronesian megapode | Yes | No | 350 |
| *Melamprosops phaeosoma* | Po`ouli (honeycreeper) | Yes | No | 26 |
| *Moho braccatus* | Kauai `O`o (honeyeater) | Yes | No | 38 |
| *Myadestes lanaiensis rutha* | Molokai thrush | Yes | No | 50 |
| *Myadestes myadestinus* | Large Kauai thrush (=kamao) | Yes | No | 50 |
| *Myadestes palmeri* | Small Kauai thrush (=puaiohi) | Yes | No | 37 |
| *Mycteria americana* | Wood stork | No | Yes | 2050 |
| *Numenius borealis* | Eskimo Curlew | Yes | Yes | 270 |
| *Oceanodroma castro* | Band-rumped storm-petrel (Hawaii DPS) | No | Yes | 31.5 |
| *Oreomystis bairdi* | Akikiki | Yes | No | 11.5 |
| *Oreomystis mana* | Hawaii creeper | Yes | No | 13.7 |
| *Palmeria dolei* | Crested honeycreeper | Yes | No | 24 |
| *Paroreomyza flammea* | Molokai creeper | Yes | No | 14 |
| *Paroreomyza maculata* | Oahu creeper | Yes | No | 14 |
| *Phoebastria (=Diomedea) albatrus* | Short-tailed albatross | No | Yes | 4309 |
| *Picoides borealis* | Red-cockaded woodpecker | Yes | No | 40 |
| *Pipilo crissalis eremophilus* | Inyo California towhee | Yes | No | 46.3 |
| *Polioptila californica californica* | Coastal California gnatcatcher | Yes | No | 6 |
| *Polyborus plancus audubonii* | Audubon's crested caracara | Yes | Yes | 834 |
| *Polysticta stelleri* | Steller's eider | No | Yes | 773 |
| *Pseudonestor xanthophrys* | Maui parrotbill (honeycreeper) | Yes | No | 20 |
| *Psittirostra psittacea* | `O`u (honeycreeper) | Yes | No | 20 |
| *Pterodroma phaeopygia sandwichensis* | Hawaiian dark-rumped petrel | No | Yes | 434 |
| *Puffinus auricularis newelli* | Newell's Townsend's shearwater | No | Yes | 454 |
| *Rallus longirostris levipes* | Light-footed clapper rail | No | Yes | 250 |
| *Rallus longirostris obsoletus* | California clapper rail | Yes | Yes | 248 |
| *Rallus longirostris yumanensis* | Yuma clapper rail | No | Yes | 226 |
| *Rallus owstoni* | Guam rail (Experimental pop) | Yes | No | 67 |
| *Rallus owstoni* | Guam rail | Yes | No | 67 |
| *Rostrhamus sociabilis plumbeus* | Everglade snail kite | No | Yes | 380 |
| *Setophaga kirtlandii (= Dendroica kirtlandii)* | Kirtland's warbler | Yes | No | 12.3 |
| *Somateria fischeri* | Spectacled eider | Yes | Yes | 1075 |
| *Sterna antillarum* | Least tern | No | Yes | 39 |
| *Sterna antillarum browni* | California least tern | No | Yes | 39 |
| *Sterna dougallii dougallii* | Roseate tern (Northeast population) | No | Yes | 110 |
| *Sterna dougallii dougallii* | Roseate tern (Caribbean population) | No | Yes | 100 |
| *Strix occidentalis caurina* | Northern spotted owl | Yes | No | 430 |
| *Strix occidentalis lucida* | Mexican spotted owl | Yes | No | 518 |
| *Synthliboramphus hypoleucus* | Xantus's Murrelet | No | Yes | 148 |
| *Telespyza cantans* | Laysan finch (honeycreeper) | Yes | No | 19 |
| *Telespyza ultima* | Nihoa finch (honeycreeper) | Yes | No | 19 |
| *Tympanuchus cupido attwateri* | Attwater's greater prairie-chicken | Yes | No | 737 |
| *Tympanuchus pallidicinctus* | Lesser prairie-chicken | Yes | No | 628 |
| *Vermivora bachmanii* | Bachman's warbler (=wood) | Yes | No | 5.1 |
| *Vireo atricapilla* | Black-capped vireo | Yes | No | 9 |
| *Vireo bellii pusillus* | Least Bell's vireo | Yes | No | 7.4 |
| *Zosterops rotensis* | Rota bridled white-eye | Yes | No | 9.2 |

For the assessments for chlorpyrifos, diazinon, and malathion, a subset of listed birds will be simulated using available refined risk assessment models. These include the Terrestrial Investigation Model (TIM, version 3.0 beta) and the Markov Chain nest productivity model (MCnest). Species were selected based on the following criteria:

1. Diet relies upon grass, leaves, seeds, fruit and/or terrestrial arthropods (these dietary items are currently included in TIM;
2. Breeding range is in the 48 contiguous states;
3. parental strategies involve only two parents.

The species list is included in **Table A 1-16.10**.

**Table A 1-16.10. Listed species that will be assessed using TIM and MCnest.**

|  |  |
| --- | --- |
| ***Scientific Name*** | **Common Name** |
| *Ammodramus savannarum floridanus* | Florida grasshopper sparrow |
| *Amphispiza belli clementeae* | San Clemente sage sparrow |
| *Centrocercus minimus* | Gunnison sage-grouse |
| *Coccyzus americanus* | Yellow-billed Cuckoo |
| *Colinus virginianus ridgwayi* | Masked bobwhite (quail) |
| *Dendroica chrysoparia* | Golden-cheeked warbler (=wood) |
| *Empidonax traillii extimus* | Southwestern willow flycatcher |
| *Pipilo crissalis eremophilus* | Inyo California towhee |
| *Polioptila californica californica* | Coastal California gnatcatcher |
| *Setophaga kirtlandii (= Dendroica kirtlandii)* | Kirtland's Warbler |
| *Tympanuchus cupido attwateri* | Attwater's greater prairie-chicken |
| *Tympanuchus pallidicinctus* | Lesser prairie-chicken |
| *Vireo atricapilla* | Black-capped Vireo |
| *Vireo bellii pusillus* | Least Bell's vireo |

1. **Habitat**

Most listed birds inhabit terrestrial areas (84%). Some listed birds also inhabit wetlands, including riparian habitats, or aquatic habitats such as lakes or oceans. **Table A 1-16.11** defines the generic habitat of each listed bird. These generic habitats should be used to determine potential indirect effects by considering the appropriate exposure estimates and plant toxicity thresholds and endpoints. More details, including source information are provided in **SUPPLEMENTAL INFORMATION 3**. For habitats defined as terrestrial or aquatic-associated terrestrial, indirect effects to habitat will be assessed using AgDRIFT and TerrPlant. For habitats defined as aquatic, the Surface Water Concentration Calculator will be used with the species-specific aquatic bin. **ATTACHMENT 1-10** includes the aquatic bin assignments that may be used to estimate direct exposures to birds that consume aquatic organisms and to assess potential indirect effects.

**Table A 1-16.11. Generic habitat descriptions of listed birds.**

| ***Scientific Name*** | **Common Name** | **Terrestrial?** | **Aquatic-associated terrestrial?**  **(Bin 1; wetlands, riparian zones, beaches)** | **Aquatic?** |
| --- | --- | --- | --- | --- |
| *Accipiter striatus venator* | Puerto Rican sharp-shinned hawk | Yes | No | No |
| *Acrocephalus familiaris kingi* | Nihoa millerbird (old world warbler) | Yes | No | No |
| *Acrocephalus luscinia* | Nightingale reed warbler (old world warbler) | Yes | No | No |
| *Aerodramus vanikorensis bartschi* | Mariana gray swiftlet | Yes | No | No |
| *Agelaius xanthomus* | Yellow-shouldered blackbird | Yes | Yes | No |
| *Amazona viridigenalis* | Red-crowned parrot | Yes | No | No |
| *Amazona vittata* | Puerto Rican parrot | Yes | No | No |
| *Ammodramus maritimus mirabilis* | Cape Sable seaside sparrow | Yes | Yes | Yes |
| *Ammodramus savannarum floridanus* | Florida grasshopper sparrow | Yes | No | No |
| *Amphispiza belli clementeae* | San Clemente sage sparrow | Yes | No | No |
| *Anas laysanensis* | Laysan duck | Yes | Yes | Yes |
| *Anas wyvilliana* | Hawaiian duck (=koloa) | Yes | Yes | Yes |
| *Aphelocoma coerulescens* | Florida scrub-jay | Yes | No | No |
| *Brachyramphus marmoratus* | Marbled Murrelet | Yes | No | Yes |
| *Branta (=Nesochen) sandvicensis* | Hawaiian Goose | Yes | Yes | Yes |
| *Buteo platypterus brunnescens* | Puerto Rican broad-winged hawk | Yes | No | No |
| *Buteo solitarius* | Hawaiian hawk (='lo) | Yes | No | No |
| *Calidris canutus rufa* | Red knot | Yes | Yes | Yes |
| *Campephilus principalis* | Ivory-billed woodpecker | Yes | No | No |
| *Caprimulgus noctitherus* | Puerto Rican nightjar | Yes | No | No |
| *Centrocercus minimus* | Gunnison sage-grouse | Yes | Yes | No |
| *Charadrius alexandrinus nivosus* | Western snowy plover | Yes | Yes | Yes |
| *Charadrius melodus* | Piping plover (Great Lakes breeding population) | Yes | Yes | Yes |
| *Charadrius melodus* | Piping plover (all birds not listed as endangered) | Yes | Yes | Yes |
| *Chasiempis sandwichensis ibidis* | Oahu elepaio | Yes | No | No |
| *Coccyzus americanus* | Yellow-billed Cuckoo (western DPS) | Yes | Yes | No |
| *Colinus virginianus ridgwayi* | Masked bobwhite quail | Yes | No | No |
| *Columba inornata wetmorei* | Puerto Rican plain pigeon | Yes | No | No |
| *Corvus kubaryi* | Mariana crow (=aga) | Yes | No | No |
| *Dendroica angelae* | Elfin-woods warbler | Yes | No | No |
| *Dendroica chrysoparia* | Golden-cheeked warbler (=wood) | Yes | Yes | Yes |
| *Empidonax traillii extimus* | Southwestern willow flycatcher | Yes | Yes | No |
| *Eremophila alpestris strigata* | Streaked Horned lark | Yes | Yes | No |
| *Falco femoralis septentrionalis* | Northern aplomado falcon (AZ, NM) | Yes | No | No |
| *Falco femoralis septentrionalis* | Northern aplomado falcon | Yes | No | No |
| *Fulica americana alai* | Hawaiian coot | Yes | Yes | Yes |
| *Gallicolumba stairi* | Friendly Ground-Dove (American Samoa DPS) | Yes | No | No |
| *Gallinula chloropus guami* | Mariana common moorhen | No | Yes | Yes |
| *Gallinula chloropus sandvicensis* | Hawaiian common moorhen | No | Yes | Yes |
| *Grus americana* | Whooping crane (AL, AR, GA, IL, IN, IA, KY, LA, MI, MN, MS, MO, NC, OH, SC, TN, VA, WI, WV) | Yes | Yes | Yes |
| *Grus americana* | Whooping crane (Southwestern LA) | Yes | Yes | Yes |
| *Grus americana* | Whooping crane (CO, ID, FL, NM, UT, and the western half of Wyoming) | Yes | Yes | Yes |
| *Grus americana* | Whooping crane | Yes | Yes | Yes |
| *Grus canadensis pulla* | Mississippi sandhill crane | Yes | Yes | No |
| *Gymnogyps californianus* | California condor (specific portions of AZ, NV and UT) | Yes | No | No |
| *Gymnogyps californianus* | California condor | Yes | No | No |
| *Halcyon cinnamomina cinnamomina* | Guam Micronesian Kingfisher | Yes | Yes | No |
| *Hemignathus affinis* | Maui Nukupu`u (honeycreeper) | Yes | No | No |
| *Hemignathus hanapepe* | Kauai Nukupu`u (honeycreeper) | Yes | No | No |
| *Hemignathus munroi* | Akiapola`au (honeycreeper) | Yes | Yes | No |
| *Hemignathus procerus* | Kauai Akialoa (honeycreeper) | Yes | No | No |
| *Himantopus mexicanus knudseni* | Hawaiian stilt | No | Yes | Yes |
| *Lanius ludovicianus mearnsi* | San Clemente loggerhead shrike | Yes | Yes | No |
| *Loxioides bailleui* | Palila (honeycreeper) | Yes | No | No |
| *Loxops caeruleirostris* | Akekee | Yes | Yes | No |
| *Loxops coccineus coccineus* | Hawaii akepa (honeycreeper) | Yes | No | No |
| *Loxops coccineus ochraceus* | Maui akepa (honeycreeper) | Yes | No | No |
| *Megapodius laperouse* | Micronesian megapode | Yes | No | No |
| *Melamprosops phaeosoma* | Po`ouli (honeycreeper) | Yes | No | No |
| *Moho braccatus* | Kauai `O`o (honeyeater) | Yes | No | No |
| *Myadestes lanaiensis rutha* | Molokai thrush | Yes | No | No |
| *Myadestes myadestinus* | Large Kauai thrush (=kamao) | Yes | No | No |
| *Myadestes palmeri* | Small Kauai thrush (=puaiohi) | Yes | No | No |
| *Mycteria americana* | Wood stork | No | Yes | Yes |
| *Numenius borealis* | Eskimo Curlew | Yes | Yes | Yes |
| *Oceanodroma castro* | Band-rumped storm-petrel (Hawaii DPS) | Yes | Yes | Yes |
| *Oreomystis bairdi* | Akikiki | Yes | No | No |
| *Oreomystis mana* | Hawaii creeper | Yes | No | No |
| *Palmeria dolei* | Crested honeycreeper | Yes | No | No |
| *Paroreomyza flammea* | Molokai creeper | Yes | No | No |
| *Paroreomyza maculata* | Oahu creeper | Yes | No | No |
| *Phoebastria (=Diomedea) albatrus* | Short-tailed albatross | No | No | Yes |
| *Picoides borealis* | Red-cockaded woodpecker | Yes | No | No |
| *Pipilo crissalis eremophilus* | Inyo California towhee | Yes | Yes | No |
| *Polioptila californica californica* | Coastal California gnatcatcher | Yes | Yes | No |
| *Polyborus plancus audubonii* | Audubon's crested caracara | Yes | Yes | Yes |
| *Polysticta stelleri* | Steller's eider | Yes | Yes | Yes |
| *Pseudonestor xanthophrys* | Maui parrotbill (honeycreeper) | Yes | No | No |
| *Psittirostra psittacea* | `O`u (honeycreeper) | Yes | No | No |
| *Pterodroma phaeopygia sandwichensis* | Hawaiian dark-rumped petrel | Yes | No | Yes |
| *Puffinus auricularis newelli* | Newell's Townsend's shearwater | Yes | No | Yes |
| *Rallus longirostris levipes* | Light-footed clapper rail | No | Yes | Yes |
| *Rallus longirostris obsoletus* | California clapper rail | No | Yes | Yes |
| *Rallus longirostris yumanensis* | Yuma clapper rail | No | Yes | Yes |
| *Rallus owstoni* | Guam rail (Experimental pop) | Yes | No | No |
| *Rallus owstoni* | Guam rail | Yes | No | No |
| *Rostrhamus sociabilis plumbeus* | Everglade snail kite | No | No | Yes |
| *Somateria fischeri* | Spectacled eider | No | Yes | Yes |
| *Setophaga kirtlandii (= Dendroica kirtlandii)* | Kirtland's warbler | Yes | No | No |
| *Sterna antillarum* | Least tern | No | Yes | Yes |
| *Sterna antillarum browni* | California least tern | Yes | No | Yes |
| *Sterna dougallii dougallii* | Roseate tern (Northeast population) | Yes | No | Yes |
| *Sterna dougallii dougallii* | Roseate tern (Caribbean population) | Yes | No | Yes |
| *Strix occidentalis caurina* | Northern spotted owl | Yes | No | No |
| *Strix occidentalis lucida* | Mexican spotted owl | Yes | No | No |
| *Synthliboramphus hypoleucus* | Xantus's Murrelet | Yes | Yes | Yes |
| *Telespyza cantans* | Laysan finch (honeycreeper) | Yes | No | Yes |
| *Telespyza ultima* | Nihoa finch (honeycreeper) | Yes | No | Yes |
| *Tympanuchus cupido attwateri* | Attwater's greater prairie-chicken | Yes | No | No |
| *Tympanuchus pallidicinctus* | Lesser prairie-chicken | Yes | No | No |
| *Vermivora bachmanii* | Bachman's warbler (=wood) | Yes | No | No |
| *Vireo atricapilla* | Black-capped vireo | Yes | No | No |
| *Vireo bellii pusillus* | Least Bell's vireo | Yes | Yes | No |
| *Zosterops rotensis* | Rota bridled white-eye | Yes | No | No |

1. **Obligate Relationships**

Of the 109 listed birds considered in this report, 8 are believed to have obligate relationships with other organisms. These relationships are briefly described below and in **Table A 1-16.12**. Based on the diets and habitat requirements of these species, the USFWS does not describe any other obligate relationships between listed birds and other individual species or taxonomic groups.

**Table A 1-16.12. Obligate relationships of listed birds. All other listed birds have no obvious obligate relationships with other taxa.**

|  |  |  |  |
| --- | --- | --- | --- |
| **Scientific Name** | **Common Name** | **Obligate Taxa** | **Description of obligate relationship** |
| *Aphelocoma coerulescens* | Florida scrub jay | Terrestrial plants | Resides only in oak scrub habitat |
| *Centrocercus urophasianus* | Greater sage-grouse; entire | Terrestrial plants | Requires sage brush (*Artemisia sp)* for habitat and diet |
| *Dendroica chrysopariai* | Golden-cheeked Warbler | Terrestrial plants | Requires bark strips from Ashe junipers (*Juniperus ashei*) to build nests |
| *Loxiodes bailleui* | Palila | Terrestrial plants | Adults prefer to eat primarily māmane (*Sophora chrysophylla*) (seeds, leaves, flowers, buds, berries) |
| *Loxops caeruleirostris* | Akekee | Terrestrial plants | Specialist on the ohia tree (*Metrosideros polymorpha*) |
| *Picoides borealis* | Red-cockaded Woodpecker | Terrestrial plants | Pine trees (*Pinus sp*.) are required for nesting |
| *Rostrhamus sociabilis plumbeus* | Everglade snail kite | Aquatic invertebrates | Diet is almost exclusively composed of apple snails (*Pomacea paludosa*) |
| *Setophaga kirtlandii (= Dendroica kirtlandii)* | Kirtland’s Warbler | Terrestrial plants | Only nests in jack or red pine forests |

1. **Geographic Ranges of Listed Species**

Most listed birds occur in only one state or territory. Listed species of birds are known to occur within all states except Vermont. Hawaii has the most listings (36), followed by California (21), Texas (17), Arizona (15) and New Mexico (15). The remaining states and territories with known occurrences of listed birds are provided in **Table A 1-16.13**. County specific location information for each listed species, subspecies or DPS is provided in **SUPPLEMENTAL INFORMATION 3**.

**Table A 1-16.13. Number of listed birds by state or territory.**

|  |  |  |
| --- | --- | --- |
| **Abbreviation** | **State** | **Count** |
| AL | Alabama | 6 |
| AK | Alaska | 3 |
| AS | American Samoa | 2 |
| AZ | Arizona | 15 |
| AR | Arkansas | 5 |
| CA | California | 21 |
| CO | Colorado | 13 |
| MP | Commonwealth of the Northern Mariana Islands | 7 |
| CT | Connecticut | 3 |
| DE | Delaware | 3 |
| DC | District of Columbia | 0 |
| FL | Florida | 13 |
| GA | Georgia | 5 |
| GU | Guam | 8 |
| HI | Hawaii | 36 |
| ID | Idaho | 4 |
| IL | Illinois | 4 |
| IN | Indiana | 3 |
| IA | Iowa | 4 |
| KS | Kansas | 7 |
| KY | Kentucky | 2 |
| LA | Louisiana | 5 |
| ME | Maine | 3 |
| MD | Maryland | 3 |
| MA | Massachusetts | 2 |
| MI | Michigan | 4 |
| MN | Minnesota | 6 |
| MS | Mississippi | 8 |
| MO | Missouri | 5 |
| MT | Montana | 6 |
| NE | Nebraska | 9 |
| NV | Nevada | 13 |
| NH | New Hampshire | 3 |
| NJ | New Jersey | 3 |
| NM | New Mexico | 15 |
| NY | New York | 4 |
| NC | North Carolina | 6 |
| ND | North Dakota | 5 |
| OH | Ohio | 2 |
| OK | Oklahoma | 8 |
| OR | Oregon | 8 |
| PA | Pennsylvania | 2 |
| PR | Puerto Rico | 8 |
| RI | Rhode Island | 3 |
| SC | South Carolina | 6 |
| SD | South Dakota | 6 |
| TN | Tennessee | 2 |
| TX | Texas | 17 |
| VI | United States Virgin Islands | 1 |
| UT | Utah | 9 |
| VT | Vermont | 0 |
| VA | Virginia | 4 |
| WA | Washington | 8 |
| WV | West Virginia | 1 |
| WI | Wisconsin | 4 |
| WY | Wyoming | 9 |

1. **Elevation Restrictions and Migration**

**Table A 1-16.14** lists the elevation restrictions and describes the migratory behavior of the 104 listed birds that will be considered for pesticide effects determinations. Of these birds, 21 have known elevation restrictions and 30 migrate.

**Table A 1-16.14. Elevation restrictions and migration descriptions of listed birds.**

| ***Scientific Name*** | **Common Name** | **Elevation Restriction?** | | **Migration?** | |
| --- | --- | --- | --- | --- | --- |
| **Yes/ No** | **If yes, define (in m)** | **Yes/**  **No** | **If yes, describe migration pattern (timing and location)** |
| *Accipiter striatus venator* | Puerto Rican sharp-shinned hawk | No | NA | No | NA |
| *Acrocephalus familiaris kingi* | Nihoa millerbird (old world warbler) | No | NA | No | NA |
| *Acrocephalus luscinia* | Nightingale reed warbler (old world warbler) | No | NA | No | NA |
| *Aerodramus vanikorensis bartschi* | Mariana gray swiftlet | No | NA | No | NA |
| *Agelaius xanthomus* | Yellow-shouldered blackbird | No | NA | No | NA |
| *Amazona viridigenalis* | Red-crowned parrot | Yes | <1000 | No | NA |
| *Amazona vittata* | Puerto Rican parrot | No | NA | No | NA |
| *Ammodramus maritimus mirabilis* | Cape Sable seaside sparrow | No | NA | No | NA |
| *Ammodramus savannarum floridanus* | Florida grasshopper sparrow | No | NA | No | NA |
| *Amphispiza belli clementeae* | San Clemente sage sparrow | Yes | ≤40 | No | NA |
| *Anas laysanensis* | Laysan duck | No | NA | No | NA |
| *Anas wyvilliana* | Hawaiian duck (=koloa) | No | NA | No | NA |
| *Aphelocoma coerulescens* | Florida scrub-jay | No | NA | No | NA |
| *Brachyramphus marmoratus* | Marbled Murrelet | No | NA | No | NA |
| *Branta (=Nesochen) sandvicensis* | Hawaiian Goose | Yes | ≤2500 | No | NA |
| *Buteo platypterus brunnescens* | Puerto Rican broad-winged hawk | No | NA | No | NA |
| *Buteo solitarius* | Hawaiian hawk (='lo) | No | NA | No | NA |
| *Calidris canutus rufa* | Red knot | No | NA | Yes | Breed in Arctic. Spend winter in Southeast US. During migration, stop on shoreline. |
| *Campephilus principalis* | Ivory-billed woodpecker | No | NA | No | NA |
| *Caprimulgus noctitherus* | Puerto Rican nightjar | No | NA | No | NA |
| *Centrocercus minimus* | Gunnison sage-grouse | No | NA | no | NA |
| *Charadrius alexandrinus nivosus* | Western snowy plover | No | NA | Yes | Some plovers remain in costal breeding areas year round. Some plovers migrate south or north for winter |
| *Charadrius melodus* | Piping plover (Great Lakes breeding population) | No | NA | Yes | Birds migrate to the Great Lakes breeding areas between mid-February and March. Birds leave the breeding areas between mid-July and early September |
| *Charadrius melodus* | Piping plover (all birds not listed as endangered) | No | NA | Yes |
| *Chasiempis sandwichensis ibidis* | Oahu elepaio | No | NA | No | NA |
| *Coccyzus americanus* | Yellow-billed Cuckoo (western DPS) | No | NA | Yes | Neotropical migrant. Breeds in the US. Arrives in April-May. Leaves september-November. |
| *Colinus virginianus ridgwayi* | Masked bobwhite quail | No | NA | No | NA |
| *Columba inornata wetmorei* | Puerto Rican plain pigeon | No | NA | No | NA |
| *Corvus kubaryi* | Mariana crow (=aga) | No | NA | No | NA |
| *Dendroica angelae* | Elfin-woods warbler | Yes | 100-1075 | Yes | Migrates vertically in elevation. |
| *Dendroica chrysoparia* | Golden-cheeked warbler (=wood) | No | NA | Yes | From July to Aug. species migrates south to southern Mexico and North Central America |
| *Empidonax traillii extimus* | Southwestern willow flycatcher | No | NA | Yes | Flycatcher winters in Mexico, Central America and South America. Therefore, this species is only located in the US during breeding, which occurs May through August |
| *Eremophila alpestris strigata* | Streaked horned lark | No | NA | Yes | Individuals migrate short distances and stay within Washington state. |
| *Falco femoralis septentrionalis* | Northern aplomado falcon (AZ, NM) | No | NA | No | NA |
| *Falco femoralis septentrionalis* | Northern aplomado falcon | No | NA | No | NA |
| *Fulica americana alai* | Hawaiian coot | No | NA | No | NA |
| *Gallicolumba stairi* | Friendly Ground-Dove (American Samoa DPS) | No |  | No |  |
| *Gallinula chloropus guami* | Mariana common moorhen | No | NA | No | NA |
| *Gallinula chloropus sandvicensis* | Hawaiian common moorhen | Yes | <125 | No | NA |
| *Grus americana* | Whooping crane (AL, AR, GA, IL, IN, IA, KY, LA, MI, MN, MS, MO, NC, OH, SC, TN, VA, WI, WV) | No | NA | Yes | Cranes winter along the Gulf of Mexico at the Arasnas National Wildlife Revuge. They leave wintering grounds between March 25 and May 1. They migrate to their nesting grounds in Wood Buffalo National Park in Canada. In April, they begin to build their nests and lay their eggs from April to May. They migrate back to their wintering grounds between mid-September and mid-November. |
| *Grus americana* | Whooping crane (Southwestern LA) | No | NA | Yes |
| *Grus americana* | Whooping crane (CO, ID, FL, NM, UT, and the western half of Wyoming) | No | NA | Yes |
| *Grus americana* | Whooping crane | No | NA | Yes | Cranes winter along the Gulf of Mexico at the Arasnas National Wildlife Revuge. They leave wintering grounds between March 25 and May 1. They migrate to their nesting grounds in Wood Buffalo National Park in Canada. In April, they begin to build their nests and lay their eggs from April to May. They migrate back to their wintering grounds between mid-September and mid-November. |
| *Grus canadensis pulla* | Mississippi sandhill crane | No | NA | No | NA |
| *Gymnogyps californianus* | California condor (specific portions of AZ, NV and UT) | No | NA | No | NA |
| *Gymnogyps californianus* | California condor | No | NA | No | NA |
| *Halcyon cinnamomina cinnamomina* | Guam Micronesian Kingfisher | No | NA | No | NA |
| *Hemignathus affinis* | Maui Nukupu`u (honeycreeper) | Yes | 610-1220 | No | NA |
| *Hemignathus hanapepe* | Kauai Nukupu`u (honeycreeper) | Yes | 610-1220 | No | NA |
| *Hemignathus munroi* | Akiapola`au (honeycreeper) | No | NA | No | NA |
| *Hemignathus procerus* | Kauai Akialoa (honeycreeper) | Yes | >200 | No | NA |
| *Himantopus mexicanus knudseni* | Hawaiian stilt | No | NA | No | NA |
| *Lanius ludovicianus mearnsi* | San Clemente loggerhead shrike | No | NA | No | NA |
| *Loxioides bailleui* | Palila (honeycreeper) | Yes | 2000-2850 | No | NA |
| *Loxops caeruleirostris* | Akekee | No | NA | No | NA |
| *Loxops coccineus coccineus* | Hawaii akepa (honeycreeper) | Yes | >1300 | No | NA |
| *Loxops coccineus ochraceus* | Maui akepa (honeycreeper) | Yes | 914-1219 | No | NA |
| *Megapodius laperouse* | Micronesian megapode | No | NA | No | NA |
| *Melamprosops phaeosoma* | Po`ouli (honeycreeper) | Yes | 1440- 2100 | No | NA |
| *Moho braccatus* | Kauai `O`o (honeyeater) | No | NA | No | NA |
| *Myadestes lanaiensis rutha* | Molokai thrush | Yes | >1000 | No | NA |
| *Myadestes myadestinus* | Large Kauai thrush (=kamao) | Yes | >1100 | No | NA |
| *Myadestes palmeri* | Small Kauai thrush (=puaiohi) | Yes | 1050-1300 | No | NA |
| *Mycteria americana* | Wood stork | No | NA | Yes | Wood storks bred in FL, GA and SC. They migrate south in winter |
| *Numenius borealis* | Eskimo Curlew | No | NA | Yes | Breeds and Canada and AK and migrates to south America in late summer and fall. In spring (Feb-May) they migrate into texas and the prairies of the Midwestern US and Canada. |
| *Oceanodroma castro* | Band-rumped storm-petrel (Hawaii DPS) | No | NA | Yes | Disperses widely. Migrates August to February. |
| *Oreomystis bairdi* | Akikiki | Yes | 600-1600 | No | NA |
| *Oreomystis mana* | Hawaii creeper | Yes | >1500 | No | NA |
| *Palmeria dolei* | Crested honeycreeper | Yes | 1500 - 2100 | No | NA |
| *Paroreomyza flammea* | Molokai creeper | No | NA | No | NA |
| *Paroreomyza maculata* | Oahu creeper | No | NA | No | NA |
| *Phoebastria (=Diomedea) albatrus* | Short-tailed albatross | No | NA | Yes | Short-tailed albatross breed (during October-June) on only two remote islands in the western Pacific: Torishima (Japan) and Minami-kojima, a site in the Senkaku Islands, to the southwest of Torishima |
| *Picoides borealis* | Red-cockaded woodpecker | No | NA | No | NA |
| *Pipilo crissalis eremophilus* | Inyo California towhee | No | NA | No | NA |
| *Polioptila californica californica* | Coastal California gnatcatcher | No | NA | No | NA |
| *Polyborus plancus audubonii* | Audubon's crested caracara | No | NA | No | NA |
| *Polysticta stelleri* | Steller's eider | No | NA | Yes | Breed in Alaska. Wintering sites are also in Alaska, in areas south of the breeding sites. |
| *Pseudonestor xanthophrys* | Maui parrotbill (honeycreeper) | Yes | 1200-2350 | No | NA |
| *Psittirostra psittacea* | `O`u (honeycreeper) | Yes | 900-1500 | No | NA |
| *Pterodroma phaeopygia sandwichensis* | Hawaiian dark-rumped petrel | Yes | >2200 | Yes | spend most of their time in the ocean and breed in Hawaii |
| *Puffinus auricularis newelli* | Newell's Townsend's shearwater | No | NA | No | NA |
| *Rallus longirostris levipes* | Light-footed clapper rail | No | NA | No | NA |
| *Rallus longirostris obsoletus* | California clapper rail | No | NA | No | NA |
| *Rallus longirostris yumanensis* | Yuma clapper rail | No | NA | Yes | Not all individuals migrate |
| *Rallus owstoni* | Guam rail (experimental population) | No | NA | No | NA |
| *Rallus owstoni* | Guam rail | No | NA | No | NA |
| *Rostrhamus sociabilis plumbeus* | Everglade snail kite | No | NA | No | NA |
| *Setophaga kirtlandii (= Dendroica kirtlandii)* | Kirtland's warbler | No | NA | Yes | During breeding, Kirtland’s warblers are located in Michigan. Its wintering grounds are located in the Bahamas, where it spends 8 months of the year (September-April). In migration, the bird travels a fairly direct route between its nesting and wintering ranges, entering and leaving the continent at the coast of North and South Carolina |
| *Somateria fischeri* | Spectacled eider | No | NA | Yes | Breed in Alaska and in Russia (May-June). They also spend time during the non-breeding season in these areas. Wintering areas are in the Bearing Sea, Aleutian Islands and Gulf of Alaska |
| *Sterna antillarum* | Least tern | No | NA | Yes | Interior least terns spend up to 7 months at wintering areas (located in Central and South America) and breeds in the US (April – August) |
| *Sterna antillarum browni* | California least tern | No | NA | Yes | Migration is assumed to be along the west coast of Baja California to the west coast of Mexico. Fall migration occurs last week of July – first week of Aug |
| *Sterna dougallii dougallii* | Roseate tern (Northeast population) | No | NA | Yes | Northeast DPS breeds in in North East states of US. Based on band recoveries, northeastern roseate terns are thought to migrate through the eastern Caribbean and along the north coast of South America, and to winter mainly on the east coast of Brazil between 10º and 18º S. Small flocks may remain near some Caribbean islands. |
| *Sterna dougallii dougallii* | Roseate tern (Caribbean population) | No | NA | Yes | The migratory pathway of Caribbean birds is not known, but the route is almost certain to be 2,000 to 4,000 km (1,243 to 2,485 mi) shorter than the route taken by the northeastern (North America) population. They appear to spend their winter in the Caribbean and in South America. |
| *Strix occidentalis caurina* | Northern spotted owl | No | NA | No | NA |
| *Strix occidentalis lucida* | Mexican spotted owl | No | NA | Yes | Mexican spotted owls remain on or near their breeding territory and some migrate during the winter. |
| *Synthliboramphus hypoleucus* | Xantus's Murrelet | No |  | No |  |
| *Telespyza cantans* | Laysan finch (honeycreeper) | No | NA | No | NA |
| *Telespyza ultima* | Nihoa finch (honeycreeper) | No | NA | No | NA |
| *Tympanuchus cupido attwateri* | Attwater's greater prairie-chicken | No | NA | No | NA |
| *Tympanuchus pallidicinctus* | Lesser prairie-chicken | No | NA | No | NA |
| *Vermivora bachmanii* | Bachman's warbler (=wood) | No | NA | Yes | Breed in the southeastern US. Migrate south in late winter and returns to breeding habitats in early spring. |
| *Vireo atricapilla* | Black-capped vireo | No | NA | Yes | Arrive in Texas from mid March to mid April and Oklahoma 10 days later. They migrate to wintering grounds in Mexico in July and are gone from Texas by mid-September. |
| *Vireo bellii pusillus* | Least Bell's vireo | No | NA | Yes | This species is a sub-tropical migrant. They arrive in California from mid march to early April to breed. |
| *Zosterops rotensis* | Rota bridled white-eye | No | NA | No | NA |

NA = not applicable

1. **Strategy for grouping species**

In order to efficiently assess the risks of a pesticide to listed birds, it is necessary to group them by their defining features that are relevant in the context of the risk assessment framework. There are two major factors that impact the risk of a pesticide to a species: exposure and effects. In terms of effects, relevance of surrogate test species for a listed species may alter the confidence associated with the risk call. For these assessments, surrogacy is determined by taxonomy, specifically whether toxicity data are available for species within the same order as the listed species. Therefore, species are grouped according to their order (**Table A 1-16.3**). Preliminary analysis for birds indicated that the major exposure pathway for diazinon is through consumption of contaminated food. Therefore, birds are lumped according to their diet (**Tables A 1-16.6** to **A 1-16.8**). Since indirect effects are based on diet and habitat, lumping according to diet will also serve the needs of indirect effects. Species are also grouped according to similarity of their habitats (**Table A 1-16.11**). A final consideration in this strategy is whether or not a species has an obligate relationship. If a species has an obligate relationship, it may be treated separately from other species. **Table A 1-16.15** summarizes the 25 groups of listed birds. Each group of species will share risk hypotheses and lines of evidence. Note that several species did not have similarities to other listed birds, therefore, they will be assessed separately.

**Table A 1-16.15. Summary of listed bird groups.**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Order(s)** | **Species** | **N** | **Diet** | **Obligate relationship?** | **Critical habitat?** | **Habitat(s)** | **Model(s)** |
| Accipitriformes | Everglade snail kite | 1 | Aquatic invertebrates | Yes (snails) | No | Aquatic | KABAM |
| Accipitriformes, Falconiformes, Strigiformes | Puerto Rican sharp-shinned hawk, Puerto Rican broad-winged hawk, Hawaiian hawk, Northern aplomado falcon (AZ, NM), Northern aplomado falcon, Northern spotted owl, Mexican spotted owl | 7 | Insects, Terrestrial vertebrates (birds, mammals, reptiles, amphibians) | No | Yes (2) | Terrestrial | T-REX |
| Anseriformes | Laysan duck, Hawaiian duck, Hawaiian Goose, Steller's eider, Spectacled eider | 5 | Invertebrates (terrestrial and aquatic), Terrestrial plants (seeds, leaves), Algae | No | Yes (2) | Terrestrial, wetland, aquatic | T-REX, KABAM |
| Apodiformes, Caprimulgiformes | Mariana gray swiftlet,  Puerto Rican nightjar | 2 | Insects | No | No | Terrestrial | T-REX |
| Charadriiformes | Marbled Murrelet, Red knot, Western snowy plover, Piping plover (Great Lakes breeding population), Piping plover (all birds not listed as endangered), Hawaiian stilt, Eskimo Curlew, Least tern, California least tern, Roseate tern (Northeast population), Roseate tern (Caribbean population), Xantus's Murrelet | 12 | Terrestrial insects, Aquatic invertebrates (SW and FW),  Fish (SW and FW) | No | Yes (4) | Terrestrial, wetland, aquatic | T-REX, KABAM |
| Ciconiiformes | Wood stork | 1 | Fish (SW and FW) | No | No | Wetland, aquatic | KABAM |
| Columbiformes | Puerto Rican plain pigeon, Friendly Ground-Dove | 2 | Terrestrial plants (grass, leaves, fruit, seeds) | No | No | Terrestrial | T-REX |
| Coraciiformes, Falconiformes | Guam Micronesian Kingfisher, Audubon's crested caracara | 2 | Terrestrial invertebrates Terrestrial vertebrates, Aquatic invertebrates, Fish | No | Yes (1) | Terrestrial, wetland | T-REX,  KABAM |
| Cuculiformes | Yellow-billed Cuckoo | 1 | Terrestrial invertebrates, Terrestrial plants (Fruit, seeds),Terrestrial vertebrates, Carrion | No | Yes | Terrestrial, wetland | T-REX |
| Falconiformes | California condor (specific portions of AZ, NV and UT), California condor | 2 | Carrion | No | Yes (1) | Terrestrial | T-REX |
| Galliformes | Masked bobwhite quail, Micronesian megapode, Attwater's greater prairie-chicken, Lesser prairie-chicken | 4 | Terrestrial insects, Terrestrial plants (grass, leaves, fruit, seeds) | No | No | Terrestrial | T-REX |
| Galliformes | Gunnison sage-grouse | 1 | Terrestrial insects, Terrestrial plants (grass, leaves, fruit, seeds) | Yes (sage) | Yes (1) | Terrestrial, wetland | T-REX |
| Gruiformes | Hawaiian coot, Mariana common moorhen, Hawaiian common moorhen, Whooping crane, Whooping crane (4 separate listings), Mississippi sandhill crane, Light-footed clapper rail, California clapper rail, Yuma clapper rail, Guam rail (exp), Guam rail | 13 | Terrestrial insects, Terrestrial plants (grass, leaves, seeds, fruit),  Terrestrial vertebrates (birds, mammals, reptiles, amphibians), Aquatic plants, Aquatic invertebrates, Fish | No | Yes (2) | Terrestrial, wetland, aquatic | T-REX, KABAM |
| Passeriformes | Yellow-shouldered blackbird, Florida grasshopper sparrow, San Clemente sage sparrow, Streaked Horned lark, Maui Nukupu`u, Kauai Nukupu`u, Akiapola`au, Kauai Akialoa, Hawaii akepa, Maui akepa, Kauai `O`o, Molokai thrush, Large Kauai thrush, Small Kauai thrush, Akikiki, Crested honeycreeper, Inyo California towhee, Coastal California gnatcatcher, `O`u, Rota bridled white-eye | 20 | Insects, terrestrial plants (grass, leaves, fruit, seeds, nectar) (not all species share the same food items) | No | Yes (7) | Terrestrial, some wetland | T-REX |
| Passeriformes | Laysan finch, Nihoa finch | 2 | Insects, terrestrial plants (grass, leaves, fruit, seeds), bird eggs | No | No | Terrestrial | T-REX |
| Passeriformes | Nightingale reed warbler, San Clemente loggerhead shrike | 2 | Insects, Terrestrial vertebrates (birds, mammals, reptiles) | No | No | Terrestrial | T-REX |
| Passeriformes | Mariana crow | 1 | Insects (all species), Terrestrial plants (grass, leaves, fruit, seeds), Terrestrial vertebrates (birds, mammals, reptiles) | No | Yes | Terrestrial | T-REX |
| Passeriformes | Nihoa millerbird, Oahu elepaio, Elfin-woods warbler, Southwestern willow flycatcher, Po`ouli, Hawaii creeper, Molokai creeper, Oahu creeper, Maui parrotbill, Bachman's warbler, Black-capped vireo, Least Bell's vireo | 12 | Terrestrial insects | No | Yes (4) | Terrestrial, some wetland | T-REX |
| Passeriformes | Golden-cheeked Warbler, Akekee, Kirtland’s Warbler | 3 | Insects, some fruit (kirtland’s warbler) | Yes (trees) | Yes (2) | Terrestrial, some wetland | T-REX |
| Passeriformes | Palila | 1 | Insects, fruit, seeds, leaves | Yes (trees) | Yes | Terrestrial, some wetland | T-REX |
| Passeriformes | Florida scrub-jay | 1 | Insects, Terrestrial plants fruit, seeds), Terrestrial vertebrates (amphibians, birds, mammals, reptiles) | Yes (trees) | No | Terrestrial, some wetland | T-REX |
| Passeriformes | Cape sable seaside sparrow | 1 | Terrestrial invertebrates, Seeds, Aquatic invertebrates | No | Yes | Terrestrial, aquatic | T-REX,  KABAM |
| Piciformes | Ivory-billed woodpecker, Red-cockaded woodpecker\* | 2 | Terrestrial insects, Terrestrial plants (fruit, seeds) | \*Yes (pine trees) | No | Terrestrial | T-REX |
| Procellariiformes | Band-rumped storm-petrel, Short-tailed albatross, Hawaiian dark-rumped petrel, Newell's Townsend's shearwater |  | Aquatic invertebrates (SW)  Fish (SW) | No | No | Aquatic (marine) | KABAM |
| Psittaciformes | Red-crowned parrot, Puerto Rican parrot | 2 | Terrestrial plants (leaves, fruit, seeds) and invertebrates | No | No | Terrestrial | T-REX |

**SUPPLEMENTAL INFORMATION 1. Instructions for extracting biological information for listed birds**

The purpose of this project is to compile biological information on federally listed endangered and threatened birds. This document contains instructions for extracting relevant biological information on each of these species and a form for entering this information.

**Instructions:**

Step 1. Copy the template (below) for the listed bird species worksheet used to record biological information for individual species. Paste this into a new page at the end of this document.

Step 2. Go to the profile for the species of interest (on USFWS website).

Step 3. If available, acquire the most recent recovery plan available for the listed species of interest. Recovery plans can be located by clicking on the “recovery” quick link of the species profile for the species of interest. Save the pdf of the recovery plan.

Step 4. Extract information on body weight, habitat, diet and the other parameters listed in the attached sheet. When information is entered into the worksheet, note the source number in ( ). These data can generally be found in the life history portion of the recovery plan, so it is not necessary to review the entire recovery plan. When a data point is extracted, highlight the appropriate information in the PDF. When all data are extracted from the recovery plan, save the revised file. All information that appear in the species worksheet must have a source and must be highlighted in the original document. This is a critical component of the Quality Control (QC) for this project.

Step 5. Determine if the species has an obligate relationship with other species. If so, describe the nature of the obligate relationship.

* Obligate relationships of a listed species may be explicitly stated in a recovery (*e.g.,* the golden coqui has obligate relationships with bromeliads[[1]](#footnote-1)). It is recommended that the data extractor do a search of the recovery plan for the term “obligate” to determine whether the listed species of interest has any obligate relationships with other species.
* In some cases, obligate relationships may not be explicitly stated; however this relationship may be inferred from the description of the diet or habitat of the listed species. If the recovery plan indicates that the listed species requires a specific species for its survival (*i.e.,* for diet or habitat), then EFED scientists may determine that the species has an obligate relationship with the specific species that is noted in the recovery plan.

Step 6. If body weight data are not available in the recovery plan, use Dunning 1984.

Step 7. If data are not located in the recovery plan, acquire them from the species profile from the Birds of North America. A copy of this source is available in the EFED library. Other scientifically valid sources (*e.g.,* scientific literature, USFWS publications) may be used to acquire the necessary information. Please check with Kris Garber before extracting data from other sources.

Notes:

1. If body weight data cannot be located for the specific listed species, data from a closely related species may be used as a surrogate. For example, body weight data for the Hawaiian Coot (*Fulica alai*) could not be located. Data for the American coot (*Fulica americana*) (from Dunning 1984) were used to represent the Hawaiian coot, because the two species are closely related.
2. Many recovery plans include information on multiple listed species. If this is the case, data can be extracted at the same time for all of the species included in the recovery plan.
3. K. Garber will complete the EFED model portion of the worksheet for all species.
4. The FESTF database on co-locations of listed species and federal lands will be used to identify federal lands where species are known to occur. This information will potentially be used for characterization purposes.
5. For any questions, please see Kris Garber.

**SUPPLEMENTAL INFORMATION 2. Template for extracting biological information on listed bird species**

Species (common name):

Listed status: endangered threatened

Designated critical habitat? yes no

Spatial data in recovery plan? yes no

Population size (most current estimate):

Body weight (in g):

Locations known to occur:

Diet: insects small mammals fish

seeds birds aquatic invertebrates

grass reptiles aquatic plants

broadleaf plants terrestrial amphibians aquatic amphibians

other:

Relevant EFED model(s): T-REX KABAM none

Habitat (enter as many as relevant):

Forest

Wetlands

Fallow fields

Agricultural areas

Other:

Elevation restriction:

Obligate relationships:

Comments:

Name of data extractor and date:

Sources:

1. Species specific recovery plan available on FWS website.
2. Dunning, J.B. 1984. Body weights of 686 species of North American Birds. Western Bird Banding Association. Monograph number 1. May 1984.
3. Birds of North America species profile.

**SUPPLEMENTAL INFORMATION 3. Species (or Distinct Population Segment)-specific information for listed birds**

This Supplemental information contains a summary of the biological and geographical information available (primarily from the US Fish and Wildlife Services) for listed bird species, subspecies and Distinct Population Segments (DPS).

**Species (common name): *Accipiter striatus venator* (Puerto Rican Sharp Shinned Hawk)**

Listed status: Endangered (1, p. iii)

Designated critical habitat? No (1, p. 1)

Primary Constituent Elements: Not applicable

Spatial data in recovery plan? No

Population size (most current estimate): 154 (1, p. iii)

Body weight (in g):

Average adult: 137 (2, p. 9)

Average male: 101 (2, p. 9)

Average male: 103 ± 6.4 (3, p. 6)

Male range: 82-125 (3, p. 6)

Average female: 173 (2, p. 9)

Average female: 174 ± 10.4 (3, p. 6)

Female Range: 144-208 (3, p. 6)

Dates of Breeding Period: December to April (1, p. 10)

Locations known to occur: Puerto Rico (1, p. iii)

Counties: Adjuntas, Arecibo, Barranquitas, Cayey, Ciales, Corozal, Florida, Guayama, Jayuya, Las Marias, Luquillo, Manati, Naguabo, Orocovis, Patillas, Rio Grande, Sabana, Grande, San Lorenzo, Utuado, Yauco (4)

Federal lands or Indian reservations species is known to occur: None (6)

Migratory: No

Diet: Birds (1, p. 11)

Relevant EFED model(s): T-REX

Habitat: Montane forests (1, p. iii)

Habitat size (home range): 150 Ha (1, p. 9)

Elevation restriction: None listed

Obligate relationships: None noted in available USFWS documentation. Reviewer believes that there are no obvious obligate relationships related to diet or habitat.

Comments:

Body weight data from source 3 are from a population in Wisconsin. Data are from the same species but not necessarily this subspecies.

Birds have been observed eating tanager (≤30 g). Sharp shinned hawks have also been observed eating a thrasher (100 g) (1, p. 11). Sharp shinned hawks do not appear to prefer specific species of prey (5). Based on this information, the prey of this species would be represented in T-REX with the small (20 g) and medium (100 g) sized birds.

Located in montane forests along the Cordillera Central, Sierra de Cayey and Sierra de Luquillo of Puerto Rico (1, p. iii)

Endemic to Puerto Rico (1, p. 1)

Nests in natural forests and maria plantations (1, p. 7)

The laying of second clutches occurred irregularly between May and July only after losing a brood (1, p. 10)

Name of data extractor and date: Brian Anderson, 1/20/12

QC reviewer (date): Jean Holmes, 3/9/2012

Kris Garber, 5/16/12

Sources:

1. USFWS. 1997. Puerto Rican broad-winged hawk and Puerto Rican sharp-shinned hawk recovery plan. United States Fish and Wildlife Service. Available online at:

<http://ecos.fws.gov/docs/recovery_plan/970908.pdf>

1. Ministry of Agriculture, Fisheries and Food; Agricultural Science Service Aviation Bird Unit. Average Weights of Birds by T. Brough. Aviation Bird Unit Workplesdon Laboratory, July 1983.
2. Dunning, J.B. 1984. Body weights of 686 species of North American Birds. Western Bird Banding Association. Monograph number 1. May 1984
3. USFWS. 2012. Species profile for Puerto Rican Sharp-Shinned hawk (*Accipiter striatus venator*). Available online at: <http://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B06Z>. Accessed 5/16/12.
4. Cornell Lab of Ornithology. 2012. Sharp-shinned hawk. Available online at: <http://www.allaboutbirds.org/guide/sharp-shinned_hawk/lifehistory#at_food>. Accessed 5/16/12.
5. FESTF. 2012. Coincidence of ESA-listed species with federal lands and proximity to outer boundary. FIFRA Endangered Species Task Force. Data submitted to EPA March 2012.

**Species (common name): *Acrocephalus familiaris kingi* (Nihoa millerbird)**

Listed status: Endangered (4)

Designated critical habitat? No (4)

Primary Constituent Elements: Not applicable

Spatial data in recovery plan? No

Population size (most current estimate): 641 +/- 295 (3, p. 6)

Body weight (in g):

Average: 17.2 ± 0.9 (2, p. 50)

Range: 15.0-19.4 (2, p. 54-58)

Dates of Breeding Period:Feb through July (1 p. 24)

Locations known to occur: Nihoa Island, Hawaii (1, p. 21)

Federal lands or Indian reservations species is known to occur: None (5)

Migratory: No

Diet: Terrestrial arthropods (1, p. 23)

Relevant EFED model(s): T-REX

Habitat: Throughout Nihoa Island, prefer dense shrubs (1, p. 23)

Habitat size (home range):1 acre (1, p. 23)

Elevation restriction: None listed

Obligate relationships: None noted in available USFWS documentation. Reviewer believes that there are no obvious obligate relationships related to diet or habitat.

Comments:

Average body weight data was calculated from captive feeding trials conducted in 2009 involving 8 birds that were weighed over 4 days. These data were displayed in tabular form. Range is from captive feeding trials conducted in 2010 involving 12 birds. The data from the 2010 study are displayed in graphs and not used to generate the average value.

Name of data extractor and date: Brian Anderson, 1/20/2012

QC reviewer (date): Jean Holmes, 3/5/2012

Sources:

1. Species specific recovery plan available on FWS website.

<http://ecos.fws.gov/docs/recovery_plan/841004.pdf>

1. Farmer, C., Kohley, R., Freifeld, H. and S. Plentovich. 2011. Nihoa millerbird (*Acrocephalus familiaris kingi*) translocation protocols. Available online at: http://www.fws.gov/pacificislands/Nihoa%20Millerbird/Millerbird%20Translocation%20Protocols%202011.pdf
2. FWS. 2010. 5-year review.

<http://ecos.fws.gov/docs/five_year_review/doc3339.pdf>

1. Species Profile FWS website: http://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B00G
2. FESTF. 2012. Coincidence of ESA-listed species with federal lands and proximity to outer boundary. FIFRA Endangered Species Task Force. Data submitted to EPA March 2012.

**Species (common name): *Acrocephalus luscinia* (Nightingale Reed warbler)**

Listed status**:** Endangered (2, p. iii)

Designated critical habitat? No(1)

Primary Constituent Elements: Not applicable

Spatial data in recovery plan? Yes

Population size (most current estimate):

2000-2994 grown adult birds (2, p. 7)

6,225- 6,230 (3, p. 5)

Body weight (in g):

Males: > 35.0 (2, p. 4)

Females < 34.4 (2, p. 4)

Dates of Breeding Period: January-March, July-September; Mosher (2006) found two breeding peaks, January-March and July-September (3, p.5)

Locations known to occur: Saipan and Alamagar in the Mariana archipelago (3, p. 5)

Federal lands or Indian reservations species is known to occur: None (4)

Migratory: No

Diet: Terrestrial arthropods (insects, spiders), snails, lizards (2)

Relevant EFED model(s): T-REX

Habitat: (2, p. iii)

Forest; wooded edges adjacent to open grassland; thicket meadow mosaics; reed marshes; groves of trees and thickets 1-2 meters tall

Habitat size (home range): The mean home range/territory size of male and female nightingale reed-warblers was estimated to be 4.43+/-2.83 (SD) hectares (10.95+/- 6.99 acres), and the core area was estimated to be 0.85+/-0.52 hectares (2.1+/-1.28 acres) (3)

Elevation restriction: None indicated

Obligate relationships: None noted in available USFWS documentation. Reviewer believes that there are no obvious obligate relationships related to diet or habitat.

Comments: Recent surveys of land birds on Saipan indicate nightingale reed-warblers decreased a high density of 58 birds per square km in 1982 to 22 birds per square km in 2007, with significant declines in urban habitat. Surveys on Alamagar in 1992 estimated 2,000 individuals and 173 pairs (120-277 95% confidence interval) in 2000 (DFW). Variations may reflect different methods (3, p. 5).

Name of data extractor and date: Lewis Brown, 3/06/12

QC reviewer (date): Jean Holmes, 4/24/2012

Sources:

1. Species Profile FWS website <http://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B043#crithab>
2. FWS Recovery Plan for the Nightingale Reed warbler (*Acrocephalus luscinia*) <http://ecos.fws.gov/docs/recovery_plan/980410a.pdf>
3. Nightingale Reed warbler (*Acrocephalus luscinia*) Five-Year Review and Summary Evaluation: <http://ecos.fws.gov/docs/five_year_review/doc3251.pdf>
4. FESTF. 2012. Coincidence of ESA-listed species with federal lands and proximity to outer boundary. FIFRA Endangered Species Task Force. Data submitted to EPA March 2012.

**Species (common name): *Aerodramus vanikorensis bartschi* (Mariana Gray Swiftlet or Chachaguak)**

Listed status: Endangered (1) (3, p. iii)

Designated critical habitat? No (1)

Primary Constituent Elements: Not applicable

Spatial data in recovery plan? Yes (3, p.9, 10, 15)

Population size (most current estimate): 5000+ individuals: Saipan=5,000+; South Guam= 900+; Aguiguan less than 500. (2, p. 4)

Body weight (in g):

Average: 7.4 (1)

Range: 6.4-9 (1)

Breeding Period: Jan-July (3, p. 5)

Locations known to occur: Guam; Northern Mariana Islands (Saipan and Aguiguan) (2, p. 4)

Federal lands or Indian reservations species is known to occur: None (4)

Migratory: No

Diet: insects (2, p. 4)

Relevant EFED model(s): T-REX

Habitat: Caves –Limestone for nesting; (3, p.iii)

foraging travel over wide variety of terrain and vegetation, but favor grassy areas and ridge crests (3, p. iii)

Home Range: Varies for foraging (3, p. iii)

Elevation restriction: none indicated

Obligate relationships: None noted in available USFWS documentation. Reviewer believes that there are no obvious obligate relationships related to diet or habitat.

Comments: Chachaguak produce a single egg which is incubated for approximately 23 days with fledging occurring after 47 days (2, p. 4)

Name of data extractor and date: Valerie Woodard February 9, 2012

QC reviewer (date): Jean Holmes, 3/23/2012

Sources:

1. ECOS Website <http://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B091>
2. Five year review

<http://ecos.fws.gov/docs/five_year_review/doc3352.pdf>

1. Recovery Plan:<http://ecos.fws.gov/docs/recovery_plan/910930a.pdf>
2. FESTF. 2012. Coincidence of ESA-listed species with federal lands and proximity to outer boundary. FIFRA Endangered Species Task Force. Data submitted to EPA March 2012.

**Species (common name): *Agelaius xanthomus* (Yellow shouldered black bird)**

Listed status: Endangered (1, p. 1)

Designated critical habitat? Yes (1, p. 1)

Primary Constituent Elements: Not applicable

Spatial data in recovery plan? Yes

Population size (most current estimate): Approximately 786 (1, p. iii)

Body weight (in g):

Male average: 41.4±2.3 (2)

Female average: 35.5±2.8 (2)

Breeding Period: February – November. The primary breeding season is April-August but can begin as early as February on Mona Island and can last as long as November in San Juan and Cayey , depending upon the rainfall pattern during the year (1 p. 7)

Locations known to occur: Puerto Rico (see attached for list of counties); “At present, the yellow-shouldered blackbird is restricted to a few localities in southwestern, southern, and eastern Puerto Rico, and to Mona and Monito Islands.” (1 p. iii)

Federal lands or Indian reservations species is known to occur: None (3)

Migratory: No

Diet: Arthropods and plant material (including fruit, pulp, seeds, and nectar) (1, p. 10)

Relevant EFED model(s): T-REX

Habitat: Variety of habitats (1 p. iii, 8-10)

Forest

Wetlands

Fallow fields

Agricultural areas

“Although nesting yellow-shouldered blackbirds have been reported from a variety of habitats (mudflats and salinas, mangrove forests and cays, coastal upland dry forest, palm trees, suburban areas, caves, and coastal cliffs), at present, almost all the nests monitored have been located in artificial structures (PVC pipes and elbows). The species is currently threatened by loss of habitat, nest invasion by Caribbean martins, and parasitism by shiny cowbirds.”

Home Range: Not indicated.

Elevation restriction: None listed

Obligate relationships: None noted in available USFWS documentation. Reviewer believes that there are no obvious obligate relationships related to diet or habitat.

Comments: None

Name of data extractor and date: Brian Anderson 1/20/12

QC reviewer (date): Jean Holmes, 3/14/2012

Sources:

1. Species specific recovery plan available on FWS website. http://ecos.fws.gov/docs/recovery\_plan/961112a.pdf
2. Birds of North America species profile. <http://neotropical.birds.cornell.edu/portal/species/identification?p_p_spp=666636>
3. FESTF. 2012. Coincidence of ESA-listed species with federal lands and proximity to outer boundary. FIFRA Endangered Species Task Force. Data submitted to EPA March 2012.

**Species (common name):** *Amazona viridigenalis* (Red-crowned parrot)

Listed status: Candidate (1)

Designated critical habitat? No (1)

Primary Constituent Elements: Not applicable

Spatial data in recovery plan? Yes (3)

Population size (most current estimate): Mexico: 3000-65000 (1994; 3)

Body weight (in g): 316 (3)

Adults average 316 (range 293–345, *n* = 13, mainly captive birds) (4)

Fledglings in last week prior to fledging, 295 (range 277–318, *n* = 20) (4)

Dates of Breeding Period:March – August (4)

Locations known to occur: Cameron and Hidalgo Counties, Texas (2)

Federal lands or Indian reservations species is known to occur: None (5)

Migratory: No (3)

Diet: seeds, fruit, buds, flowers (3), leaves (4)

Chicks eat fruits, seeds, and insects (4)

Relevant EFED model(s): T-REX

Habitat: In Mexico: tropical deciduous forest and scrub (3,4)

In Texas: primarily urban areas that have large trees (3)

Habitat size (home range):Not available

Elevation restriction: <1200 m (3)

Most birds occur at elevations 200-500 m (3)

Obligate relationships: None noted in available USFWS documentation. Reviewer believes that there are no obvious obligate relationships related to diet or habitat.

Comments:

No recovery plan is available for this species.

Species also occurs in Mexico (3).

“In foraging for food … red-crowned parrots are mobile and can use city, state, and private areas in cemeteries, backyards, and within the city limit” (3)

Nomadic during winter (3), meaning that foraging ranges increase.

Establishment of populations in the US are from escaped or released pets from illegal transit (4)

Opportunistic feeders (4)

Feeds on shrubs and trees (4)

Cavity nesters (3, 4)

Name of data extractor and date: Kris Garber (4/24/15)

QC reviewer (date): Elyssa Arnold (5/4/15)

Sources:

1. Master list from FWS
2. <http://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B0GO>
3. Species assessment form (<http://ecos.fws.gov/docs/candidate/assessments/2014/r2/B0GO_V01.pdf>)
4. Enkerlin-Hoeflich, Ernesto C. and Kelly M. Hogan. 1997. Red-crowned Parrot (Amazona viridigenalis), The Birds of North America Online (A. Poole, Ed.). Ithaca: Cornell Lab of Ornithology; Retrieved from the Birds of North America Online: <http://bna.birds.cornell.edu/bna/species/292>

[doi:10.2173/bna.292](http://dx.doi.org/10.2173/bna.292)

1. FESTF. 2012. Coincidence of ESA-listed species with federal lands and proximity to outer boundary. FIFRA Endangered Species Task Force. Data submitted to EPA March 2012.

**Species (common name): *Amazona vittata* (Puerto Rican Parrot)**

Listed status: Endangered (1, p. iii)

Designated critical habitat? No

Primary Constituent Elements: Not applicable

Spatial data in recovery plan? Yes

Population size (most current estimate): approx. 284. In the wild 25-28 at El Yunque National Forest in Puerto Rico and 22-28 at Rio Abajo Forest in Puerto Rico; in captivity 228 (Iguaca Aviary and the José L. Vivaldi Aviary) (1 p. iii)

Body weight (in g): 270 (1, p. 9)

Breeding Period: Late February to early March (1 p. 16)

Locations known to occur: **Puerto Rico**: El Yunque National Forest in the Luquillo mountains and Rio Abajo Forest (1 p. iii)

Federal lands or Indian reservations species is known to occur: None (2)

Migratory: No

Diet: a wide variety of fruits, seeds, and leaves (1, p. 17)

Relevant EFED model(s): T-REX

Habitat: Forest (1)

Home Range: Puerto Rican Parrot pairs are very territorial of their nest tree and are sometimes defended year round; however, some pairs regularly fly as far as 1.6 kilometer (1 mile) to feeding areas (1, p. 16)

Elevation restriction: not indicated

Obligate relationships: None noted in available USFWS documentation. Reviewer believes that there are no obvious obligate relationships related to diet or habitat.

Comments: Sierra palms (*Prestoea montana*) is the primary food of the species in the breeding season (1 p. 16). This can be represented in T-REX with the broadleaf plant dietary item.

Most foraging takes place outside the nesting territory, with some pairs regularly flying as far as 1.6 kilometer (1 mile) to feeding areas (1 p. 16)

Honeybees (*Apis mellifera*) compete with parrots for nest sites. Although there is no record of honeybees evicting nesting parrots, they take over nest cavities after the breeding season (1 p. 18), Cavity nester (1 p. iii)

Name of data extractor and date: Valerie Woodard December 20, 2011

QC reviewer (date): Jean Holmes, 3/17/2012

Sources:

1. Species specific recovery plan available on FWS website.

[Revised Final Recovery Plan for the Puerto Rican Parrot (Amazona vittata)](http://ecos.fws.gov/docs/recovery_plan/090617.pdf)

1. FESTF. 2012. Coincidence of ESA-listed species with federal lands and proximity to outer boundary. FIFRA Endangered Species Task Force. Data submitted to EPA March 2012.

**Species (common name): *Ammodramus maritimus mirabilis* (Cape Sable Seaside sparrow)**

Listed status: Endangered (2)

Designated critical habitat? Yes (2)

Primary Constituent Elements:

(1) Calcitic marl soils characteristic of the short-hydroperiod freshwater marl prairies of the Southern Everglades. These soils support the unique vegetation community and probably many of the food items upon which sparrows depend. They also result from specific hydrologic conditions that are characteristic of the marl prairies. These soils are an integral component of sparrow habitat.

(2) Herbaceous vegetation that includes greater than 15 percent combined cover of live and standing dead vegetation of one or more of the following species (when measured across an area of greater than 100 ft2 (9.3m2)): Muhly grass (*Muhlenbergia filipes*), Florida little bluestem

(*Schizachyrium rhizomatum*), blacktopped sedge (*Schoenus nigricans*), and cordgrass (*Spartina bakeri*). These plant species are largely characteristic of areas where sparrows occur. They act as cover and substrate for foraging, nesting, and normal behavior for sparrows during a variety

of environmental conditions. Many other herbaceous plant species and lowgrowing forbs also occur within sparrow habitat (Ross *et al.* 2006, pp. 10–13), and some of these may have important roles in the life history of the sparrow. However, the species identified in the

PCE consistently occur in areas occupied by sparrows (Sah *et al.* 2007, p. 5).

(3) Contiguous open habitat. Sparrow subpopulations require large, expansive, contiguous habitat patches with few or sparse woody shrubs or trees. This PCE provides the space for population and individual growth, and also provides the open, contiguous habitat that sparrows prefer.

(4) Hydrologic regime such that the water depth, as measured from the water surface down to the soil surface, does not exceed 7.9 inches (20 cm) for more than 30 days during the period from March 15 to June 30 at a frequency of more than 2 out of every 10 years. This PCE indicates the hydrologic conditions that are required to support and maintain the vegetation composition that sparrows require, as well as those conditions that allow for successful nesting. The period of measurement coincides with the sparrow breeding season, as well as the late portion of the dry season and the early wet season. Water depths >7.9 inches (20 cm) during this period will result in elevated nest failure rates (Lockwood *et al.* 1997, p. 724; Lockwood *et al.* 2001, p.278; Pimm *et al.* 2002, pp. 24–25). If these water depths occur for short periods during nesting season, sparrows may be able to re-nest within the same season. These depths, if they occur for sustained periods (>30 days) within sparrow nesting season, will reduce successful nesting to a level that will be insufficient to support a population if they occur more frequently than 2 out of every 10 years. In addition, because the period of measurement coincides with the dry season and early wet season, and because water levels generally recede slowly, water depths

greater than specified or that occur for periods longer than specified, will generally result in hydroperiods longer than those which support the vegetation composition required by the sparrow.

The above PCEs describe: (1) Soils that are widespread in the Everglades short-hydroperiod marshes and support the vegetation types that the sparrows rely on; (2) plant species that are characteristic of sparrow habitat in a variety of hydrologic conditions, that provide structure sufficient to support sparrow nests, and that comprise the substrate that sparrows utilize when there is standing water; (3) contiguous open habitat because sparrows require large, expansive, contiguous habitat patches with sparse woody shrubs or trees; (4) hydrologic conditions that would prevent flooding sparrow nests, maintain hospitable conditions for sparrows occupying these areas, and generally support the vegetation species that are essential to sparrows; and (5) overall the habitat features that support the invertebrate prey base the sparrows rely on and the variability and uniqueness of habitat that provides, for example, periphyton mats for sparrows to survive in the southern Everglades. (6 p. 62749)

Spatial data in recovery plan? Yes (1)

Population size (most current estimate): The average estimated population size for the 5-year period 2005 through 2009 is 3,021 birds (4 p. 4)

Body weight (in g):

Female average: 22.3 (3, p. 24)

Female range: 19.8-24.4 (3, p. 24)

Male average: 24.2 (3, p. 24)

Male range: 21.9-27.4 (3, p. 24)

Dates of Breeding Period: Nesting begins late February to early august. Nest two or three times per breeding season. (1 p. 4-350)

Locations known to occur: **Florida** (Collier, Miami-Dade, Monroe counties) (2)

-Restricted to the Everglades region of Miami-Dade and Monroe counties in South Florida (1 p. 4-346)

Federal lands or Indian reservations species is known to occur: (7)

* Big Cypress National Preserve (NPS)
* Marjory Stoneman Douglas Wilderness - Everglades National Park (NPS)

Migratory: no (1 p. 4-345)

Diet: soft-bodied invertebrates (grasshopper, spiders, moths, caterpillars, beetles, dragonflies, wasp, marine worms, shrimp), seeds (grass and sedge) (1p. 4-351) (5)

Relevant EFED model(s): T-REX, KABAM

Habitat: - Short hydroperiod prairie habitat (4 p. 12).

Freshwater to brackish marshes (1 p. 4-345)

Mixed marl prairie community that often includes muhly grass (*Muhlenbergia filipes*). These short-hydroperiod prairies contain moderately dense, clumped grasses, with open space permitting ground movements by the sparrows. Sparrows tend to avoid tall, dense, saw- grass-dominated communities, spike-rush (*Eleocharis sp.*) marshes, extensive cattail (*Typha sp.*) monocultures, long-hydroperiod wetlands with tall, dense vegetative cover, and sites supporting woody vegetation (Werner 1975, Bass and Kushlan 1982). Cape Sable seaside sparrows avoid sites with permanent water cover (Curnutt and Pimm 1993) (1, p. 4-347)

Habitat size (home range): Dean and Morrison (1998) also observed several longer-range flights (5 to 7 km) during the nonbreeding season. However, each of these longer-range movements ended when the individual sparrow reached the edge of short hydroperiod marl prairie habitat (1 p. 4-352).

Elevation restriction: none

Obligate relationships: None noted in available USFWS documentation. Reviewer believes that there are no obvious obligate relationships related to diet or habitat.

Comments: Body weight data from source 3 correspond to individuals collected in New Jersey during the breeding season.

Name of data extractor and date: Steve Carey 2/2/12

QC reviewer (date): Jean Holmes, 3/30/12

Sources:

1. <http://www.fws.gov/southeast/vbpdfs/species/birds/csss.pdf>

2. <http://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B00Q#crithab>

3. Dunning, J.B. 1984. Body weights of 686 species of North American Birds. Western Bird Banding Association. Monograph number 1. May 1984

4. Cape Sable Seaside Sparrow (*Ammodramus maritimus mirabilis*) 5-Year Review: Summary and Evaluation. <http://ecos.fws.gov/docs/five_year_review/doc3272.pdf>

5. <http://bna.birds.cornell.edu/bna/species/127/articles/foodhabits>

6. Federal Register Vol 72, No. 214; Critical [Habitat Revised Designation for te Cape Sable Seaside Sparow; Final Rule;](http://www.gpo.gov/fdsys/search/citation.result.FR.action?federalRegister.volume=2007&federalRegister.page=62736&publication=FR) <http://www.gpo.gov/fdsys/pkg/FR-2007-11-06/pdf/07-5460.pdf#page=1>

7. FESTF. 2012. Coincidence of ESA-listed species with federal lands and proximity to outer boundary. FIFRA Endangered Species Task Force. Data submitted to EPA March 2012.

**Species (common name): *Ammodramus savannarum floridanus* (Florida Grasshopper Sparrow)**

Listed status: Endangered (2)

Designated critical habitat? No (2)

Primary Constituent Elements: Not applicable

Spatial data in recovery plan? Yes (1)

Population size (most current estimate): 600 in 1996 (1 p. 4-388).

Body weight (in g):

Average: 17.0 ± 2.75 (3, p. 24)

Range: 13.4-28.4 (3, p. 24)

Dates of Breeding Period: April-September (1 p. 4-375)

Locations known to occur: Wherever found – known to be in Florida (DeSoto, Glades, Highlands, Okeechobee, Osceola, and Polk counties) (2). Limited to the prairie region of south-central Florida (1 p. 4-373).

Federal lands or Indian reservations species is known to occur: (4)

* Avon Park Air Force Bombing Range (Air Force)

Migratory: No

Diet: arthropods (grasshoppers, crickets, beetles, weevils, moths, moth larvae, flies and bugs), seeds (sedge and star grass) (1, p. 4-377).

Relevant EFED model(s): T-REX

Habitat: (1; p. 4-374)

large (greater than 50 ha), treeless, relatively poorly-drained grasslands that have a history of frequent fires (FWS 1988, Delany 1996a) (1 p. 4-374).

Habitat size (home range): 1.8 ha avg; 4.82 ha max (1 p. 4-376).

Elevation restriction: none

Obligate relationships: None noted in available USFWS documentation. Reviewer believes that there are no obvious obligate relationships related to diet or habitat.

Comments:

Grasshopper sparrows, cannot tolerate tree densities as high as one tree per acre (1 p. 4-374).

Florida grasshopper sparrows are also documented to be reproductively successful in pastures that are overgrown or ungrazed (Vickery *et al*., University of Massachusetts, personal communication 1998) (1 p. 4-374).

Body weight data from source 3 correspond to individuals collected in Arizona during the breeding season.

Name of data extractor and date: Steve Carey 2/27/12

QC reviewer (date): Jean Holmes, 4/13/12

Kris Garber, 5/22/12

Sources:

1. <http://www.fws.gov/verobeach/MSRPPDFs/FloridaGrasshopperSparrow.pdf>

2 <http://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B07G>

3. Dunning, J.B. 1984. Body weights of 686 species of North American Birds. Western Bird Banding Association. Monograph number 1. May 1984

4. FESTF. 2012. Coincidence of ESA-listed species with federal lands and proximity to outer boundary. FIFRA Endangered Species Task Force. Data submitted to EPA March 2012.

**Species (common name): *Amphispiza belli clementeae (*San Clemente Sage sparrow*)***

Listed status: Threatened (2)

Designated critical habitat? No (2)

Primary Constituent Elements: Not applicable

Spatial data in recovery plan? Yes (1)

Population size (most current estimate): 539 adults in 2008 (3, p. 2)

Body weight (in g): 16.8 (3, p. 4)

Dates of Breeding Period: mid-March through mid-June. (1, p. 85)

Locations known to occur: Known to be on **San Clemente Island** on a narrow coastal belt along the western lowermost marine terrace (West Shore Zone); vicinity south of Seal Cove; extreme north end of the island (North Head); and island’s extreme south end in proximity to Pyramid Cove. (1, p. 82-84)

- Primarily within the lower marine terraces along the northwestern portion of San Clemente

Island (3, p. 5)

-Los Angeles county **California** (2)

Federal lands or Indian reservations species is known to occur: (4)

* San Clemente Island Naval Reservation (Navy)

Migratory: No (3, p. 5)

Diet: seeds (*Atriplex semibaccata),* fruit (cactus: opuntia and bergerocactus), plant material, grass inflorescenses, arthropods (insects, and spiders) (1, p. 87)

Relevant EFED model(s): T-REX

Habitat: scrub community (1, p. 82)

Canyon shrub/woodland and maritime desert scrub boxthorn habitat (3, p. 8)

Habitat size (home range): 1.6 acres (1, p. 85)

Elevation restriction: Rarely occurs more than 30-40 meters above sea level (1, p. 84)

-Most breeding territories are found between 10 – 30 meters (3, p. 8)

Obligate relationships: None noted in available USFWS documentation. Reviewer believes that there are no obvious obligate relationships related to diet or habitat.

Comments: The species appears closely tied to the maritime desert scrub plant communities on San Clemente Island (Willey 1997, p. 219) (3, p. 5)

This species is a ground gleaner (3, p. 4).

During the winter, feeds on prickly pear and cholla cactus fruit and moths (3, p. 4).

Name of data extractor and date: Steve Carey 3/5/12

QC reviewer (date): Jean Holmes, 3/30/12

Sources:

1. <http://ecos.fws.gov/docs/recovery_plan/840126.pdf>

2. <http://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B05S>

3. San Clemente sage sparrow (*Amphispiza belli clementeae*) 5-Year Review: Summary and Evaluation <http://ecos.fws.gov/docs/five_year_review/doc2568.pdf>

4. FESTF. 2012. Coincidence of ESA-listed species with federal lands and proximity to outer boundary. FIFRA Endangered Species Task Force. Data submitted to EPA March 2012.

**Species (common name): *Anas laysanensis* (Laysan duck)**

Listed status: Endangered (1, p. iii)

Designated critical habitat? No

Primary Constituent Elements: Not applicable

Spatial data in recovery plan? Yes (1, p.12)

Population size (most current estimate): <100 to 600 (1, p. 24)

Body weight (in g):

Adults: 420 - 500 (1, p. 4)

Ducklings: 22 - 30 (1, p. 4)

Dates of Breeding Period:Typically April through July, but may vary, (1, p. 21)

Migratory: No (1)

Locations known to occur: Hawaii, Island of Laysan (1, p. 10)

Federal lands or Indian reservations species is known to occur: None (2)

Diet: arthropods (adult and larval lepidopterans, adult and larval terrestrial dipterans, cockroaches, ants, sandhoppers, beetles, mites, ticks, spiders), seeds (grass), sedge fruit, leaves, brine shrimp, and algae (1, p. 16 and 17)

Relevant EFED model(s): T-REX, KABAM

Habitat: Island (terrestrial and lake habitat) (1, p.11)

bunch grasses, shrubs, costal reef flats, costal freshwater seeps, camp zones (1, p. 13)

Habitat size (home range): Home islands are small and not inhabited by humans

Elevation restriction: no restrictions, but islands are close to sea level (1, p. 40)

Obligate relationships: None noted in available USFWS documentation. Reviewer believes that there are no obvious obligate relationships related to diet or habitat.

Comments:

Diet is primarily represented by insects (1, p. 16)

Plant fibers have been reported in the diet of this species (1, p. 17). Given the habitats of this species, is possible that these originate from broadleaf plants and grass.

No agriculture on home islands, Laysan has a FWS camp, but is otherwise not inhabited by humans.

Ducklings are very large relative to adults weighing 22-30 grams newly hatched. (1, p. 6)

Viney vegetation associated with (*Boerhavia-Ipomoea-Tribulus-Sicyos* spp. [alena-pohuehue-nohuanunu]) is used frequently at night by foraging ducks. (1, p. 13)

Name of data extractor and date: Brian Anderson, 1/8/12

QC reviewer (date): Jean Holmes, 12/25/2012

Sources: Recovery plan available on FWS website.

<http://ecos.fws.gov/docs/recovery_plan/090922.pdf>

1. FESTF. 2012. Coincidence of ESA-listed species with federal lands and proximity to outer boundary. FIFRA Endangered Species Task Force. Data submitted to EPA March 2012.

**Species (common name): *Anas wyvilliana* (Hawaiian duck or koloa maoli)**

Listed status: Endangered (1, p. iii, 3)

Designated critical habitat? No (1, p. 3)

Primary Constituent Elements: Not applicable

Maps of locations/ranges in recovery plan? Yes (1)

Population size (most current estimate): 2200 in 2002 (2, p. 5).

Body weight (in g):

Average males: 604 (1, p. 3).

Average females: 460 (1, p. 3).

Dates of Breeding period: Year round. Most of nesting is March-June (1, p. 9).

Locations known to occur: Hawaii (1, p. iii).

Ni`ihau, Kaua`i, O`ahu, Maui, and Hawai`i (1)

Federal lands or Indian reservations species is known to occur: (3)

|  |  |  |
| --- | --- | --- |
| Federal Land Name | Owner | State(s) |
| Bellows Air Force Station | Air Force | HI |
| Dillinghan Air Force Base | Air Force | HI |
| Kokee Air Force Station | Air Force | HI |
| Aliamanu Military Reservation | Army | HI |
| Fort DeRussy Military Reservation | Army | HI |
| Fort Shafter | Army | HI |
| Kahuku Training Area (Military Reservation) | Army | HI |
| Military Reservation | Army | HI |
| Coast Guard Reservation | Coast Guard | HI |
| Coast Guard Station | Coast Guard | HI |
| Upolu Point Loran Station | Coast Guard | HI |
| Government Reservation | GOV | HI |
| Kaneohe Marine Corps Air Station | Marine Corps | HI |
| NASA Tracking Station | NASA | HI |
| Kaloko-Honokohau National Historical Park | NPS | HI |
| National Memorial Cemetery of the Pacific | VA | HI |
| Hakalau Forest National Wildlife Refuge | FWS | HI |
| Hanalei National Wildlife Refuge | FWS | HI |
| Huleia National Wildlife Refuge | FWS | HI |
| Kii National Wildlife Refuge | FWS | HI |
| National Wildlife Refuge | FWS | HI |
| Punamano National Wildlife Refuge | FWS | HI |
| Laulaulei Naval Reservation | Navy | HI |
| Naval Reservation | Navy | HI |
| Pacific Missile Range Facility, Barking Sands | Navy | HI |
| Pearl Harbor Naval Station | Navy | HI |

Migratory: Hawaiian ducks exhibit intra-island movement but dispersal tendencies are still unclear (1, p. 10).

Diet: aquatic invertebrates (snails, insect larvae), earthworms, seeds (grass, rice, wetland plants), green algae, wetland plant leaves (1, p. 10).

Relevant EFED model(s): T-REX, KABAM, earthworm

Habitat: Wetlands (2, p. 5).

Agricultural habitats: taro and lotus wetlands, irrigation ditches, shrimp, fish and sewage treatment ponds (1, p. 3).

Home Range: Some birds have dispersed from release sites and have been recorded up to 32

kilometers (20 miles) away (Giffin 1982) (1, p. 9).

Elevation restriction: none

Obligate relationships: None noted in available USFWS documentation. Reviewer believes that there are no obvious obligate relationships related to diet or habitat.

Comments:

Species is endemic to HI (1, p. 3).

If pesticides are applied to habitats where this species forages (through direct applications or spray drift), T-REX should be used. This species eats wetland plant leaves (1, p. 10) and seeds. Plant leaves represent more conservative exposures. Wetland plant communities are represented by broadleaf plants and tall grass. The broad leaf plant category generates the more conservative estimate of exposure and should be used when running T-REX for this species.

Closely related to mallard duck (*Anas platyrhunchos).* Two species hybridize. (1 p. 3).

Opportunistic feeders (1 p. 10).

Variety of wetland habitats including freshwater marshes and ponds, coastal estuaries and ponds, artificial reservoirs, taro (*Colocasia esculenta*) patches, irrigation ditches, sewage treatment ponds, montane streams and swamplands (1 p. 3).

Data extractor (date): Kris Garber (9/15/11)

QC reviewer (date): Jean Holmes (3/30/12)

Source(s):

1. USFWS. 2005. Draft revised recovery plan for Hawaiian waterbirds. United States Fish and Wildlife Service. Available online at: <http://ecos.fws.gov/docs/recovery_plan/061213.pdf>.
2. Koloa maoli or Hawaiian Duck (*Anas wyvilliana*) 5-Year Review Summary and Evaluation. <http://ecos.fws.gov/docs/five_year_review/doc2535.pdf>
3. FESTF. 2012. Coincidence of ESA-listed species with federal lands and proximity to outer boundary. FIFRA Endangered Species Task Force. Data submitted to EPA March 2012.

**Species (common name):** *Anthus spragueii* (Sprague's pipit)

Listed status: Not warranted

Designated critical habitat? No (1)

Primary Constituent Elements: Not applicable

Spatial data in recovery plan? Yes (3)

Population size (most current estimate): Global: 870,000 (3) (2004)

Body weight (in g):

Territorial males: 23.6 ± 1.3, range 18.2-27.0 (n = 261) (2)

Breeding females: 23.9 ± 1.5, range 20.4-27.8 (n = 73) (2)

Dates of Breeding Period:May – Aug (3)

Locations known to occur: Breeding range: MT, ND, SD, MN (3)

AZ: Cochise, La Paz, Maricopa, Santa Cruz, Yuma

AR: Franklin, Lafayette, Little River, Miller

CO: County-level range not defined

KS: Allen, Anderson, Atchison, Barber, Barton, Bourbon, Brown, Butler, Chase, Chautauqua, Cherokee, Cheyenne, Clark, Clay, Cloud, Coffey, Comanche, Cowley, Crawford, Decatur, Dickinson, Doniphan, Douglas, Edwards, Elk, Ellis, Ellsworth, Finney, Ford, Franklin, Geary, Gove, Graham, Grant, Gray, Greeley, Greenwood, Hamilton, Harper, Harvey, Haskell, Hodgeman, Jackson, Jefferson, Jewell, Johnson, Kearny, Kingman, Kiowa, Labette, Lane, Leavenworth, Lincoln, Linn, Logan, Lyon, Marion, Marshall, McPherson, Meade, Miami, Mitchell, Montgomery, Morris, Morton, Nemaha, Neosho, Ness, Norton, Osage, Osborne, Ottawa, Pawnee, Phillips, Pottawatomie, Pratt, Rawlins, Reno, Republic, Rice, Riley, Rooks, Rush, Russell, Saline, Scott, Sedgwick, Seward, Shawnee, Sheridan, Sherman, Smith, Stafford, Stanton, Stevens, Sumner, Thomas, Trego, Wabaunsee, Wallace, Washington, Wichita, Wilson, Woodson, Wyandotte

LA: Acadia, Allen, Avoyelles, Bienville, Bossier, Caddo, Calcasieu, Cameron, Catahoula, DeSoto, East Baton Rouge, East Carroll, Iberia, Iberville, Jackson, Jefferson Davis, Lafayette, La Salle, Natchitoches, Orleans, Plaquemines, Rapides, Red River, Richland, St. Bernard, St. Charles, St. John the Baptist, St. Martin, St. Tammany, Tensas, Terrebonne, Vermilion, West Baton Rouge, West Feliciana

MN: Clay, Polk, Roseau

MS: County-level range not defined

MT: Big Horn, Blaine, Broadwater, Carbon, Carter, Cascade, Chouteau, Custer, Daniels, Dawson, Fallon, Fergus, Gallatin, Garfield, Glacier, Golden Valley, Hill, Jefferson, Judith Basin, Lewis and Clark, Liberty, Madison, McCone, Meagher, Musselshell, Park, Petroleum, Phillips, Pondera, Powder River, Powell, Prairie, Richland, Roosevelt, Rosebud, Sheridan, Stillwater, Sweet Grass, Teton, Toole, Treasure, Valley, Wheatland, Wibaux, Yellowstone

NE: County-level range not defined

NM: Bernalillo, Chaves, Curry, DeBaca, Dona Ana, Eddy, Grant, Guadalupe, Hidalgo, Lea, Luna, Otero, Roosevelt, San Juan, San Miguel, Sierra, Socorro, Union

ND: Adams, Barnes, Benson, Billings, Bottineau, Bowman, Burke, Burleigh, Cavalier, Dickey, Divide, Dunn, Eddy, Emmons, Golden Valley, Grand Forks, Grant, Hettinger, Kidder, LaMoure, Logan, McHenry, McIntosh, McKenzie, McLean, Mercer, Morton, Mountrail, Oliver, Pembina, Pierce, Ramsey, Ransom, Renville, Rolette, Sargent, Sheridan, Sioux, Slope, Stark, Stutsman, Towner, Walsh, Ward, Wells, Williams

OK: Canadian, Cleveland, Grady, Jefferson, Kiowa, Latimer, Mayes, McClain, Murray, Payne, Pittsburg

SD: Butte, Campbell, Corson, Custer, Dewey, Fall River, Haakon, Hand, Harding, Hyde, Jackson, Jones, Lawrence, Lyman, McPherson, Meade, Pennington, Perkins, Shannon, Stanley, Ziebach

TX: Aransas, Atascosa, Bee, Brazoria, Brazos, Calhoun, Cameron, Chambers, Galveston, Grimes, Harris, Hidalgo, Jim Wells, Kenedy, Kleberg, Matagorda, Maverick, Nueces, Refugio, San Patricio, Starr, Victoria, Willacy, Wilson, Zavala

(4)

Federal lands or Indian reservations species is known to occur: (5)

|  |  |  |
| --- | --- | --- |
| Federal Land Name | Owner | State(s) |
| Cheyenne River Indian Reservation | BIA | SD |
| Fort Belknap Indian Reservation | BIA | MT |
| Fort Berthold Indian Reservation | BIA | ND |
| Fort Peck Indian Reservation | BIA | MT |
| Pine Ridge Indian Reservation | BIA | SD |
| Spirit Lake Indian Reservation | BIA | ND |
| Standing Rock Indian Reservation | BIA | ND-SD |
| Fort Keogh Livestock and Range Research Lab | ARS | MT |
| Lake Sharpe | DOD | SD |
| Devil's Lake | BOR | ND |
| Fresno Reservoir | BOR | MT |
| Lewis and Clark National Forest | FS | MT |
| Fort Pierre National Grassland | FS | SD |
| Grand River National Grassland | FS | SD |
| Little Missouri National Grassland | FS | ND |
| Benton Lake National Wildlife Refuge | FWS | MT |
| Black Coulee National Wildlife Refuge | FWS | MT |
| Bowdoin National Wildlife Refuge | FWS | MT |
| Charles M. Russell National Wildlife Refuge | FWS | MT |
| Kellys Slough National Wildlife Refuge | FWS | ND |
| Lostwood National Wildlife Refuge | FWS | ND |
| Medicine Lake National Wildlife Refuge | FWS | MT |
| War Horse National Wildlife Refuge | FWS | MT |
| Public Domain Land | BLM | AZ, MT, SD |
| Stutsman County Waterfowl Production Area | FWS | ND |
| Chase Lake Wilderness, Chase Lake National Wildlife Refuge | FWS | ND |
| Medicine Lake Wilderness, Medicine Lake National Wildlife Refuge | FWS | MT |
| Bitter Creek Wilderness Study Area | BLM | MT |

Migratory: Yes (2)

Winters in AZ, TX, NM, OK, AR, LA, MS, KS, MO, TN and Mexico. Breeds in ND, MT, SD, MN and Canada. (3)

Migrates April-May, Late Sept-Early Nov (2)

Diet: arthropods during breeding season and migration (2, 3)

Small amount of vegetable matter (3)

Seeds during winter (2, 3)

Relevant EFED model(s): T-REX

Habitat: grazed native mixed-grass prairie (few shrubs) (2)

Avoids over-grazed pastures (2)

During fall migration, stops in fallow fields (alfalfa, soybean, wheat) (2)

Habitat size (home range):2.5±0.5 ha (6.2±1.2 acres) (3)

Elevation restriction: None

Obligate relationships: None noted in available USFWS documentation. Reviewer believes that there are no obvious obligate relationships related to diet or habitat.

Comments:

Gleans food from ground and grasses (2)

“Grassland specialists” (3)

Nests are built on the ground (3)

Name of data extractor and date: Kris Garber (4/24/15)

QC reviewer (date): Elyssa Arnold (5/4/15)

Sources:

1. Master list from FWS
2. Davis, Stephen K., Mark B. Robbins and Brenda C. Dale. 2014. Sprague's Pipit (Anthus spragueii), The Birds of North America Online (A. Poole, Ed.). Ithaca: Cornell Lab of Ornithology; Retrieved from the Birds of North America Online: <http://bna.birds.cornell.edu/bna/species/439>

[doi:10.2173/bna.439](http://dx.doi.org/10.2173/bna.439)

1. Sprague’s Pipit (*Anthus spragueii*) Conservation Plan. <http://www.fws.gov/mountain-prairie/species/birds/spraguespipit/SpraguesJS2010r4.pdf>
2. Sprague’s Pipit FWS Species Profile. http://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B0GD
3. FESTF. 2012. Coincidence of ESA-listed species with federal lands and proximity to outer boundary. FIFRA Endangered Species Task Force. Data submitted to EPA March 2012.

**Species (common name): *Aphelocoma coerulescens* (Florida scrub jay)**

Listed status: Threatened (4)

Designated critical habitat? No (4)

Primary Constituent Elements: Not applicable

Spatial data in recovery plan? No

Population size (most current estimate): 4000 pairs x 60% decline = 1600 pairs (2, p. 6, 11)

Body weight (in g):

Adult average (individuals in FL): 80.2 (3, p. 17)

Female average (individuals in CA): 81.4 (3, p. 17)

Male average (individuals in CA): 91.4 (3, p. 17)

Female range (individuals in CA): 59-107 (3, p. 17)

Male range (individuals in CA): 70-112 (3, p. 17)

Dates of Breeding Period:Early March to late June (1, p. 5)

Migratory: No (1, p. 2)

Locations known to occur: FL (1, p. 2)

Alachua, Brevard, Charlotte, Citrus, Clay, Collier, De Soto, Dixie, Flagler, Gilchrist, Glades, Hardee, Hendry, Hernando, Highlands, Hillsboro, Indian River, Lake, Lee, Levy, Manatee, Marion, Martin, Okeechobee, Orange, Osceola, Palm Beach, Pasco, Polk, Putnam, St. Lucie, Sarasota, Seminole, Sumter, Taylor, Volusia Counties (1, p. 2)

Federal lands or Indian reservations species is known to occur: (5)

|  |  |  |
| --- | --- | --- |
| Federal Land Name | Owner | State(s) |
| Avon Park Air Force Bombing Range | Air Force | FL |
| Cape Canaveral Air Force Station | Air Force | FL |
| Lake Ocklawaha | Army Crops of Engineers | FL |
| Ocala National Forest | FS | FL |
| Canaveral National Seashore | NPS | FL |
| Canaveral National Seashore; Merritt Island National Wildlife Refuge; John F. Kennedy Space Center | NPS; FWS; NASA | FL |
| Hobe Sound National Wildlife Refuge | FWS | FL |
| Lake Wales Ridge National Wildlife Refuge | FWS | FL |
| Lake Woodruff National Wildlife Refuge | FWS | FL |
| Lower Suwannee National Wildlife Refuge | FWS | FL |
| Merritt Island National Wildlife Refuge; John F. Kennedy Space Center | FWS; NASA | FL |
| Pinecastle Impact Range | Navy | FL |
| Stevens Lake Bombing Range | Navy | FL |
| Juniper Prairie Wilderness - Ocala National Forest | FS | FL |

Diet: insects (orthopterans and depidopteran larvae), amphibians (frogs, toads), reptiles (lizards, small snakes), mammals (small rodents), birds (eggs, downy chicks and fledglings of small birds, carrion), acorns fruit, seeds (1, p. 7)

Relevant EFED model(s): T-REX

Habitat: scrub communities (primarily oak scrub); only occurs on fine, white, drained sand (1, p. 2)

Habitat size (home range):Occurs only in scattered and often small patches in peninsular Florida. Its range currently occurs from Flagler, Marion, and Citrus counties south to Collier, Glades, and Palm Beach Counties, with the largest remaining populations in Brevard County (especially coastal scrubs of Merritt Island National Wildlife Refuge and Kennedy Space Center), Highlands County (near Sebring, Lake Placid, and Venus, and on Avon Park Air Force Range), and in Marion County (at Ocala National Forest). (4)

Elevation restriction: none listed

Obligate relationships: species occurs only in oak scrub habitat (1, p. 2)

Comments:

This species is an omnivore (1, p. 7)

Oak scrub habitat includes the following species: sand live oak (*Quercus geminate*), myrtle oak (*Q. myrtifolia*), inopine oak (*Q. inopina*), chapmanoak (*Q. chapmanii*), saw palmetto (*Serenoa repens*) scrub palmetto (*Sabal etonia*), scattered sand pine (*Pinus clausa*), and rosemary (*Ceratiola ericoides*). This habitat occurs only on “fine, white, drained sand” (1, p. 2)

Acorns form the principal plant food (1, p. 7)

Since the body weight data from the individuals in CA appear to be similar to those located in FL, the CA data are considered relevant to this listed species.

For modeling purposes, it is assumed that the most conservative T-REX dietary item is small mammals eating short grass. Typically, when an animal eats birds, the more conservative dietary item would be small birds consuming short grass; however, since this species consumes chicks, it is more likely that the representative dietary item would be small birds consuming arthropods. Therefore, the more reasonably conservative dietary item for this species is small mammals consuming short grass.

Name of data extractor and date: Brian Anderson, 1/24/12

QC reviewer (date): Jean Holmes, 12/25/2012

Kris Garber (5/14/12)

Sources:

1. Species specific recovery plan available on FWS website.

<http://ecos.fws.gov/docs/recovery_plan/900509.pdf>

1. Species 5-year report plan available on FWS website.

<http://ecos.fws.gov/docs/five_year_review/doc1117.pdf>

1. Dunning, J.B. 1984. Body weights of 686 species of North American Birds. Western Bird Banding Association. Monograph number 1. May 1984
2. Species Profile available on FWS website

<http://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B082>

1. FESTF. 2012. Coincidence of ESA-listed species with federal lands and proximity to outer boundary. FIFRA Endangered Species Task Force. Data submitted to EPA March 2012.

**Species (common name): *Brachyramphus marmoratus* (Marbled murrelet)**

Listed status: Threatened (3)

Designated critical habitat? Yes (1, p. v)

Primary Constituent Elements: (1) individual trees with potential nesting platforms, and

(2) forested areas within 0.8 kilometers (0.5 miles) of individual trees with potential nesting platforms, and with a canopy height of at least one-half the site-potential tree height. This includes all such forest, regardless of contiguity. These primary constituent elements are essential to provide and support suitable nesting habitat for successful reproduction of the marbled murrelet. Individual nest trees include large trees, generally more than 81 centimeters (32 inches) dbh with the presence of potential nest platforms or deformities such as large or forked limbs, broken tops, dwarf mistletoe infections, witches’ brooms, or other formations providing platforms of sufficient size to support adult murrelets. Because marbled murrelets

do not build nests, moss or detritus may be important to cushion or hold the egg. Platforms should have overhead cover for protection from predators and weather, which may be provided by overhanging branches, limbs above the nest area, or branches from neighboring trees. Based on current information from Washington, Oregon, and California, nests have been found in Douglas-fir, coastal redwood, western hemlock,western redcedar, or Sitka spruce (Hamer and Nelson 1995b). On a landscape basis, forests with a canopy height of at least one-half the

site-potential tree height in proximity to potential nest trees are likely to contribute to the conservation of the marbled murrelet. These forests may reduce the differences in microclimates

associated with forested and unforested areas (Chen *et al.* 1992; Chen *et al.*1993), reduce potential for windthrow during storms (Chen *et al.* 1992), and provide a landscape that has a higher probability of occupancy by marbled murrelets (Raphael *et al.* 1995). The sitepotential

tree height is the average maximum height for trees given the local growing conditions, and is based on species-specific site index tables. Nest trees may be scattered or clumped throughout the area. Potential nesting areas may contain fewer than one suitable nesting tree per acre. ( 4 pg, 26264, 26265)

Spatial data in recovery plan? Yes (1, p. 2)

Population size (most current estimate): between 2,000 and 6,000 birds each in CA, WA, and OR (approximately 12,000 birds total across all 3 states) (1 p. 16-17)

Body weight (in g): 222 (2 p. 12)

Dates of Breeding Period: Late March to late September (1 p. 21)

Locations known to occur: De Norte, Humboldt, Los Angeles, Marin, Mendocino, Monterey, San Luis Obispo, Santa Barbara, Santa Cruz, Siskiyou, Sonoma, Ventura counties in **CA**, Benton, Clatsop, Coos, Curry, Douglas, Josephine, Lane, Lincoln, Polk, Tillamook, Washington, Yamhill counties in **OR**, Benton, Chelan, Clallam, Cowlitz, Douglas, Grant, Grays Harbor, Island, Jefferson, King, Kitsap, Kittitas, Klickitat, Lewis, Mason, Okanogan, Pacific, Pierce, San Juan, Skagit, Snohomish, Thurston, Wahkiakum, Whatcom, Yakima counties in **WA.** (3)

Federal lands or Indian reservations species is known to occur: (5)

|  |  |  |
| --- | --- | --- |
| Federal Land Name | Owner | State(s) |
| Siletz Indian Reservation | BIA (Bureau of Indian Affairs) | OR |
| Siskiyou National Forest | FS | CA, OR |
| Siuslaw National Forest | FS | OR |
| Cascade Head National Scenic Research Area - Siuslaw National Forest | FS | OR |
| Public Domain Land BLM | BLM | OR |
| Cummins Creek Wilderness - Siuslaw National Forest | FS | OR |
| Drift Creek Wilderness - Siuslaw National Forest | FS | OR |
| Grassy Knob Wilderness - Siskiyou National Forest | FS | OR |
| Rock Creek Wilderness - Siuslaw National Forest | FS | OR |

Migratory: Not indicated but protected from “take” under the Migratory Bird Treaty Act (1, p. 106) protected from “take” by **the Migratory Bird Treaty**

Diet: Marine fish and invertebrates (1 p. 22)

Relevant EFED model(s): KABAM

Habitat: Dense forest (1 p. 31)

Forest, near-shore marine (1 p. 32)

Habitat size (home range)**:** Not reported (found up to 50 miles inland) (1) C2

Elevation restriction: None listed

Obligate relationships: None noted in available USFWS documentation. Reviewer believes that there are no obvious obligate relationships related to diet or habitat.

Comments: None

Name of data extractor and date: Brian Anderson, 1/16/2012

QC reviewer (date): Jean Holmes, 3/2/2012

Sources:

1. Species specific recovery plan available on FWS website.

<http://ecos.fws.gov/docs/recovery_plan/970924.pdf>

1. Dunning, J.B. 1984. Body weights of 686 species of North American Birds. Western Bird Banding Association. Monograph number 1. May 1984.
2. Species Profile Fish and Wildlife Service website: <http://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B08C>
3. Federal Register Vol 61 No. 102 [ETWP; Final Designation of Critical Habitat for the Marbled Murrelet](http://ecos.fws.gov/docs/federal_register/fr2961.pdf); <http://ecos.fws.gov/docs/federal_register/fr2961.pdf>
4. FESTF. 2012. Coincidence of ESA-listed species with federal lands and proximity to outer boundary. FIFRA Endangered Species Task Force. Data submitted to EPA March 2012.

**Species (common name): *Branta sandvicensis* (Hawaiian goose)**

Listed status: Endangered (2)

Designated critical habitat? No (2)

Primary Constituent Elements: Not applicable

Spatial data in recovery plan? Yes (1, p. 12, 13, 16, 17)

Population size (most current estimate): Approx. 1200 (1, p. iii)

Body weight (in g):

Males – 1800 - 2500 (1, p. 5)

Females – 1500 - 2100 (1, p. 5)

Dates of Breeding Period: August to April (1, P. 19)

Migratory: No (1, p. 6)

Locations known to occur: Hawaii, Maui, Molokai and Kauai islands (1, p. 12, 15)

Federal lands or Indian reservations species is known to occur: (3)

|  |  |  |
| --- | --- | --- |
| Federal Land Name | Owner | State(s) |
| Kokee Air Force Station | Air Force | HI |
| Pohakuloa Training Area | Army | HI |
| NASA Tracking Station | NASA | HI |
| Haleakala National Park | NPS | HI |
| Hawaii Volcanoes National Park | NPS | HI |
| Hakalau Forest National Wildlife Refuge | FWS | HI |
| Hanalei National Wildlife Refuge | FWS | HI |
| Huleia National Wildlife Refuge | FWS | HI |
| Pacific Missile Range Facility, Barking Sands | Navy | HI |
| Haleakala Wilderness - Haleakala National Park | NPS | HI |
| Hawaii Volcanoes Wilderness - Hawaii Volcanoes National Park | NPS | HI |

Diet: leaves (grasses, sedges, herbaceous composites), seeds (grasses, sedges), flowers, fruit (shrubs) (1, p. 23)

Relevant EFED model(s): T-REX

Habitat: Grasslands (including golf courses), pastures, rural areas, grassy shrublands, dryland forests; both lowland and montane habitats (1, p. iii)

This species will be modeled as terrestrial (i.e., dietary exposure is through terrestrial food items). Indirect effects will be considered through impacts to terrestrial and aquatic plants. This is because aquatic habitats may be used for escaping predators (1, p. 26).

Habitat size (home range): Not listed

Elevation restriction: found from sea level to 2500 meters (8000 ft) (1, p. iii)

Obligate relationships: None noted in available USFWS documentation. Reviewer believes that there are no obvious obligate relationships related to diet or habitat.

Comments: This species is an herbivore (1, p. 23).

Name of data extractor and date: Brian Anderson, 1/20/2012

QC reviewer (date): Jean Holmes, 12/25/2012

Sources:

1. Species specific recovery plan available on FWS website.   
   <http://ecos.fws.gov/docs/recovery_plan/040924a.pdf>
2. Species profile available on FWS website.   
   <http://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B00C#crithab>
3. FESTF. 2012. Coincidence of ESA-listed species with federal lands and proximity to outer boundary. FIFRA Endangered Species Task Force. Data submitted to EPA March 2012.

**Species (common name): *Buteo platypterus brunnescens* (Puerto Rican Broad Winged Hawk)**

Listed status: Endangered (1, p. iii)

Designated critical habitat? No (1, p. 1)

Primary Constituent Elements: Not applicable

Spatial data in recovery plan? No

Population size (most current estimate): 124 (1, p. iii)

Body weight (in g):

Average adult: 400 (2, p. 21)

Average Adult male: 380 (2 p. 21)

Average Adult male: 420 (3, p. 6)

Average Adult female: 420 (2 p. 21)

Average Adult female: 490 (3, p. 6)

Dates of Breeding Period:December to April (1, p. 9)

Locations known to occur: Puerto Rico

Federal lands or Indian reservations species is known to occur: None (4)

Migratory: No

Diet: Centipedes, frogs, lizards, mice, rats, birds (up to 200 grams) (1, p. 10)

Relevant EFED model(s): T-REX

Habitat: Montane forests (1, p. iii)

Habitat size (home range): Nesting sites range from 22 to 77 Ha (1 p. 9)

Elevation restriction: None indicated

Obligate relationships: None noted in available USFWS documentation. Reviewer believes that there are no obvious obligate relationships related to diet or habitat.

Comments: Located in montane forests along the Cordillera Central, Sierra de Cayey and Sierra de Luquillo of Puerto Rico (1 p. iii).

Young fledged in late April and May (1 p. 9).

Name of data extractor and date: Brian Anderson, 1/20/2012

QC reviewer (date): Jean Holmes, 3/9/2012

Kris Garber, 5/16/12

Sources:

1. USFWS. 1997. Puerto Rican broad-winged hawk and Puerto Rican sharp-shinned hawk recovery plan. United States Fish and Wildlife Service. Available online at:

<http://ecos.fws.gov/docs/recovery_plan/970908.pdf>

1. Ministry of Agriculture, Fisheries and Food; Agricultural Science Service Aviation Bird Unit. Average Weights of Birds by T. Brough. Aviation Bird Unit Workplesdon Laboratory, July 1983.
2. Dunning, J.B. 1984. Body weights of 686 species of North American Birds. Western Bird Banding Association. Monograph number 1. May 1984
3. FESTF. 2012. Coincidence of ESA-listed species with federal lands and proximity to outer boundary. FIFRA Endangered Species Task Force. Data submitted to EPA March 2012.

**Species (common name): *Buteo solitarius* (Hawaiian Hawk)**

Listed status: Endangered

Designated critical habitat? No (2)

Primary Constituent Elements: Not applicable

Spatial data in recovery plan? No

Population size (most current estimate): 1400 to 2500 (1, p. 8); 3,085 in 2007 (3)

Body weight (in g):

Average male: 441 (4)

Average female: 606 (4)

Dates of Breeding Period:March through September (1, p. 14)

Migratory: No

Locations known to occur: Hawaii (1, p. 1)

Kauai, Oahu, Maui, Hawaii islands (1, p. 1)

Federal lands or Indian reservations species is known to occur: (5)

|  |  |  |
| --- | --- | --- |
| Federal Land Name | Owner | State(s) |
| Army Reserve Center | Army | HI |
| Keaukaha Military Reservation (Hawaii Nat. Guard) | Army | HI |
| Military Reservation | Army | HI |
| National Guard Reservation | Army | HI |
| Pohakuloa Training Area | Army | HI |
| Coast Guard Reservation | Coast Guard | HI |
| NASA Tracking Station | NASA | HI |
| Kalaupapa National Historical Park | NPS | HI |
| Puu O Honaunau National Historical Park | NPS | HI |
| Haleakala National Park | NPS | HI |
| Hawaii Volcanoes National Park | NPS | HI |
| Hakalau Forest National Wildlife Refuge | FWS | HI |
| Huleia National Wildlife Refuge | FWS | HI |
| National Wildlife Refuge | FWS | HI |
| Naval Reservation | Navy | HI |
| Naval Reserve Electronic Facility | Navy | HI |
| Pearl Harbor Naval Station | Navy | HI |
| Haleakala Wilderness - Haleakala National Park | NPS | HI |
| Hawaii Volcanoes Wilderness - Hawaii Volcanoes National Park | NPS | HI |

Diet: Birds, mammals (rats, mice, mongoose) and insects (1, p. 16)

Relevant EFED model(s): T-REX

Habitat: forest, agricultural areas (papaya and macadamia nut orchards; adjacent to sugarcane fields), rainforest, pasturelands (1, p. 17)

Habitat size (home range): 2,372 square miles (3)

Elevation restriction: None, but found up to 5600 feet (1, p. 17)

Obligate relationships: None noted in available USFWS documentation. Reviewer believes that there are no obvious obligate relationships related to diet or habitat.

Comments:

Only known to breed on Hawaii (1, p.1)

Mongoose and insect prey can comprise a significant part of the diet for certain locations or certain age/sex classes. (1, p. 16)

This population has been proposed for delisting (2)

Name of data extractor and date: Brian Anderson, 1/20/2012

QC reviewer (date): Jean Holmes, 2/25/2012

Sources:

1. Species specific recovery plan available on FWS website.

<http://ecos.fws.gov/docs/recovery_plan/840509.pdf>

1. Species Profile available on FWS website.

<http://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B00D>

1. U.S. Fish and Wildlife Service; Recovery of the Hawaiian Hawk or ‘IO

<http://www.fws.gov/pacificislands/Publications/Hawaiianhawkfactsheet012009.pdf>

1. Birds of North America., Vol. 523
2. FESTF. 2012. Coincidence of ESA-listed species with federal lands and proximity to outer boundary. FIFRA Endangered Species Task Force. Data submitted to EPA March 2012.

**Species (common name):** *Calidris canutus rufa* (Red knot)

Listed status: Threatened (1)

Designated critical habitat? No (1)

Primary Constituent Elements: Not applicable

Spatial data in recovery plan? Not available

Population size (most current estimate): Counts of *rufa* in Tierra del Fuego Jan 2011: 9,850; Florida West coast 2009/2010: 1,378; southeast USA 2010/2011: 3,552; n. Brazil (aerial counts from Suriname to Sao Luis in Brazil) Jan 2011: 3,660 (Dey et al. 2011). A simultaneous ground count recorded 26,000 *rufa* in Delaware Bay on May 24, 2012. (2)

Body weight (in g):

Data from 2

|  |  |
| --- | --- |
| Location | Body mass |
| **Winter** | |
| Sarasota, FL | 124.9 ± 7.1 (103–140, 101) |
|  | 136.5 ± 8.9 (112–158, 120) |
|  | 139.7 ± 9.1 (123–160, 25) |
| **North migration** | |
| Point Raza, Argentina | 138.9 ± 16.6 (105–167, 30) |
| Valdés Peninsula, Argentina | 151.3 ± 13.1 (114–182, 102) |
|  | 148.2 ± 17.0 (104–185, 162) |
| Lagoa do Peixe, Brazil | 199.9 ± 17.6 (135–246, 139) |
|  | 204.4 ± 21.6 (150–289, 141) |
| Delaware Bay, NJ | 159.2 ± 12.7 (129–198, 221) |
|  | 153.6 ± 16.8 (91–205, 385) |
|  | 175.4 ± 18.1 (107–210, 278) |
|  | 162.4 ± 24.1 (105–198, 24) |
| **South migration** | |
| Scituate, MA | 148.4 ± 19.2 (101–206, 608) |
|  | 169.3 ± 18.7 (135–205, 23) |
|  | 172.4 ± 20.2 (103–225, 659) |
|  | 168.9 ± 20.2 (128–207, 32) |
| Plymouth, MA | 124.2 ± 16.1 (90–149, 18) |

Dates of Breeding Period:June – August (2)

Locations known to occur: (3)

Alabama: Baldwin, Mobile

Arkansas: County-level range not defined

Colorado: County-level range not defined

Delaware: Kent, Sussex

Florida (additional refinement needed): Bay, Broward, Charlotte, Collier, Escambia, Franklin, Gulf, Indian River, Jefferson, Lee, Martin, Miami-Dade, Monroe, Okaloosa, Palm Beach, Santa Rosa, Sarasota, St. Lucie, Wakulla, Walton

Georgia: Camden, Chatham, Glynn, Liberty, McIntosh

Illinois: County-level range not defined

Indiana; Lake

Iowa: County-level range not defined;

Kansas: Barton, Reno, Rice, Stafford

Kentucky: County-level range not defined

Louisiana: Cameron, Iberia, Jefferson, Lafourche, Plaquemines, St. Bernard, St. Mary, Terrebonne, Vermilion

Maine: Androscoggin, Cumberland, Hancock, Knox, Lincoln, Penobscot, Sagadahoc, Washington, York

Maryland: Worcester

Michigan: Alcona, Alger, Allegan, Alpena, Antrim, Arenac, Baraga, Bay, Benzie, Berrien, Charlevoix, Cheboygan, Chippewa, Delta, Emmet, Gogebic, Grand Traverse, Houghton, Huron, Iosco, Keweenaw, Leelanau, Luce, Mackinac, Macomb, Manistee, Marquette, Mason, Menominee, Midland, Monroe, Muskegon, Oceana, Ontonagon, Ottawa, Presque Isle, Saginaw, Sanilac, Schoolcraft, St. Clair, Tuscola, Van Buren, Wayne

Minnesota: County-level range not defined

Mississippi: Hancock, Harrison, Jackson

Missouri: Andrew, Atchison, Boone, Buchanan, Callaway, Cape Girardeau, Carroll, Chariton, Clark, Clay, Cole, Cooper, Franklin, Gasconade, Hold, Howard, Jackson, Jefferson, Lafayette, Lewis, Lincoln, Marion, Mississippi, Moniteau, Platte, Ralls, Ray, Saline, Scott, St. Charles, Ste. Genevieve, St. Louis, Stoddard, Warren

Montana: Cascade, Fallon, Garfield, Golden Valley, Lewis and Clark, Liberty, Madison, Musselshell, Phillips, Roosevelt, Rosebud, Sheridan, Teton, Valley, Yellowstone

Nebraska: County-level range not defined

New Jersey: Atlantic, Cape May, Cumberland, Ocean

New York (additional refinement needed): Kings, Nassau, Queens, Suffolk

North Carolina (additional refinement needed): Beaufort, Bertie, Brunswick, Camden, Carteret, Chowan, Craven, Currituck, Dare, Hyde, New Hanover, Onslow, Pamlico, Pasquotank, Pender, Perquimans, Tyrrell, Washington

North Dakota: Benson, Burke, Burleigh, Divide, Dunn, Eddy, Emmons, Foster, Kidder, McHenry, McIntosh, McKenzie, McLean, Mercer, Morton, Mountrail, Oliver, Pierce, Renville, Sheridan, Sioux, Stutsman, Ward, Wells, Williams

Ohio: Ashtabula, Cuyahoga, Erie, Lake, Lorain, Lucas, Ottawa, Sandusky

Oklahoma: Adair, Alfalfa, Atoka, Beaver, Beckham, Blaine, Bryan, Caddo, Canadian, Carter, Cherokee, Choctaw, Cimarron, Cleveland, Coal, Comanche, Cotton, Craig, Creek, Custer, Delaware, Dewey, Ellis, Garfield, Garvin, Grady, Grant, Greer, Harmon, Harper, Haskell, Hughes, Jackson, Jefferson, Johnston, Kay, Kingfisher, Kiowa, Latimer, Le Flore, Lincoln, Logan, Love, Major, Marshall, Mayes, McClain, McCurtain, McIntosh, Murray, Muskogee, Noble, Nowata, Okfuskee, Oklahoma, Okmulgee, Osage, Ottawa, Pawnee, Payne, Pittsburg, Pontotoc, Pottawatomie, Pushmataha, Roger Mills, Rogers, Seminole, Sequoyah, Stephens, Texas, Tillman, Tulsa, Wagoner, Washington, Washita, Woods, Woodward

Pennsylvania: County-level range not defined

Puerto Rico: County-level range not defined

South Carolina: Beaufort, Charleston, Colleton, Georgetown, Horry

South Dakota: Aurora, Beadle, Bennett, Bon Homme, Brookings, Brown, Brule, Buffalo, Butte, Campbell, Charles Mix, Clark, Clay, Codington, Corson, Custer, Davison, Day Deuel, Dewey, Douglas, Edmunds, Fall River, Faulk, Grant, Gregory, Haakon, Hamlin, Hand, Hanson, Harding, Hughes, Hutchinson, Hyde, Jackson, Jerauld, Jones, Kingsbury, Lake, Lawrence, Lincoln, Lyman, Marshall, McCook, McPherson, Meade, Mellette, Miner, Minnehaha, Moody, Pennington, Perkins, Potter, Roberts, Sanborn, Shannon, Spink, Stanley, Sully, Todd, Tripp, Turner, Union, Walworth, Yankton, Ziebach

Tennessee: County-level range not defined

Texas: Aransas, Brazoria, Calhoun, Cameron, Chambers, Galveston, Jefferson, Kenedy, Kleberg, Matagorda, Nueces, San Patricio, Willacy

Virginia: Accomack, Northampton, Virginia Beach

Virgin Islands: County-level range not defined

West Virginia: Barbour, Berkeley, Boone, Braxton, Brooke, Cabell, Calhoun, Clay, Doddridge, Fayette, Gilmer, Grant, Greenbrier, Hampshire, Hancock, Hardy, Harrison, Jackson, Jefferson, Kanawha, Lewis, Lincoln, Logan, Marion, Marshall, Mason, McDowell, Mercer, Mineral, Mingo, Monongalia, Monroe, Morgan, Nicholas, Ohio, Pendleton, Pleasants, Pocahontas, Preston, Putnam, Raleigh, Randolph, Ritchie, Roane, Summers, Taylor, Tucker, Tyler, Upshur, Wayne, Webster, Wetzel, Wirt, Wood, Wyoming

Wisconsin: Ashland, Brown, Douglas, Manitowoc, Milwaukee, Oconto, Ozaukee, Racine

Federal lands or Indian reservations species is known to occur: (4)

|  |  |  |
| --- | --- | --- |
| Federal Land Name | Owner | State(s) |
| Cape Cod National Seashore | NPS | MA |
| Monomoy National Wildlife Refuge | FWS | MA |
| Monomoy Wilderness, Monomoy National Wildlife Refuge | FWS | MA |

AMAGANSETT NATIONAL WILDLIFE REFUGE, BACK BAY NATIONAL WILDLIFE REFUGE, BIG BOGGY NATIONAL WILDLIFE REFUGE, BLACKBEARD ISLAND NATIONAL WILDLIFE REFUGE, BRAZORIA NATIONAL WILDLIFE REFUGE CAPE MAY NATIONAL WILDLIFE REFUGE, CAPE ROMAIN NATIONAL WILDLIFE REFUGE, CHINCOTEAGUE NATIONAL WILDLIFE REFUGE, CONSCIENCE POINT NATIONAL WILDLIFE REFUGE, EDWIN B. FORSYTHE NATIONAL WILDLIFE REFUGE, ELIZABETH ALEXANDRA MORTON NATIONAL WILDLIFE REFUGE, FISHERMAN ISLAND NATIONAL WILDLIFE REFUGE, GREAT WHITE HERON NATIONAL WILDLIFE REFUGE, HARRIS NECK NATIONAL WILDLIFE REFUGE, ISLAND BAY NATIONAL WILDLIFE REFUGE, J.N. 'DING' DARLING NATIONAL WILDLIFE REFUGE, KEY WEST NATIONAL WILDLIFE REFUGE, MATLACHA PASS NATIONAL WILDLIFE REFUGE, MONOMOY NATIONAL WILDLIFE REFUGE, NANTUCKET NATIONAL WILDLIFE REFUGE, NATIONAL KEY DEER REFUGE, OYSTER BAY NATIONAL WILDLIFE REFUGE, PARKER RIVER NATIONAL WILDLIFE REFUGE, PINCKNEY ISLAND NATIONAL WILDLIFE REFUGE, PINE ISLAND NATIONAL WILDLIFE REFUGE, PRIME HOOK NATIONAL WILDLIFE REFUGE, RACHEL CARSON NATIONAL WILDLIFE REFUGE, SAN BERNARD NATIONAL WILDLIFE REFUGE, SEATUCK NATIONAL WILDLIFE REFUGE, STEWART B. MCKINNEY NATIONAL WILDLIFE REFUGE, TARGET ROCK NATIONAL WILDLIFE REFUGE, TYBEE NATIONAL WILDLIFE REFUGE, WASSAW NATIONAL WILDLIFE REFUGE, WERTHEIM NATIONAL WILDLIFE REFUGE, WOLF ISLAND NATIONAL WILDLIFE REFUGE (3)

Migratory: Yes (2)

Breed in the arctic (2)

Winter in Southwest US: FL to GA to TX (2)

Diet: marine invertebrates (2)

Relevant EFED model(s): KABAM

Habitat: shoreline (2)

Habitat size (home range):Not available

Elevation restriction: None

Obligate relationships: None noted in available USFWS documentation. Reviewer believes that there are no obvious obligate relationships related to diet or habitat.

Comments:

Diet includes small mollusks (bivalves), amphipods, polychaete worms, and sometimes insects (2).

Forage for food on tidal sand flats, mudflats and beaches, following shoreline (2).

Name of data extractor and date: Kris Garber (4/27/15)

QC reviewer (date): Elyssa Arnold (5/4/15)

Sources:

1. Master list from FWS
2. Baker, Allan, Patricia Gonzalez, R.I.G. Morrison and Brian A. Harrington. 2013. Red Knot (Calidris canutus), The Birds of North America Online (A. Poole, Ed.). Ithaca: Cornell Lab of Ornithology; Retrieved from the Birds of North America Online: <http://bna.birds.cornell.edu/bna/species/563>

[doi:10.2173/bna.563](http://dx.doi.org/10.2173/bna.563)

1. http://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B0DM
2. FESTF. 2012. Coincidence of ESA-listed species with federal lands and proximity to outer boundary. FIFRA Endangered Species Task Force. Data submitted to EPA March 2012.

**Species (common name): *Campephilus principalis* (Ivory-billed Woodpecker)**

Listed status: Endangered (1, p. V)

Designated critical habitat? No (1, p. V)

Primary Constituent Elements: Not applicable

Spatial data in recovery plan? No

Population size (most current estimate): unknown, one possible sighting (debated) in 2004 (1, p 1); the last confirmed sighting was in the 1940s (1 p. 2).

Body weight (in g): 454-567 (1 p. 1)

Dates of Breeding Period: January – April (1 p. 11).

Migratory: No but protected under the Migratory Treaty Act (1 p. 22).

Locations known to occur: Last sighting (debated) in Bayou DeView, in the Cache River National Wildlife Refuge in east-central Arkansas, 2004 (1 p. 1); last confirmed sighting in Louisiana in the 1940s; historical range throughout the Southeastern US (1 p. 3)

Federal lands or Indian reservations species is known to occur: None (2)

Diet: insects (large beetle larvae), nuts, fruits, seeds (1 p. 11).

Relevant EFED model(s): T-REX

Habitat: Forest – large contiguous forest with numerous large trees (1 p. V).

Habitat size (home range): up to 20 square miles (1 p. 10).

Elevation restriction: None specified

Obligate relationships: None noted in available USFWS documentation. Reviewer believes that there are no obvious obligate relationships related to diet or habitat.

Comments: Listed as endangered in all locations since 1970 (1 p. 2). Continued existence is controversial but deemed worthy of recovery attempts by FWS (1 p. 2-3).

Large beetle larvae are important component of diet especially during breeding (1 p. 10).

Name of data extractor and date: Elyssa Gelmann, 15 February 2012

QC reviewer (date): Jean Holmes, 25 February 2012

Sources:

1. Species specific recovery plan available on FWS website, 2010:

http://ecos.fws.gov/docs/recovery\_plan/100719.pdf

1. FESTF. 2012. Coincidence of ESA-listed species with federal lands and proximity to outer boundary. FIFRA Endangered Species Task Force. Data submitted to EPA March 2012.

**Species (common name): *Caprimulgus noctitherus* (Puerto Rican Nightjar or Whip-Poor-Will)**

Listed status: Endangered (1, p. 7)

Designated critical habitat? No

Primary Constituent Elements: Not applicable

Spatial data in recovery plan? Yes (1, p. 2)

Population size (most current estimate): 550 breeding pairs (1, p. 3).

Body weight (in g):

Adult Female: 36.07 (2)

Adult range: 33.8-38.1 (2)

Adult average: 36.11± 3.07(2)

Hatchling: 4.13 ±0.002 (2)

Young at 1 week old: 21.1±5.1 (2)

Young at 2 weeks old: 36.6 ± 2.5 (2)

- After one week 21.1 g (5.1 standard deviation)

-After 14 days 36.6 g (2.5 standard deviation)

Breeding Period: May – July; not studied in detail but other caprimulgids hav e two broods each year and the Peuerto Rican Nightjar may follow this habbit (1, p. 5).

Locations known to occur: Puerto Rico: Guanica forest (400 breeding pr), Susua forest (100 breeding pr), and Guayanilla Hills (50 breeding pr) (1, p. 3).

Federal lands or Indian reservations species is known to occur: None (3)

Migratory: No

Diet: insects (1, p. 1)

Relevant EFED model(s): T-REX

Habitat: Forest or woodlands: Limestone and dry serpentine areas (1, p. 3)

Home Range: 3,200 hector (human population near or within its range) (1, p. 4)

Elevation restriction: not indicated

Obligate relationships: None noted in available USFWS documentation. Reviewer believes that there are no obvious obligate relationships related to diet or habitat.

Comments:

*S*ome considered a race of the *C. vociforus noctitherus;* however, vocalization is a significant difference (1, p. 4).

Nocturnal or crepuscular habits (1, p. 1)

Nest where canopy is complete (1, p. 3)

Name of data extractor and date: Valerie Woodard December 20, 2011

QC reviewer (date): Jean Holmes, 3/17/2012

Sources:

1. Species specific recovery plan available on FWS website.

[Puerto Rican Whip-poor-will Recovery Plan](http://ecos.fws.gov/docs/recovery_plan/840419d.pdf)

1. The Cornell lab of OrnithologyNeotropical Birds: <http://neotropical.birds.cornell.edu/portal/species/identification?p_p_spp=24854>
2. FESTF. 2012. Coincidence of ESA-listed species with federal lands and proximity to outer boundary. FIFRA Endangered Species Task Force. Data submitted to EPA March 2012.

**Species (common name):** *Centrocercus minimus* (Gunnison sage-grouse)

Listed status: Threatened (1)

Designated critical habitat? Yes (1)

Primary Constituent Elements: (Text is from 4)

Primary Constituent Element 1— Extensive sagebrush landscapes capable of supporting a population of Gunnison sage-grouse. In general, this includes areas with vegetation composed primarily of sagebrush plant communities (at least 25 percent of the land is dominated by sagebrush cover within a 0.9-mi (1.5-km) radius of any given location), of sufficient size and configuration to encompass all seasonal habitats for a given population of Gunnison sage-grouse, and facilitate movements within and among populations. These areas also occur wholly within the potential historical range of Gunnison sage-grouse (GSRSC 2005, pp. 32–35, as adapted from Schroeder *et al.* 2004, entire).

Primary Constituent Element 2—Breeding habitat composed of sagebrush plant communities that, in general, have the structural characteristics within the ranges described in the following table. Habitat structure values are average values over a project area. Breeding habitat includes lek, nesting, and early brood-rearing habitats used typically March 15 through July 15 (GSRSC 2005, p. H–3). Early brood-rearing habitat may include agricultural fields.

BREEDING HABITAT STRUCTURAL GUIDELINES FOR GUNNISON SAGE-GROUSE

|  |  |  |
| --- | --- | --- |
| **Vegetation variable** | **Amount in habitat (%)** | **Height** |
| Sagebrush Canopy Cover | 10-25 | 9.8–19.7 in (25–50 cm) |
| Non-sagebrush Canopy Cover | 5-15 | Not available |
| Total Shrub Canopy Cover | 15-40 | Not available |
| Grass Cover | 10-40 | 3.9–5.9 in (10–15 cm) |
| Forb Cover | 5-40 | 2.0–5.9 in (5–15cm) |

Primary Constituent Element 3-Summer-late fall habitat composed of sagebrush plant communities that, in general, have the structural characteristics within the ranges described in the following table. Habitat structure values are average values over a project area. Summer-fall habitat includes sagebrush communities having the referenced habitat structure values, as well as agricultural fields and wet meadow or riparian habitat types. Wet meadows and riparian habitats are also included qualitatively under PCE 5 below.

SUMMER-LATE FALL HABITAT STRUCTURAL GUIDELINES FOR GUNNISON SAGE-GROUSE

|  |  |  |
| --- | --- | --- |
| **Vegetation variable** | **Amount in habitat (%)** | **Height** |
| Sagebrush Canopy Cover | 5-20 | 9.8–19.7 in (25–50 cm) |
| Non-sagebrush Canopy Cover | 5-15 | Not available |
| Total Shrub Canopy Cover | 10-35 | Not available |
| Grass Cover | 10-35 | 3.9–5.9 in (10–15 cm) |
| Forb Cover | 5-35 | 1.2–3.9 in (3–10 cm) |

Primary Constituent Element 4—Winter habitat composed of sagebrush plant communities that, in general, have sagebrush canopy cover between 30 to 40 percent and sagebrush height of 15.8 to 21.7 in (40 to 55 cm). These habitat structure values are average values over a project area. Winter habitat includes sagebrush areas within currently occupied habitat that are available (i.e., not covered by snow) to Gunnison sage-grouse during average winters (GSRSC 2005, p. H–3).

Primary Constituent Element 5— Alternative, mesic habitats used primarily in the summer-late fall season, such as riparian communities, springs, seeps, and mesic meadows (GSRSC 2005, pp. 30, H–7; Schroeder *et al.* 1999, p. 4; Connelly *et al.* 2000a, p. 980).

Spatial data in recovery plan? Yes (3)

Population size (most current estimate): 4705 in 2014 (3)

Body weight (in g):

Adult Females: 1200 (2)

Adult Males: 2100 (2)

Yearling females: 1100 (2)

Yearling males: 1700-1800 (2)

Dates of Breeding Period:March to October (2)

Locations known to occur: CO: Alamosa, Costilla, Delta, Dolores, Gunnison, Hinsdale, Mesa, Montrose, Ouray, Saguache, San Miguel; UT: Grand, San Juan (3, 5)

Federal lands or Indian reservations species is known to occur: (6)

|  |  |  |
| --- | --- | --- |
| Federal Land Name | Owner | State(s) |
| Gunnison National Forest | FS | CO |
| Manti-La Sal National Forest | FS | CO-UT |
| Curecanti National Recreation Area | NPS | CO |
| Public Domain Land BLM | BLM | CO-UT-WY |
| Black Ridge Canyons Wilderness | BLM | CO |
| Westwater Canyon Wilderness Study Area | BLM | UT |

Migratory: no (2)

May move locally for food (2)

Diet:

Adults: Winter: sagebrush (4)

Adults: Spring, summer, fall: forbs, insects, and sagebrush (4)

Chicks (up to 3 wks old): insects (4)

Juveniles (4 weeks – 4 months): forbes and insects (4)

Relevant EFED model(s): T-REX

Habitat: Sagebrush ecosystems (2, 4)

Habitat size (home range): Not available

Elevation restriction: None

Obligate relationships: Given the reliance of this species on sagebrushecosystems for habitat and diet, this species has an obligate relationship with sagebrush (*Artemisia sp).*

Comments:

This species has seven populations, including: Gunnison Basin, San Miguel Basin, Monticello-Dove Creek, Piñon Mesa, Crawford, Cerro Summit-Cimarron-Sims Mesa, and Poncha Pass (3).

Species is known to use agricultural fields (4)

Several species of sagebrush (*Artemisia sp)* are consumed (4)

Species will move to wet meadows (wetlands) to feed (3, p. 69200)

Name of data extractor and date: Kris Garber (4/27/15)

QC reviewer (date): Elyssa Arnold (5/5/15)

Sources:

1. Master list from FWS
2. Schroeder, M. A., J. R. Young and C. E. Braun. 1999. Greater Sage-Grouse (Centrocercus urophasianus), The Birds of North America Online (A. Poole, Ed.). Ithaca: Cornell Lab of Ornithology; Retrieved from the Birds of North America Online: <http://bna.birds.cornell.edu/bna/species/425>

[doi:10.2173/bna.425](http://dx.doi.org/10.2173/bna.425)

1. <http://www.gpo.gov/fdsys/pkg/FR-2014-11-20/pdf/2014-27109.pdf>
2. http://www.gpo.gov/fdsys/pkg/FR-2014-11-20/pdf/2014-27113.pdf
3. Gunnison Sage-grouse FWS Species Profile. http://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B0B0
4. FESTF. 2012. Coincidence of ESA-listed species with federal lands and proximity to outer boundary. FIFRA Endangered Species Task Force. Data submitted to EPA March 2012.

**Species (common name):** *Centrocercus urophasianus* (Greater sage-grouse; Columbia Basin DPS)

Listed status: Delisted

Designated critical habitat? No (1)

Primary Constituent Elements: Not applicable

Spatial data in recovery plan? Not available

Population size (most current estimate): Not available

Body weight (in g): (data from WA)

Adult Females: 1500 (2)

Adult Males: 2800 (2)

Yearling females: 1400 (2)

Yearling males: 2400 (2)

Dates of Breeding Period:March to October (2)

Locations known to occur: Adams, Benton, Chelan, Douglas, Grant, Kittitas,

Klickitat, Lincoln, Okanogan, Yakima Counties in WA (4)

Federal lands or Indian reservations species is known to occur:

CLEAR LAKE NATIONAL WILDLIFE REFUGE (3)

Migratory: Yes (2)

Diet:

Leaves, buds, stems, flowers, fruit, and insects (2)

Leaves are predominant food item (2)

Chicks (up to 3 weeks old) consume insects (grasshoppers, beetles and ants) (2)

Relevant EFED model(s): T-REX

Habitat: sagebrush ecosystems (2)

Habitat size (home range):0.1-44.2 km2 (25-11,000 acres), varies by season (2)

Elevation restriction: None

Obligate relationships: Given the reliance of this species on sagebrushecosystems for habitat and diet, this species has an obligate relationship with sagebrush (*Artemisia sp).*

Comments:

In regards to migration: some individuals may be resident and some migrate seasonally. Movements are dependent upon many factors, including male/female, behavior, quality of habitat, weather. Some populations move between nesting, summer and winter areas. Migration is “slow and meandering” (<1 km/day). Migration could potentially occur year round. (2)

Grouse may use agricultural habitats, including alfalfa (*Medicago sativa*), wheat (*Triticum* spp.), and crested wheatgrass (*Agropyron cristatum*) (2)

Lek sites may be associated with agricultural fields, airstrips, gravel pits and roads (2).

Nests are located in thick, vegetative cover of brush (2)

Several species of sagebrush are included in the diet, including big, low, silver, and fringed (2)

Sagebrush are important to winter diet (2)

Females consume forbes during prelaying period. Forb species consumed include: common dandelion (*Taraxacum officinale*), yellow salsify (*Tragopogon dubius*), prairie pepperweed (*Lepidium densiflorum*), clover (*Trifolium* spp.), knotweed (*Polygonum* spp.), alfalfa, yarrow (*Achillea* spp.), sweet clover (*Melilotus* spp.), vetch (*Vicia* spp.), milk vetch (*Astragalus* spp.), and prickly lettuce (*Lactuca serriola*) (2)

Species will move to wet meadows (wetlands) to feed (5, p. 13916)

Name of data extractor and date: Kris Garber (4/27/15)

QC reviewer (date): Elyssa Arnold (5/5/15)

Sources:

1. Master list from FWS
2. Schroeder, M. A., J. R. Young and C. E. Braun. 1999. Greater Sage-Grouse (Centrocercus urophasianus), The Birds of North America Online (A. Poole, Ed.). Ithaca: Cornell Lab of Ornithology; Retrieved from the Birds of North America Online: <http://bna.birds.cornell.edu/bna/species/425>

[doi:10.2173/bna.425](http://dx.doi.org/10.2173/bna.425)

1. <http://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B06W>
2. <http://ecos.fws.gov/docs/candidate/assessments/2014/r1/B06W_V01.pdf>
3. http://ecos.fws.gov/docs/federal\_register/fr5934.pdf

**Species (common name):** *Centrocercus urophasianus* (Greater sage-grouse; entire)

Listed status: Candidate (1)

Designated critical habitat? No (1)

Primary Constituent Elements: Not applicable

Spatial data in recovery plan? Not available

Population size (most current estimate): Not available

Body weight (in g): data from (2)

Average BW data (n in parentheses)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Location | Adult male | Adult female | Yearling male | Yearling female | Source |
| C. u. phaios | | | | | |
| Washington | 2800 (21) | 1500 (62) | 2400 (10) | 1400 (28) | MAS |
| California | 2600 (199) | 1300 (29) | 2200 (29) | 1200 (25) | R. M. Gibson pers. comm. |
| C. u. urophasianus | | | | | |
| Idaho | 2500 (25) | 1300 (19) | 2200 (6) | 1300 (16) | Dalke et al. 1963 |
| Idaho | 2500 (21) | 1500 (4) | 2300 (21) | 1400 (8) | Autenrieth 1981 |
| Montana | 2900 (54) |  | 2500 (31) |  | Eng 1963 |
| Montana | 2800 (80) | 1600(193) | 2500 (52) | 1400 (181) | Wallenstad 1975a |
| Wyoming | 2700 (31) |  |  |  | Patterson 1952 |
| Colorado | 3200 (465) | 1700 (221) | 2800 (445) | 1600 (186) | Beck and Braun 1978 |
| Colorado | 2900 (50) | 1600 (143) | 2500 (260) | 1500(168) | Hupp and Braun 1991 |
| Alberta | 3100 (28) | 1700 (2) | 2400 (5) | 1500 (2) | C. L. Aldridge pers. comm. |

Dates of Breeding Period:March to October (2)

Locations known to occur:

California (additional refinement needed): El Dorado, Lassen, Modoc, Shasta, Siskiyou

Colorado: Alamosa, Chaffee, Costilla, Eagle, Garfield, Grand, Jackson, Lake, Larimer, Mesa, Moffat, Park, Rio Blanco, Rio Grande, Routt, Saguache, Summit

Idaho: County-level range not defined

Montana: Beaverhead, Big Horn, Blaine, Carbon, Carter, Chouteau, Custer, Dawson, Fallon, Fergus, Gallatin, Garfield, Golden Valley, Hill, Liberty, Madison, McCone, Meagher, Musselshell, Park, Petroleum, Phillips, Powder River, Prairie, Richland, Rosebud, Silver Bow, Stillwater, Sweet Grass, Treasure, Valley, Wheatland, Wibaux, Yellowstone

Nevada (additional refinement needed): Carson City, Churchill, Douglas, Elko, Esmeralda, Eureka, Humboldt, Lander, Lyon, Mineral, Nye, Pershing, Storey, Washoe, White Pine

North Dakota: Bowman, Golden Valley, Slope

Oregon: Baker, Crook, Deschutes, Grant, Harney, Klamath, Lake, Malheur, Union, Wheeler

South Dakota: Butte, Harding

Utah: Beaver, Box Elder, Cache, Carbon, Daggett, Duchesne, Emery, Garfield, Grand, Iron, Juab, Kane, Millard, Morgan, Piute, Rich, Sanpete, Sevier, Summit, Tooele, Uintah, Utah, Wasatch, Wayne, Weber

Washington: Benton, Douglas, Grant, Kittitas, Okanogan, Yakima

Wyoming: Albany, Big Horn, Campbell, Carbon, Converse, Crook, Fremont, Hot Springs, Johnson, Laramie, Lincoln, Natrona, Niobrara, Park, Platte, Sheridan, Sublette, Sweetwater, Teton, Uinta, Washakie, Weston

(3)

Federal lands or Indian reservations species is known to occur: (4)

|  |  |  |
| --- | --- | --- |
| Federal Land Name | Owner | State(s) |
| Crow Indian Reservation | BIA | MT |
| Fort Belknap Indian Reservation | BIA | MT |
| Fort McDermitt Indian Reservation | BIA | NV-OR |
| Fort Peck Indian Reservation | BIA | MT |
| Goshute Indian Reservation | BIA | NV-UT |
| Paiute Indian Reservation | BIA | UT |
| Uintah and Ouray Indian Reservation | BIA | UT |
| Wind River Indian Reservation | BIA | WY |
| Centennial Mountains Sheep Experimental Station | ARS | MT |
| Fort Keogh Livestock and Range Research Lab | ARS | MT |
| Fort Peck Lake | DOD | MT |
| Camp Williams | DOD | UT |
| Tooele Army Depot | DOD | UT |
| Clark Canyon Reservoir | BOR | MT |
| Deer Creek Lake | BOR | UT |
| East Canyon Reservoir | BOR | UT |
| Echo Reservoir | BOR | UT |
| Eden Reservoir | BOR | WY |
| Jackson Lake | BOR | WY |
| Joes Valley Reservoir | BOR | UT |
| Lost Creek Reservoir | BOR | UT |
| Pathfinder Reservoir | BOR | WY |
| Rockport Lake | BOR | UT |
| Scofield Reservoir | BOR | UT |
| Seminoe Reservoir | BOR | WY |
| Strawberry Reservoir | BOR | UT |
| Flaming Gorge Reservoir, Flaming George National Recreation Area | BOR | UT-WY |
| Clear Lake, Clear Lake National Wildlife Refuge | BOR | CA |
| Pathfinder Reservoir, Pathfinder National Wildlife Refuge | BOR | WY |
| Arapaho National Forest | FS | CO |
| Ashley National Forest | FS | UT |
| Beaverhead National Forest | FS | MT |
| Bighorn National Forest | FS | WY |
| Black Hills National Forest | FS | SD-WY |
| Black Hills National Forest | FS | WY |
| Bridger National Forest | FS | WY |
| Cache National Forest | FS | ID-UT |
| Custer National Forest | FS | MT |
| Deerlodge National Forest | FS | MT |
| Dixie National Forest | FS | UT |
| Fishlake National Forest | FS | UT |
| Fremont National Forest | FS | OR |
| Gallatin National Forest | FS | MT |
| Inyo National Forest | FS | CA-NV |
| Lewis and Clark National Forest | FS | MT |
| Manti-La Sal National Forest | FS | UT |
| Medicine Bow National Forest | FS | CO-WY |
| Medicine Bow National Forest | FS | WY |
| Modoc National Forest | FS | CA |
| Sawtooth National Forest | FS | ID |
| Sawtooth National Forest | FS | UT |
| Shoshone National Forest | FS | WY |
| Targhee National Forest | FS | ID-WY |
| Teton National Forest | FS | WY |
| Uinta National Forest | FS | UT |
| Wasatch National Forest | FS | UT |
| Wasatch National Forest | FS | UT-WY |
| Buffalo Gap National Grassland | FS | SD |
| Little Missouri National Grassland | FS | ND |
| Oglala National Grassland | FS | NE |
| Thunder Basin National Grassland | FS | WY |
| Escalante National Monument | BLM | UT |
| Dinosaur National Monument | NPS | CO-UT |
| Fossil Butte National Monument | NPS | WY |
| Timpanogos Cave National Monument | NPS | UT |
| Bryce Canyon National Park | NPS | UT |
| Grand Teton National Park | NPS | WY |
| Yellowstone National Park | NPS | ID-MT-WY |
| Flaming Gorge National Recreation Area, Ashley National Forest | FS | UT-WY |
| Bighorn Canyon National Recreation Area | NPS | MT-WY |
| Browns Park National Wildlife Refuge | FWS | CO |
| Charles M. Russell National Wildlife Refuge | FWS | MT |
| Clear Lake National Wildlife Refuge | FWS | CA |
| Hart Mountain National Antelope Refuge | FWS | OR |
| Hewitt Lake National Wildlife Refuge | FWS | MT |
| Lake Mason National Wildlife Refuge | FWS | MT |
| National Elk Refuge | FWS | WY |
| Pathfinder National Wildlife Refuge | FWS | WY |
| Red Rock Lakes National Wildlife Refuge | FWS | MT |
| Seedskadee National Wildlife Refuge | FWS | WY |
| UL Bend National Wildlife Refuge | FWS | MT |
| War Horse National Wildlife Refuge | FWS | MT |
| Halfbreed Lake National Wildlife Refuge, Stillwater County Waterfowl Production Area | FWS | MT |
| Cokeville Meadows National Wildlife Refuge, Bear Valley Wetlands Study Area | FWS | WY |
| Public Domain Land BLM | BLM | AZ, CA, CO, ID, MT, ND, NV, OR, UT, WY |
| Steens Mountain Wilderness | BLM | OR |
| Bridger Wilderness, Bridger National Forest | FS | WY |
| Lee Metcalf Wilderness, Gallatin National Forest | FS | MT |
| Lone Peak Wilderness, Uinta National Forest | FS | UT |
| Lone Peak Wilderness, Wasatch National Forest | FS | UT |
| Mount Timpanogos Wilderness, Uinta National Forest | FS | UT |
| Teton Wilderness, Teton National Forest | FS | WY |
| Washakie Wilderness, Shoshone National Forest | FS | WY |
| Red Rock Lakes Wilderness, Red Rock Lakes National Wildlife Refuge | FWS | MT |
| UL Bend Wilderness, UL Bend National Wildlife Refuge | FWS | MT |
| Alvord Desert Wilderness Study Area | BLM | OR |
| Antelope Creek Wilderness Study Area | BLM | MT |
| Basque Hills Wilderness Study Area | BLM | OR |
| Beaver Dam Creek Wilderness Study Area | BLM | OR |
| Bell/Limekiln Canyons Wilderness Study Area | BLM | MT |
| Billy Creek Wilderness Study Area | BLM | MT |
| Bitter Creek Wilderness Study Area | BLM | MT |
| Blitzen River Wilderness Study Area | BLM | OR |
| Bodie Wilderness Study Area | BLM | CA |
| Bridge Coulee Wilderness Study Area | BLM | MT |
| Bridge Creek Wilderness Study Area | BLM | OR |
| Bull Canyon Wilderness Study Area | BLM | CO |
| Burnt Timber Canyon Wilderness Study Area | BLM | MT |
| Camp Creek Wilderness Study Area | BLM | OR |
| Castle Rock Wilderness Study Area | BLM | OR |
| Centennial Mountains Wilderness Study Area | BLM | MT |
| Clarks Butte Wilderness Study Area | BLM | OR |
| Cold Spring West Wilderness Study Area | BLM | CO |
| Cow Creek Wilderness Study Area | BLM | MT |
| Daniels Canyon Wilderness Study Area | BLM | UT |
| Deep Creek Mountains Wilderness Study Area | BLM | UT |
| Desolation Canyon Wilderness Study Area | BLM | UT |
| Disaster Peak Wilderness Study Area | BLM | NV-OR |
| Ervin Ridge Wilderness Study Area | BLM | MT |
| Fifteenmile Creek Wilderness Study Area | BLM | OR |
| Fish Creek Rim Wilderness Study Area | BLM | OR |
| Flume Canyon Wilderness Study Area | BLM | UT |
| Gold Creek Wilderness Study Area | BLM | OR |
| Guano Creek Wilderness Study Area | BLM | OR |
| Hawk Mountain Wilderness Study Area | BLM | OR |
| Heath Lake Wilderness Study Area | BLM | OR |
| Henneberry Bridge Wilderness Study Area | BLM | MT |
| Hidden Pasture Creek Wilderness Study Area | BLM | MT |
| Humbug Spires Wilderness Study Area | BLM | MT |
| Jack Canyon Wilderness Study Area | BLM | UT |
| Lookout Butte Wilderness Study Area | BLM | ID-OR |
| Lower Owyhee Canyon Wilderness Study Area | BLM | OR |
| Mahogany Ridge Wilderness Study Area | BLM | OR |
| Malheur River-Bluebucket Creek Wilderness Study Area | BLM | OR |
| Mount Biedeman Wilderness Study Area | BLM | CA |
| Musselshell Breaks Wilderness Study Area | BLM | MT |
| Oregon Canyon Wilderness Study Area | BLM | OR |
| Orejana Canyon Wilderness Study Area | BLM | OR |
| Owyhee Breaks Wilderness Study Area | BLM | OR |
| Owyhee Canyon Wilderness Study Area | BLM | OR |
| Pryor Mountain Wilderness Study Area | BLM | MT |
| Pueblo Mountains Wilderness Study Area | BLM | NV-OR |
| Rincon Wilderness Study Area | BLM | OR |
| Saddle Butte Wilderness Study Area | BLM | OR |
| Sage Hen Hills Wilderness Study Area | BLM | OR |
| Scott's Basin Wilderness Study Area | BLM | UT |
| Seven Blackfoot Wilderness Study Area | BLM | MT |
| Sheepshead Mountains Wilderness Study Area | BLM | OR |
| South Fork of the Donner and Blitzen River Wilderness Study Area | BLM | OR |
| Spaulding Wilderness Study Area | BLM | OR |
| Stonehouse Wilderness Study Area | BLM | OR |
| Terry Badlands Wilderness Study Area | BLM | MT |
| Twelvemile Creek Wilderness Study Area | BLM | OR |
| Upper West Little Owyhee Wilderness Study Area | BLM | OR |
| Wildcat Canyon Wilderness Study Area | BLM | OR |
| Winter Ridge Wilderness Study Area | BLM | UT |
| Woodhawk Wilderness Study Area | BLM | MT |
| West Pioneer Mountains Wilderness Study Area, Beaverhead National Forest | FS | MT |

ARAPAHO NATIONAL WILDLIFE REFUGE, BENTON LAKE WETLAND MANAGEMENT DISTRICT, BLACK COULEE NATIONAL WILDLIFE REFUGE, BOWDOIN NATIONAL WILDLIFE REFUGE, BOWDOIN WETLAND MANAGEMENT DISTRICT CHARLES M. RUSSELL NATIONAL WILDLIFE REFUGE, COKEVILLE MEADOWS NATIONAL WILDLIFE REFUGE, HART MOUNTAIN NATIONAL ANTELOPE REFUGE, HEWITT LAKE NATIONAL WILDLIFE REFUGE, NATIONAL ELK REFUGE, PATHFINDER NATIONAL WILDLIFE REFUGE, RED ROCK LAKES NATIONAL WILDLIFE REFUGE, SEEDSKADEE NATIONAL WILDLIFE REFUGE, SHELDON NATIONAL WILDLIFE REFUGE, UL BEND NATIONAL WILDLIFE REFUGE (3)

Migratory: Yes (2)

Diet:

Leaves, buds, stems, flowers, fruit, and insects (2)

Leaves are predominant food item (2)

Chicks (up to 3 weeks old) consume insects (grasshoppers, beetles and ants) (2)

Relevant EFED model(s): T-REX

Habitat: sagebrush ecosystems (2)

Habitat size (home range):0.1-44.2 km2 (25-11,000 acres), varies by season (2)

Elevation restriction: None

Obligate relationships: Given the reliance of this species on sagebrushecosystems for habitat and diet, this species has an obligate relationship with sagebrush (*Artemisia sp).*

Comments:

In regards to migration: some individuals may be resident and some migrate seasonally. Movements are dependent upon many factors, including male/female, behavior, quality of habitat, weather. Some populations move between nesting, summer and winter areas. Migration is “slow and meandering” (<1 km/day). Migration could potentially occur year round. (2)

Grouse may use agricultural habitats, including alfalfa (*Medicago sativa*), wheat (*Triticum* spp.), and crested wheatgrass (*Agropyron cristatum*) (2)

Lek sites may be associated with agricultural fields, airstrips, gravel pits and roads (2).

Nests are located in thick, vegetative cover of brush (2)

Several species of sagebrush are included in the diet, including big, low, silver, and fringed (2)

Sagebrush are important to winter diet (2)

Females consume forbes during prelaying period. Forb species consumed include: common dandelion (*Taraxacum officinale*), yellow salsify (*Tragopogon dubius*), prairie pepperweed (*Lepidium densiflorum*), clover (*Trifolium* spp.), knotweed (*Polygonum* spp.), alfalfa, yarrow (*Achillea* spp.), sweet clover (*Melilotus* spp.), vetch (*Vicia* spp.), milk vetch (*Astragalus* spp.), and prickly lettuce (*Lactuca serriola*) (2)

Species will move to wet meadows (wetlands) to feed (5, p. 13916)

Name of data extractor and date: Kris Garber (4/27/15)

QC reviewer (date): Elyssa Arnold (5/5/15)

Sources:

1. Master list from FWS
2. Schroeder, M. A., J. R. Young and C. E. Braun. 1999. Greater Sage-Grouse (Centrocercus urophasianus), The Birds of North America Online (A. Poole, Ed.). Ithaca: Cornell Lab of Ornithology; Retrieved from the Birds of North America Online: <http://bna.birds.cornell.edu/bna/species/425>

[doi:10.2173/bna.425](http://dx.doi.org/10.2173/bna.425)

1. <http://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B06W>
2. FESTF. 2012. Coincidence of ESA-listed species with federal lands and proximity to outer boundary. FIFRA Endangered Species Task Force. Data submitted to EPA March 2012.
3. http://ecos.fws.gov/docs/federal\_register/fr5934.pdf

**Species (common name): *Charadrius alexandrines nivosus* (Western snowy plover)**

Listed status: Threatened (2)

Designated critical habitat? Yes (2)

Primary Constituent Elements: Sandy beaches, dune systems immediately inland of an active beach face, salt flats, mud flats, seasonally exposed gravel bars, artificial salt ponds and adjoining levees, and dredge spoil sites, with:

(1) Areas that are below heavily vegetated areas or developed areas and above the daily high tides;

(2) Shoreline habitat areas for feeding, with no or very sparse vegetation, that are between the annual low tide or lowwater flow and annual high tide or highwater flow, subject to inundation but not constantly under water, that support small invertebrates, such as crabs, worms, flies, beetles, spiders, sand hoppers, clams, and ostracods, that are essential food sources;

(3) Surf- or water-deposited organic debris, such as seaweed (including kelp and eelgrass) or driftwood located on open substrates that supports and attracts small invertebrates described in

PCE 2 for food, and provides cover or shelter from predators and weather, and assists in avoidance of detection (crypsis) for nests, chicks, and incubating adults; and

(4) Minimal disturbance from the presence of humans, pets, vehicles, or human-attracted predators, which provide relatively undisturbed areas for individual and population. (4, p. 36747)

Spatial data in recovery plan? Yes

Population size (most current estimate): Approximately 2480 adults in Washington coast, coastal Oregon, coastal California and San Francisco bay (1 p. 32). The estimated population levels in the United States have increased over the last 4 years IL. Stenzel, inlit. 2004a) (3, p. 3).

Body weight (in g): 34 - 58 (1, p. 4)

Dates of Breeding Period:March through August (1, p. 11).

Locations known to occur: WA, OR, CA (2).

Federal lands or Indian reservations species is known to occur: (5)

|  |  |  |
| --- | --- | --- |
| Federal Land Name | Owner | State(s) |
| Coos Lower Umpqua And Siuslaw Indian Reservation | BIA (Bureau of Indian Affairs) | OR |
| Vandenberg Air Force Base | Air Force | CA |
| Fort Ord Military Reservation (Closed) | Army | CA |
| Camp Pendleton Marine Corps Base | Marine Corps | CA |
| Siuslaw National Forest | FS | OR |
| California Coastal National Monument | BLM | CA |
| Channel Islands National Park | NPS | CA |
| Channel Islands National Park | NPS | CA |
| Oregon Dunes National Recreation Area | FS | OR |
| Golden Gate National Recreation Area | NPS | CA |
| Santa Monica Mountains National Recreation Area | NPS | CA |
| Santa Monica Mountains National Recreation Area - Open Water | NPS | CA |
| Cascade Head National Scenic Research Area -Siuslaw National Forest | FS | OR |
| Point Reyes National Seashore | NPS | CA |
| Point Reyes National Seashore | NPS | CA |
| Don Edwards San Francisco Bay National Wildlife Refuge | FWS | CA |
| Guadalupe-Nipomo Dunes National Wildlife Refuge | FWS | CA |
| Humboldt Bay National Wildlife Refuge | FWS | CA |
| Salinas River National Wildlife Refuge | FWS | CA |
| San Diego Bay National Wildlife Refuge | FWS | CA |
| San Diego National Wildlife Refuge | FWS | CA |
| Seal Beach National Wildlife Refuge | FWS | CA |
| Tijuana Slough National Wildlife Refuge | FWS | CA |
| Don Edwards San Francisco Bay National Wildlife Refuge - Open Water | FWS | CA |
| Humboldt Bay National Wildlife Refuge - Open Water | FWS | CA |
| San Diego National Wildlife Refuge - Open Water | FWS | CA |
| Seal Beach National Wildlife Refuge - Open Water | FWS | CA |
| North Island Naval Air Station | Navy | CA |
| Point Mugu Pacific Missile Test Center | Navy | CA |
| San Clemente Island Naval Reservation | Navy | CA |
| San Diego Naval Submarine Base | Navy | CA |
| San Nicolas Island Naval Reservation | Navy | CA |
| Seal Beach Naval Weapons Station | Navy | CA |
| Skaggs Island Naval Security Group Activity | Navy | CA |
| Oregon Islands Wilderness - Oregon Islands National Wildlife Refuge | FWS | OR |
| Phillip Burton Wilderness - Point Reyes National Seashore | NPS | CA |

Migratory: Yes (2, p. 18).

Diet: Aquatic and terrestrial invertebrates (beetles, flies, water bugs, hymenopterans, sand hoppers, crabs, polychaetes, amphipods, clams, ostracods, moths, lepidopteran caterpillars), small fish (1, p. 17-18).

Relevant EFED model(s): T-REX, KABAM

Habitat: Coastal beaches, sand spits, dune –backed beaches, beaches at creek and river mouths, salt pans at lagoons and estuaries (1, p. 7).

Habitat size (home range):Not listed

Elevation restriction: None listed

Obligate relationships: None noted in available USFWS documentation. Reviewer believes that there are no obvious obligate relationships related to diet or habitat.

Comments: Some plovers remain in costal breeding areas year round. Some plovers migrate south or north for winter (1).

Name of data extractor and date: Brian Anderson, 1/23/12

QC reviewer (date): Jean Holmes, 4/25/2012

Sources:

1. Species specific recovery plan available on FWS website.

<http://ecos.fws.gov/docs/recovery_plan/070924_2.pdf>

1. Species Profile FWS website
2. Five Year Review Short Form Summary Pacific Coast Population of Western Snowy Plover (*Charadrius alexandrines nivosus*) <http://ecos.fws.gov/docs/five_year_review/doc770.pdf>
3. Federal Register Vol. 77 No. 118; [Revised Designation of Critical Habitat for the Pacific Coast Population of the Western Snowy Plover; Final Rule](http://www.gpo.gov/fdsys/pkg/FR-2012-06-19/pdf/2012-13886.pdf); <http://www.gpo.gov/fdsys/pkg/FR-2012-06-19/pdf/2012-13886.pdf>
4. FESTF. 2012. Coincidence of ESA-listed species with federal lands and proximity to outer boundary. FIFRA Endangered Species Task Force. Data submitted to EPA March 2012.

**Species (common name): *Charadrius melodus* (Piping plover), Great Lakes Breeding Population**

Listed status: Endangered (1, p. ii)

Designated critical habitat? Yes (1, p. ii)

Primary Constituent Elements: On prairie alkali lakes and wetlands, the physical primary constituent elements include (1) Shallow, seasonally to permanently flooded, mixosaline to hypersaline wetlands with sandy to gravelly, sparsely vegetated beaches, salt-encrusted mud flats, and/or gravelly salt flats; (2)

springs and fens along edges of alkali lakes and wetlands; and (3) adjacent uplands 200 ft (61 m) above the high water mark of the alkali lake or wetland.

On rivers the physical primary constituent elements include—sparsely vegetated channel sandbars, sand and gravel beaches on islands, temporary pools on sandbars and islands, and the interface with the river.

On reservoirs the physical primary constituent elements include—sparsely vegetated shoreline beaches, peninsulas, islands composed of sand, gravel, or shale, and their interface with the water bodies.

On inland lakes (Lake of the Woods) the physical primary constituent elements include sparsely vegetated and windswept sandy to gravelly islands, beaches, and peninsulas, and their interface with the water body.

It is the interactive nature of the biological primary constituent element or the dynamic ecological processes that create the physical primary constituent elements. On the northern Great Plains, the suitability of beaches, sandbars, shoreline, and flats as piping plover habitat types also is dependent on a dynamic hydrological system of wet-to dry cycles. Habitat area, abundance and availability of insect foods, brood and nesting cover, and lack of vegetation are all linked to these water cycles. On rivers, one site becomes flooded and erodes away as another is created. More importantly the high flows on rivers create a complex of habitats for feeding, nesting, and brooding (Pavelka 2002 and Vander Lee *et al.* 2002). This dynamic nature of rivers, as well as flowmanagement of rivers is important to long-term habitat creation and maintenance for piping plovers. On alkali lakes, the complex of different wetland types is especially important for providing areas for plovers feeding, nesting, and brooding in all years, as site availability cannot be predicted or selected at a given time, due to varying water cycles. Biologists have noted a relationship appears to exist between availability of breeding habitat and wet-to-dry cycles. For example, in dry years nesting areas on alkali wetlands lacking water may be unsuitable for piping plovers. In subsequent years as the basins refill there is an abundance of habitat. However, when the wet cycle peaks, there may be a lack of exposed shoreline habitats for nesting piping plovers. It is the dynamics of the changing cycles and the fact that these cycles can occur differently across the landscape that provides piping plover habitat over the long term. Additionally, droughts on the Missouri River can produce more available habitat as reservoir levels drop. However, by the time the nesting season ends, vegetation has encroached on shoreline habitats. Subsequent high water years are necessary for the longterm vegetative maintenance of shoreline habitats. Continued reduced flows on rivers like the Platte and Missouri Rivers, either due to management or climatic conditions can result in vegetative encroachment on exposed sandbars limiting available piping plover nesting habitat. However, increased flows or

high flows during subsequent years provides for the long term maintenance of piping plover nesting habitat by scouring vegetation from sandbars and creating high sandbars. These cycles are most likely interrelated throughout the northern Great Plains landscape. For example, if

Nebraska rivers or alkali wetlands are flooded during the early part of the breeding season, there is some evidence that piping plovers move to other rivers like the Missouri River, to renest.

Similarly the abundance of piping plovers using the Missouri River (1988–1997) correlates strongly with alkali wetland piping plover populations during periods of below-average water levels in the riverine system (Licht 2002, in press). Licht (2002 in press) also found that once water levels on the Missouri River reached a certain point the relationship turned negative with river populations decreasing and alkali wetland populations increasing. (5, p. 57643, 57644)

Spatial data in recovery plan? Yes (1, p. 2, 8, 9)

Population size (most current estimate): 12-51 breeding pairs (1, p. ii)

72 adults in 2001 (1, p. 1)

Body weight (in g): 40 - 65 (1, p. 3)

Average: 55.2 (3, p. 8)

Range: 46.4-63.7 (3, p. 8)

Dates of Breeding Period:Late April through August(1, p. 5-6)

Locations known to occur: Illinois (Bond, Clinton, Cook, Fayette, Franklin, Jefferson, Lake, Moultrie, Shelby Counties), Indiana, Michigan (Alger, Alpena, Benzie, Barrien, Charlevoix, Cheboygan, Chippewa, Delta, Emmet, Losco, Leelanau, Luce, Mackinac, Manistee, Mason, Muskegon, Presque Isle, Schoolcraft Counties), Minnesota (Lake of the Woods County), Mississippi (Hancock, Harrison, Jackson Counties), New York, Ohio (Ashtabula, Cuyahoga, Erie, Lake, Lorain, Lucas, Ottawa, Sandusky Counties), Pennsylvania (Erie County), Wisconsin (Ashland, Douglas, Manitowoc, Marinette Counties) (4)

Federal lands or Indian reservations species is known to occur: (6)

|  |  |  |
| --- | --- | --- |
| Federal Land Name | Owner | State(s) |
| Bad River Indian Reservation - Open Water | BIA (Bureau of Indian Affairs) - Open Water | WI |
| Hiawatha National Forest | FS | MI |
| Apostle Islands National Lakeshore | NPS | WI |
| Sleeping Bear Dunes National Lakeshore | NPS | MI |
| Sleeping Bear Dunes National Lakeshore - Open Water | NPS | MI |
| Gateway National Recreation Area | NPS | NY |
| Gateway National Recreation Area - Open Water | NPS | NY |
| Fire Island National Seashore | NPS | NY |
| Gulf Islands National Seashore | NPS | MS |
| Fire Island National Seashore - Open Water | NPS | NY |
| Gulf Islands National Seashore - Open Water | NPS | MS |
| Oyster Bay National Wildlife Refuge - Open Water | FWS | NY |
| Naval Construction Batallion Center | Navy | MS |
| Nordhouse Dunes Wilderness - Manistee National Forest | FS | MI |
| Fire Island Wilderness - Fire Island National Seashore | NPS | NY |

Migratory: Yes (2, p. 79)

Diet: invertebrates in/on beaches that are 0.4 in or less below the surface (1, p. 6)

Invertebrates include: insects (flies, beetles, wasps, bees), crustaceans, mollusks (1, p. 6)

Relevant EFED model(s): T-REX and KABAM (T-REX applicable only in combination with AgDRIFT because they feed on beaches)

Habitat: Shorelines of the Great Lakes (1, p. 1)

Sparsely vegetated beaches, cobble paths, sand spits (1, p. ii)

Habitat size (home range): 20 sq. km (based on one population) (2, p. 23)

Elevation restriction: None reported

Obligate relationships: None noted in available USFWS documentation. Reviewer believes that there are no obvious obligate relationships related to diet or habitat.

Comments:

Body weight data from source 3 are from birds located in New York.

Birds may renest once if their first nest is destroyed (1, p. 5).

Chicks are precocial and can feed themselves within a few hours of hatching (1, p. 5).

“With one reported plover death from pesticide use, and with the causative pesticide now removed from use, this threat to piping plovers in the U.S. currently appears low.” (2, p. 50)

Nearly all the critical habitat currently used for nesting is located in Michigan (2, p. 79).

There are six nesting pairs scattered across the public and private lands of the Apostle Islands National Lakeshore of Wisconsin (2, p. 78).

Regular to intermittent reports of piping plovers during the migratory period have been from several locations throughout the Great Lakes basin. Sites with more regular occurrences of migrating piping plovers include Indiana Dunes National Lakeshore in Indiana and Illinois Beach State Park in Illinois. Sites with infrequent occurrences of piping plovers during migration include Mentor Headlands Beach and Sheldon Marsh in Ohio, Presque Isle State Park in Pennsylvania, and Point Pelee and Long Point in Ontario (2, p. 79).

Birds migrate to the Great Lakes breeding areas between mid-February and March. Birds leave the breeding areas between mid-July and early September (1, p. 16).

Name of data extractor and date: Brian Anderson, 1/23/12

QC reviewer (date): Jean Holmes, 3/9/2012

Kris Garber, 5/21/12

Sources:

1. USFWS. 2003. Recovery plan for the Great Lakes piping plover (*Charadrius melodus*). United States Fish and Wildlife Service. Available online at: <http://ecos.fws.gov/docs/recovery_plan/030916a.pdf>
2. 5-year review: Summary and Evaluations. Species Profile FWS website.
3. Dunning, J.B. 1984. Body weights of 686 species of North American Birds. Western Bird Banding Association. Monograph number 1. May 1984.
4. Species Profile for Piping Plover (*Charadrius melodus*). Available online at: <http://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B079>. Accessed 5/21/12.
5. Federal Register Vol. 67, No. 176; [Endangered and Threatened Wildlife and Plants; Designation of Critical Habitat for the Northern Great Plains Breeding Population of the Piping Plover; Final Rule](http://ecos.fws.gov/docs/federal_register/fr3943.pdf) ; <http://ecos.fws.gov/docs/federal_register/fr3943.pdf>
6. FESTF. 2012. Coincidence of ESA-listed species with federal lands and proximity to outer boundary. FIFRA Endangered Species Task Force. Data submitted to EPA March 2012.

**Species (common name): *Charadrius melodus* (Piping plover), All birds not listed as endangered, including the Atlantic Coast and Northern Great Plains Breeding Populations, Migrating Individuals and Wintering Individuals**

Listed status: Threatened

Designated critical habitat? Yes (1, p. 1)

Primary Constituent Elements: Wintering piping plover’s PCEs are the habitat components that support foraging, roosting, and sheltering and the physical features necessary for maintaining the natural processes that support these habitat components. The primary constituent elements are:

(1) Intertidal sand beaches (including sand flats) or mud flats (between the MLLW and annual high tide) with no, or very sparse, emergent vegetation for feeding. In some cases, these flats may be covered or partially covered by a mat of blue-green algae.

(2) Unvegetated or sparsely vegetated sand, mud, or algal flats above annual high tide for roosting. Such sites may have debris or detritus and may have micro-topographic relief (less than 20 in (50 cm) above substrate surface) offering refuge from high winds and cold weather.

(3) Surf-cast algae for feeding.

(4) Sparsely vegetated backbeach, which is the beach area above mean high tide seaward of the dune line, or in cases where no dunes exist, seaward of a delineating feature such as a vegetation line, structure, or road. Backbeach is used by plovers for roosting and refuge during storms.

(5) Spits, especially sand, running into water used for foraging and roosting.

(6) Salterns, or bare sand flats in the center of mangrove ecosystems that are found above mean high water and are only irregularly flushed with sea water.

(7) Unvegetated washover areas with little or no topographic relief for feeding and roosting. Washover areas are formed and maintained by the action of hurricanes, storm surges, or other extreme wave actions.

(8) Natural conditions of sparse vegetation and little or no topographic relief mimicked in artificial habitat types (e.g., dredge spoil sites). This final designation is designed for the conservation of the PCEs necessary to support the life history functions that were the basis for the proposal and the areas containing those PCEs in the appropriate spatial arrangement essential for the conservation of the species where it winters. Because not all life history functions require all the PCEs, not all critical habitat will contain all the PCEs. Furthermore, because this revised critical habitat designation is only for the wintering piping plover population in Texas, we did not consider features that are essential to the conservation of the species where it breeds. (6, p. 23485)

Spatial data in recovery plan? Yes (1, p. 2)

Population size (most current estimate):

Northern Great Plains breeding population: 2953 adults (1, p. 1)

Atlantic Coast Population: 2920 adults (1, p. 1)

Body weight (in g): 40 - 65 (1, p. 3)

Average: 55.2 (4, p. 8)

Range: 46.4-63.7 (4, p. 8)

Dates of Breeding Period:March through August(3, p. 5)

Locations known to occur:

Atlantic Coast Breeding Population: Connecticut (Fairfield, Middlesex, New Haven, New London Counties), Delaware (Sussex County), Maine (Cumberland, Sagadahoc, York Counties), Maryland (Worchester County), Massachusetts (Barnstable, Bristol, Dukes, Essex, Nantucket, Plymouth, Suffolk Counties), New Hampshire (Rockingham County), New Jersey (Atlantic, Cape May, Monmouth, Ocean Counties), New York (Bronx, Nassau, Queens, Suffolk Counties), North Carolina (Brunswick, Carteret, Currituck, Dare, Hyde, New Hanover, Onslow, Pender Counties), Rhode Island (Newport, Washington Counties), Virginia (Accomack, Hampton, Northampton, Portsmouth, Virginia Beach Counties) (1, p. 2; 5)

Northern Great Plains Breeding Population: Colorado (Adams, Arapahoe, Bent, Boulder, Broomfield, Clear Creek, Crowley, Denver, Douglas, Elbert, El Paso, Gilpin, Jackson, Jefferson, Kiowa, Larimer, Lincoln, Logan, Morgan, Otero, Park, Prowers, Sedgwick, Teller, Washington, Weld Counties), Iowa (Pottawattamie, Woodbury Counties), Kansas (Barton, Clark, Pottawatomie, Riley, Wabaunsee Counties), Montana (Garfield, McCone, Phillips, Pondera, Richland, Roosevelt, Sheridan, Valley Counties), Nebraska (Boyd, Brown, Buffalo, Butler, Cass, Cedar, Colfax, Cuming, Custer, Dawson, Dixon, Dodge, Douglas, Gosper, Hall, Hamilton, Holt, Howard, Kearney, Keith, Keya Paha, Knox, Lincoln, Madison, Merrick, Nance, Phelps, Platte, Polk, Rock, Sarpy, Saunders, Sherman, Stanton, Valley Counties), North Dakota (Benson, Burke, Burleigh, Divide, Dunn, Eddy, Emmons, Foster, Kidder, Logan, McHenry, McIntosh, McKenzie, McLean, Mercer, Morton, Mountrail, Oliver, Pierce, Renville, Sheridan, Sioux, Stutsman, Ward, Wells, Williams Counties), Oklahoma (Adair, Alfalfa, Atoka, Beaver, Beckham, Blaine, Bryan, Caddo, Canadian, Carter, Cherokee, Choctaw, Cimarron, Cleveland, Coal, Comanche, Cotton, Craig, Creek, Custer, Delaware, Dewey, Ellis, Garfield, Garvin, Grady, Grant, Greer, Harmon, Harper, Haskell, Hughes, Jackson, Jefferson, Johnston, Kay, Kingfisher, Kiowa, Latimer, Le Flore, Lincoln, Logan, Love, Major, Marshall, Mayes, McClain, McCurtain, McIntosh, Murray, Muskogee, Noble, Nowata, Okfuskee, Oklahoma, Okmulgee, Osage, Ottawa, Pawnee, Payne, Pittsburg, Pontotoc, Pottawatomie, Pushmataha, Roger Mills, Rogers, Seminole, Sequoyah, Stephens, Texas, Tillman, Tulsa, Wagoner, Washington, Washita, Woods, Woodward Counties), South Dakota (Bon Homme, Brule, Burralo, Campbell, Charles Mix, Clay, Corson, Day, Dewey, Gregory, Haakon, Hughes, Hyde, Kingsbury, Lyman, Potter, Stanley, Sully, Union, Walworth, Yankton, Ziebach Counties) (1, p. 2; 5)

Winter Population: Alabama (Baldwin, Mobile Counties), Arkansas (Benton, Chicot, Clark, Conway, Crawford, Crittenden, Cross, Desha, Faulkner, Hot Spring, Johnson, Lafayette, Lee, Litter River, Logan, Lonoke, Miller, Mississippi, Perry, Phillips, Pope, Prairie, Pulaski, Sebastian, Washington, White, Yell Counties), Florida (Bay, Charlotte, Collier, Esccambia, Franklin, Fulf, Indian River, Lee, Martin, Miami-Dade, Monroe, Okaloosa, Palm Beach, Santa Rosa, Sarasota, St. Lucie, Wakulla, Walton Counties), Louisiana (Cameron, Jefferson, Lafourche, Plaquemines, St. Bernard, St. Mary, Terrebonne, Vermilion Parishes), New Mexico (Colfax, Socorro Counties), North Carolina (Brunswick, Carteret, Currituck, Dare, Hyde, New Hanover, Onslow, Pender Counties), South Carolina (Beaufort, Charleston, Colleton, Georgetown, Horry, Jasper Counties), Texas (Aransas, Brazoria, Calhoun, Cameron, Chambers, Dallas, Delta, Denton, Galveston, Grayson, Jefferson, Kenedy, Kleberg, Matagorda, Nueces, Refugio, San Patricio, Throckmorton, Willacy Counties) (1, p. 2; 5)

Federal lands or Indian reservations species is known to occur: (8)

|  |  |  |
| --- | --- | --- |
| Federal Land Name | Owner | State(s) |
| Blackfeet Indian Reservation | BIA (Bureau of Indian Affairs) | MT |
| Fort Berthold Indian Reservation | BIA (Bureau of Indian Affairs) | ND |
| Fort Peck Indian Reservation | BIA (Bureau of Indian Affairs) | MT |
| Santee Sioux Indian Reservation | BIA (Bureau of Indian Affairs) | NE |
| Spirit Lake Indian Reservation | BIA (Bureau of Indian Affairs) | ND |
| Tyndall Air Force Base | Air Force | FL |
| Fort Peck Lake | Army Corps of Engineers | MT |
| John Martin Reservoir | Army Corps of Engineers | CO |
| Lake Oahe | Army Corps of Engineers | ND, SD |
| Lake Sakakawea | Army Corps of Engineers | ND |
| Lake Sakakawea - Fort Berthold Indian Reservation | Army Corps of Engineers, BIA (Bureau of Indian Affairs) | ND |
| Lake Sharpe | Army Corps of Engineers | SD |
| Lewis And Clark Lake | Army Corps of Engineers | NE, SD |
| Perry Lake | Army Corps of Engineers | KS |
| Santa Rosa Lake | Army Corps of Engineers | NM |
| Wilson Lake | Army Corps of Engineers | KS |
| Craney Island Disposal Area | Army | VA |
| Angostura Reservoir | BOR | SD |
| Nelson Reservoir | BOR | MT |
| Camp Lejeune Marine Corps Base | Marine Corps | NC |
| Camp Lejeune Marine Corps Base - Open Water | Marine Corps | NC |
| Black Hills National Forest | FS | SD, WY |
| Shoshone National Forest | FS | WY |
| Buffalo Gap National Grassland | FS | SD |
| Fort Pierre National Grassland | FS | SD |
| Little Missouri National Grassland | FS | ND |
| Timucuan Ecological And Historic Preserve - Open Water | NPS | FL |
| Gateway National Recreation Area | NPS | NY |
| Gateway National Recreation Area - Open Water | NPS | NY |
| Missouri National Recreational River | NPS | NE, SD |
| Cape Cod National Seashore | NPS | MA |
| Cape Hatteras National Seashore | NPS | NC |
| Cape Lookout National Seashore | NPS | NC |
| Cumberland Island National Seashore | NPS | GA |
| Fire Island National Seashore | NPS | NY |
| Gulf Islands National Seashore | NPS | FL |
| Padre Island National Seashore | NPS | TX |
| Assateague Island National Seashore - Open Water | NPS | MD, VA |
| Cape Cod National Seashore - Open Water | NPS | MA |
| Cape Lookout National Seashore - Open Water | NPS | NC |
| Cumberland Island National Seashore - Open Water | NPS | GA |
| Fire Island National Seashore - Open Water | NPS | NY |
| Gulf Islands National Seashore - Open Water | NPS | FL |
| Padre Island National Seashore - Open Water | NPS | TX |
| Aransas National Wildlife Refuge | FWS | TX |
| Arrowwood National Wildlife Refuge | FWS | ND |
| Audubon National Wildlife Refuge | FWS | ND |
| Bitter Lake National Wildlife Refuge | FWS | NM |
| Bon Secour National Wildlife Refuge | FWS | AL |
| Bosque del Apache National Wildlife Refuge | FWS | NM |
| Bowdoin National Wildlife Refuge | FWS | MT |
| Charles M. Russell National Wildlife Refuge | FWS | MT |
| Chincoteague National Wildlife Refuge | FWS | VA |
| Currituck National Wildlife Refuge | FWS | NC |
| DeSoto National Wildlife Refuge | FWS | IA, NE |
| J. Clark Salyer National Wildlife Refuge | FWS | ND |
| Key West National Wildlife Refuge | FWS | FL |
| Lake George National Wildlife Refuge | FWS | ND |
| Lake Ilo National Wildlife Refuge | FWS | ND |
| Lake Nettie National Wildlife Refuge | FWS | ND |
| Long Lake National Wildlife Refuge | FWS | ND |
| Lostwood National Wildlife Refuge | FWS | ND |
| Lower Rio Grande Valley National Wildlife Refuge | FWS | TX |
| Maxwell National Wildlife Refuge | FWS | NM |
| Medicine Lake National Wildlife Refuge | FWS | MT |
| National Key Deer Refuge | FWS | FL |
| Ninigret National Wildlife Refuge | FWS | RI |
| Parker River National Wildlife Refuge | FWS | MA |
| Pea Island National Wildlife Refuge | FWS | NC |
| Pleasant Lake National Wildlife Refuge | FWS | ND |
| Quivira National Wildlife Refuge | FWS | KS |
| Rachel Carson National Wildlife Refuge | FWS | ME |
| Rose Lake National Wildlife Refuge | FWS | ND |
| Saint Vincent National Wildlife Refuge | FWS | FL |
| Stewart Lake National Wildlife Refuge | FWS | ND |
| Stump Lake National Wildlife Refuge | FWS | ND |
| Trustom Pond National Wildlife Refuge | FWS | RI |
| Union Slough National Wildlife Refuge | FWS | IA |
| Upper Souris National Wildlife Refuge | FWS | ND |
| Wassaw National Wildlife Refuge | FWS | GA |
| Breton National Wildlife Refuge - Open Water | FWS | LA |
| Key West National Wildlife Refuge - Open Water | FWS | FL |
| Laguna Atascosa National Wildlife Refuge - Open Water | FWS | TX |
| Monomoy National Wildlife Refuge - Open Water | FWS | MA |
| Oyster Bay National Wildlife Refuge - Open Water | FWS | NY |
| Pea Island National Wildlife Refuge - Open Water | FWS | NC |
| Ten Thousand Islands National Wildlife Refuge - Open Water | FWS | FL |
| Public Domain Land BLM | BLM | CO |
| Public Domain Land BLM | BLM | MT |
| Public Domain Land BLM | BLM | MT, ND |
| Public Domain Land BLM | BLM | NM |
| Public Domain Land BLM | BLM | SD |
| Benson County Waterfowl Production Area | FWS | ND |
| McHenry County Waterfowl Production Area | FWS | ND |
| Pierce County Waterfowl Production Area | FWS | ND |
| Bosque del Apache Wilderness - Bosque del Apache National Wildlife Refuge | FWS | NM |
| Breton Wilderness - Breton National Wildlife Refuge | FWS | LA |
| Chase Lake Wilderness - Chase Lake National Wildlife Refuge | FWS | ND |
| Medicine Lake Wilderness - Medicine Lake National Wildlife Refuge | FWS | MT |
| Monomoy Wilderness -Monomoy National Wildlife Refuge | FWS | MA |
| Marjory Stoneman Douglas Wilderness - Everglades National Park - Open Water | NPS | FL |
| Fire Island Wilderness - Fire Island National Seashore | NPS | NY |

Migratory: Yes (2, p. 79)

Diet: invertebrates in/on beaches that are 0.4 in or less below the surface (1, p. 6)

Invertebrates include: insects (flies, beetles, wasps, bees), crustaceans, mollusks, marine worms (1, p. 6)

Relevant EFED model(s): T-REX and KABAM (T-REX applicable only in combination with AgDRIFT because they feed on beaches)

Habitat: Beaches of the Atlantic coast and along alkali wetlands and major rivers of the Northern Great Plains (1, p. 1).

Habitat size (home range): 20 km^2 based on one population (2, 5-yr review, p. 23)

Elevation restriction: None reported

Obligate relationships: None noted in available USFWS documentation. Reviewer believes that there are no obvious obligate relationships related to diet or habitat.

Comments:

The Atlantic Coast Population breeds on costal beaches from Newfoundland to South Carolina and Winters in the Caribbean and on the Atlantic Coast of North Carolina, South Carolina, Georgia, Florida and the Gulf Coast (3, p. iii).

“With one reported plover death from pesticide use, and with the causative pesticide now removed from use, this threat to piping plovers in the U.S. currently appears low.” (2 p. 50).

Atlantic coast breeding chronology provided on p. 5 of source 3.

Birds migrate to the Great Lakes breeding areas between mid-February and March. Birds leave the breeding areas between mid-July and early September (1, p. 16).

Name of data extractor and date: Brian Anderson, 1/23/12

QC reviewer (date): Jean Holmes, 3/9/2012

Kris Garber, 5/21/12

Sources:

1. USFWS. 2003. Recovery plan for the Great Lakes piping plover (*Charadrius melodus*). United States Fish and Wildlife Service. Available online at: <http://ecos.fws.gov/docs/recovery_plan/030916a.pdf>
2. 5-year review: Summary and Evaluations. Species Profile FWS website.
3. USFWS. 1996. Piping plover (*Charadrius melodus*), Atlantic Coast Population, Revised Recovery Plan. United States Fish and Wildlife Service. Available online at: <http://ecos.fws.gov/docs/recovery_plan/960502.pdf>
4. Dunning, J.B. 1984. Body weights of 686 species of North American Birds. Western Bird Banding Association. Monograph number 1. May 1984.
5. Species Profile for Piping Plover (*Charadrius melodus*). Available online at: <http://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B079>. Accessed 5/21/12.
6. Federal Register Vol. 74, No. 95; [Revised Designation of Critical Habitat for the Wintering Population of the Piping Plover (Charadrius melodus) in North Carolina; Final Rule](http://www.gpo.gov/fdsys/search/citation.result.FR.action?federalRegister.volume=2008&federalRegister.page=62816&publication=FR)  ;<http://www.gpo.gov/fdsys/pkg/FR-2009-05-19/pdf/E9-11245.pdf#page=1>
7. Federal Register Vol. 73, No. 204; http://www.gpo.gov/fdsys/pkg/FR-2008-10-21/pdf/E8-23206.pdf#page=1
8. FESTF. 2012. Coincidence of ESA-listed species with federal lands and proximity to outer boundary. FIFRA Endangered Species Task Force. Data submitted to EPA March 2012.

**Species (common name): *Chasiempis sandwichensis ibidis* (Oahu Elepaio)**

Listed status: Endangered (1, p. 2-13)

Designated critical habitat? Yes

Primary Constituent Elements: The primary constituent elements required by the Oahu elepaio for foraging, sheltering, roosting, nesting, and rearing of young are undeveloped wet, mesic, and dry forest habitats composed of native or introduced plant species. Higher population density can be expected in tall, closed canopy riparian forest than in low scrubby forest on ridges and summits. In addition, the primary constituent elements associated with the biological needs of dispersal and genetic exchanges among populations are undeveloped wet or dry shrub land and wet or dry cliff habitats. Elepaio may not establish territories in shrub or cliff habitats and may use them only transiently, but areas containing these habitats are important for linking populations by providing the opportunities for dispersal and genetic exchange. Within the forests and shrub lands providing the primary constituent elements, plant species composition varies with rainfall, elevation, and degree of habitat disturbance, and plant species occur in a variety of assemblages. Common native and introduced species within these plant assemblages include, but are not limited to, ohia (*Metrosideros polymorpha*), koa (*Acacia koa*), papala kepau (*Pisonia*

*umbellifera*), lama (*Diospyrossandwicensis*), mamaki (*Pipturusalbidus*), kaulu (*Sapindus oahuensis*), hame (*Antidesma platyphyllum*), alaa (*Pouteria sandwicensis*), aalii (*Dodonaea viscosa*), naupaka kuahiwi (*Scaevola* spp.), pukiawe (*Styphelia tameiameiae*), uluhe *Dicranopteris linearis*), guava (*Psidium guajava*), strawberry guava (*P. cattleianum*), mango (*Mangifera indica*), kukui (*Aleurites moluccana*), christmasberry (*Schinus terebinthifolius*), ti (*Cordyline terminalis*), rose apple (*Syzygium jambos*), mountain apple (*S. malaccense*), and Java plum (*S. cumini).* (2, p. 63760, 63761)

Spatial data in recovery plan? Yes

Population size (most current estimate): 1980 (1, p. 2-8)

Body weight (in g): 12.5 (1, p. 2-2)

Dates of Breeding Period:Nesting is from January through July (1 p. 2-4).

Locations known to occur: Hawaii (Honolulu County)

Federal lands or Indian reservations species is known to occur: (3)

|  |  |  |
| --- | --- | --- |
| Federal Land Name | Owner | State(s) |
| Dillinghan Air Force Base | Air Force | HI |
| Hickam Air Force Base | Air Force | HI |
| Wheeler Air Force Base | Air Force | HI |
| Fort Shafter | Army | HI |
| Helemano Military Reservation | Army | HI |
| Kahuku Training Area (Military Reservation) | Army | HI |
| Kamehameha Military Reservation | Army | HI |
| Kawailoa Training Area (Military Reservation) | Army | HI |
| Makua Military Reservation | Army | HI |
| Military Reservation | Army | HI |
| Schofield Barracks Military Reservation | Army | HI |
| Upper Kipapa Military Reservation | Army | HI |
| Wahiawa Naval Reservation | Army | HI |
| Schofield Barracks Military Reservation - Oahu Forest National Wildlife Refuge | Army | HI |
| Coast Guard Reservation | Coast Guard | HI |
| Government Reservation | GOV | HI |
| Pacific Tsunami Warning Center | NWS | HI |
| National Wildlife Refuge | FWS | HI |
| Barbers Point Naval Air Station (Closed) | Navy | HI |
| Ford Island Naval Station Annex | Navy | HI |
| Laulaulei Naval Reservation | Navy | HI |
| Naval Reservation | Navy | HI |
| Pearl Harbor Naval Station | Navy | HI |
| Wahiawa Naval Reservation | Navy | HI |
| Waimano Training School and Hospital | GOV | HI |

Migratory: No (1, p. 2-3)

Diet: Arthropods (spiders, fruit flies, moths and caterpillars) (1 p. 2-5).

Relevant EFED model(s): T-REX

Habitat: Forest (1, p. 2-5).

Habitat size (home range):Average territory size is 2 hectares (4.9 acres) (1 p. 2-3).

Elevation restriction: None listed

Obligate relationships: None noted in available USFWS documentation. Reviewer believes that there are no obvious obligate relationships related to diet or habitat.

Comments: -Juvenile `elepaio can be confused with juvenile `apapane (*Himatione sanguinea*), which are similar in size and overall color (1 p. 2-3).

- The total geographic area of all current populations is approximately 5,451 hectares (13,464 acres). The number of birds is divided almost evenly between the Wai`anae Mountains in the west and the Ko`olau Mountains in the east, with three relatively large populations in each mountain range (1 p. 2-8).

Name of data extractor and date: Brian Anderson, 1/9/12

QC reviewer (date): Jean Holmes, 3/9/2012

Sources:

1. Species specific recovery plan available on FWS website.

<http://ecos.fws.gov/docs/recovery_plan/060922a.pdf>

1. Federal Register Vol. 66 No. 237; [ETWP; Determination of Critical Habitat for the Oahu Elepaio (Chasiempis sandwichensis ibidis)](http://www.gpo.gov/fdsys/search/citation.result.FR.action?federalRegister.volume=2001&federalRegister.page=63752&publication=FR); <http://www.gpo.gov/fdsys/pkg/FR-2001-12-10/pdf/01-29475.pdf#page=1>
2. FESTF. 2012. Coincidence of ESA-listed species with federal lands and proximity to outer boundary. FIFRA Endangered Species Task Force. Data submitted to EPA March 2012.

**Species (common name):** *Coccyzus americanus* (Yellow billed cuckoo; Western DPS)

Listed status: Threatened (1)

Designated critical habitat? Yes (1)

Primary Constituent Elements: (4)

Primary Constituent Element 1—*Riparian woodlands*. Riparian woodlands with mixed willow cottonwood vegetation, mesquite-thorn-forest vegetation, or a combination of these that contain habitat for nesting and foraging in contiguous or nearly contiguous patches that are greater than 325 ft (100 m) in width and 200 ac (81 ha) or more in extent. These habitat patches contain one or more nesting groves, which are generally willow dominated, have above average canopy closure (greater than 70 percent), and have a cooler, more humid environment than the surrounding riparian and upland habitats.

Primary Constituent Element 2— *Adequate prey base*. Presence of a prey base consisting of large insect fauna (for example, cicadas, caterpillars, katydids, grasshoppers, large beetles, dragonflies) and tree frogs for adults and young in breeding areas during the nesting season and in post-breeding dispersal areas.

(3) Primary Constituent Element 3— *Dynamic riverine processes*. River systems that are dynamic and provide hydrologic processes that encourage sediment movement and deposits that allow seedling germination and promote plant growth, maintenance, health, and vigor (e.g. lower gradient streams and broad floodplains, elevated subsurface groundwater table, and perennial rivers and streams). This allows habitat to regenerate at regular intervals, leading to riparian vegetation with variously aged patches from young to old.

Spatial data in recovery plan? Not available

Population size (most current estimate): Not available

Body weight (in g): (2)

Adult males: 52.3-74.5 (n=6)

Adult females: 61.2-64.8 (n=3)

Dates of Breeding Period:May – October (2)

Locations known to occur:

Arizona (additional refinement needed): Apache, Cochise, Coconino, Gila, Graham, Greenlee, La Paz, Maricopa, Mohave, Navajo, Pima, Pinal, Santa Cruz, Yavapai, Yuma

California (additional refinement needed): Del Norte, Humboldt, Los Angeles, Mendocino, Modoc, San Luis Obispo, Santa Barbara, Santa Cruz, Siskiyou, Trinity, Ventura

Colorado: Alamosa, Archuleta, Conejos, Costilla, Delta, Dolores, Eagle, Garfield, Grand, Gunnison, Hinsdale, La Plata, Mesa, Mineral, Moffat, Montezuma, Montrose, Ouray, Pitkin, Rio Blanco, Rio Grande, Routt, Saguache, San Juan, San Miguel, Summit

Idaho: Ada, Bannock, Bingham, Blaine, Boise, Bonneville, Camas, Cassia, Clark, Custer, Elmore, Fremont, Jefferson, Kootenai, Lemhi, Lincoln, Madison, Minidoka, Owyhee, Power

Montana: Flathead, Lake, Missoula, Ravalli

Nevada (additional refinement needed): Clark, Elko, Lincoln, Lyon, Mineral, Nye

New Mexico: Bernalillo, Catron, Chaves, Cibola, Colfax, Dona Ana, Eddy, Grant, Hidalgo, Lincoln, Los Alamos, Luna, McKinley, Mora, Otero, Rio Arriba, Sandoval, San Juan, San Miguel, Santa Fe, Sierra, Socorro, Taos, Torrance, Valencia

Oregon: Benton, Clackamas, Clatsop, Columbia, Deschutes, Klamath, Lake, Lane, Linn, Malheur, Marion, Multnomah, Polk, Washington, Yamhill

Texas (additional refinement needed): Brewster, Culberson, El Paso, Hudspeth, Jeff Davis, Presidio

Utah: Beaver, Box Elder, Cache, Carbon, Daggett, Davis, Duchesne, Emery, Garfield, Grand, Iron, Juab, Kane, Millard, Morgan, Piute, Rich, Salt Lake, San Juan, Sanpete, Sevier, Summit, Tooele, Uintah, Utah, Wasatch, Washington, Wayne, Weber

Washington: Adams, Asotin, Benton, Chelan, Clallam, Clark, Columbia, Douglas, Ferry, Franklin, Garfield, Grant, Grays Harbor, Island, Jefferson, King, Kitsap, Kittitas, Klickitat, Lewis, Lincoln, Mason, Okanogan, Pacific, Pend Oreille, Pierce, San Juan, Skagit, Skamania, Snohomish, Spokane, Stevens, Thurston, Wahkiakum, Walla Walla, Whatcom, Whitman, Yakima

Wyoming: Carbon, Fremont, Lincoln, Sublette, Sweetwater, Teton, Uinta

(3)

Federal lands or Indian reservations species is known to occur: (5)

|  |  |  |
| --- | --- | --- |
| Federal Land Name | Owner | State(s) |
| Fort Hall Indian Reservation | BIA | ID |
| Navajo Indian Reservation | BIA | AZ-NM-UT |
| Nez Perce Indian Reservation | BIA | ID |
| Uintah and Ouray Indian Reservation | BIA | UT |
| Deseret Test Center | DOD | UT |
| Defense Depot Ogden (Closed) | DOD | UT |
| Snake River Birds of Prey National Conservation Area | BLM | ID |
| Boise National Forest | FS | ID |
| Cache National Forest | FS | ID-UT |
| Caribou National Forest | FS | ID-UT |
| Deschutes National Forest | FS | OR |
| Targhee National Forest | FS | ID-WY |
| Uinta National Forest | FS | UT |
| Timpanogos Cave National Monument | NPS | UT |
| Canyonlands National Park | NPS | UT |
| Capitol Reef National Park | NPS | UT |
| Grand Teton National Park | NPS | WY |
| Zion National Park | NPS | UT |
| Glen Canyon National Recreation Area | NPS | AZ-UT |
| Bear River Migratory Bird Refuge | FWS | UT |
| Camas National Wildlife Refuge | FWS | ID |
| Deer Flat National Wildlife Refuge | FWS | ID |
| Fish Springs National Wildlife Refuge | FWS | UT |
| Minidoka National Wildlife Refuge | FWS | ID |
| Ouray National Wildlife Refuge | FWS | UT |
| Public Domain Land BLM | BLM | AZ, CA, CO, ID, NV, OR, UT, WY |
| Beaver Dam Mountains Wilderness | BLM | AZ-UT |
| Lone Peak Wilderness, Uinta National Forest | FS | UT |
| Mount Timpanogos Wilderness, Uinta National Forest | FS | UT |
| Behind The Rocks Wilderness Study Area | BLM | UT |
| Black Butte Wilderness Study Area | BLM | ID |
| Canaan Mountain Wilderness Study Area | BLM | UT |
| Dirty Devil Wilderness Study Area | BLM | UT |
| Fish Springs Wilderness Study Area | BLM | UT |
| Indian Creek Wilderness Study Area | BLM | UT |
| The Watchman Wilderness Study Area | BLM | UT |

BILL WILLIAMS RIVER NATIONAL WILDLIFE REFUGE, BOSQUE DEL APACHE NATIONAL WILDLIFE REFUGE, BROWNS PARK NATIONAL WILDLIFE REFUGE, BUTTE SINK WILDLIFE MANAGEMENT AREA, CIBOLA NATIONAL WILDLIFE REFUGE HART MOUNTAIN NATIONAL ANTELOPE REFUGE, IMPERIAL NATIONAL WILDLIFE REFUGE, LESLIE CANYON NATIONAL WILDLIFE REFUGE, LITTLE PEND OREILLE NATIONAL WILDLIFE REFUGE, MAXWELL NATIONAL WILDLIFE REFUGE, OURAY NATIONAL WILDLIFE REFUGE, SACRAMENTO RIVER NATIONAL WILDLIFE REFUGE, SAN BERNARDINO NATIONAL WILDLIFE REFUGE, SEEDSKADEE NATIONAL WILDLIFE REFUGE, SEVILLETA NATIONAL WILDLIFE REFUGE, SHELDON NATIONAL WILDLIFE REFUGE, SUTTER NATIONAL WILDLIFE REFUGE (3)

Migratory: yes (2)

Diet: primarily insects (2)

Occasionally amphibians, lizards, bird eggs, chicks, seeds and fruit (2)

Relevant EFED model(s): T-REX

Habitat: Open woodland with clearings and scrubs that are associated with watercourses. Breeds in riparian areas. (2)

Habitat size (home range):foraging range10.8–28.3 ha (26.7-69.9 acres) (n = 4) (2)

Elevation restriction: None

Obligate relationships: None noted in available USFWS documentation. Reviewer believes that there are no obvious obligate relationships related to diet or habitat.

Comments:

Neotropical migrant. Breeds in the US. Arrives in April-May. Leaves September-November (2).

Insects consumed include caterpillars, katydids, cicadas, grasshoppers, and crickets (2).

Absent from urban areas (2)

Occupies gardens, abandoned farmland and overgrown fruit orchards (2)

Name of data extractor and date: Kris Garber (4/27/15)

QC reviewer (date): Elyssa Arnold (5/5/15)

Sources:

1. Master list from FWS
2. Hughes, Janice M. 1999. Yellow-billed Cuckoo (Coccyzus americanus), The Birds of North America Online (A. Poole, Ed.). Ithaca: Cornell Lab of Ornithology; Retrieved from the Birds of North America Online: <http://bna.birds.cornell.edu/bna/species/418>

[doi:10.2173/bna.418](http://dx.doi.org/10.2173/bna.418)

1. <http://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B06R>
2. <http://www.gpo.gov/fdsys/pkg/FR-2014-08-15/pdf/2014-19178.pdf>
3. FESTF. 2012. Coincidence of ESA-listed species with federal lands and proximity to outer boundary. FIFRA Endangered Species Task Force. Data submitted to EPA March 2012.

**Species (common name): *Colinus virginianus ridgwayi* (Masked Bobwhite Quail)**

Listed status: Endangered (3)

Designated critical habitat? No (3)

Primary Constituent Elements: Not applicable

Spatial data in recovery plan? Yes

Population size (most current estimate): Difficult to interpret from recovery plan; <1000, but approximately 300 to 500 individuals in one population segment (1, p. v, 9).

Body weight (in g): 178 (2, p. 7)

Date of Breeding period: Breeding typically begins in late July, males terminated calling the end of September (1, p. 13).

Locations known to occur: Pima County, **Arizona** (3)

Federal lands or Indian reservations species is known to occur: (5)

* Coronado National Forest (FS)
* Buenos Aires National Wildlife Refuge (FWS)

Migratory: No, (1, p. 76).

Diet: seeds (agricultural crops, grass, legume and weed), acorns, fruit (*Rubus, Prunus*), insects and leaves (ragweed*, Panicum, Euphorbia, Croton*) (1, p. 14) (4).

Relevant EFED model(s): T-REX

Habitat: savanna grasslands (1, p. 9)

Elevation restriction: None listed

Obligate relationships: None noted in available USFWS documentation. Reviewer believes that there are no obvious obligate relationships related to diet or habitat.

Comments

One population of approximately 300 to 500 individuals in South Central Arizona on the Buenos Aires National Wildlife Refuge (1, p. v).

Diet is primarily represented by seeds in fall, winter and early spring. Diet includes insects and vegetation during summer and early fall (1, p. 14).

Name of data extractor and date: Brian Anderson, 12/19/2011

QC reviewer (date): Jean Holmes, 3/5/2012

Sources:

1. Species specific recovery plan available on FWS website.
2. Dunning, J.B. 1984. Body weights of 686 species of North American Birds. Western Bird Banding Association. Monograph number 1. May 1984.
3. Species profile on FWS website: http://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B00Z.
4. Birds of North America species profile.
5. FESTF. 2012. Coincidence of ESA-listed species with federal lands and proximity to outer boundary. FIFRA Endangered Species Task Force. Data submitted to EPA March 2012.

**Species (common name): *Columba inornata wetmorei* (Puerto Rican Plain Pigeon)**

Listed status: Endangered (1, p. 2)

Designated critical habitat? No (4)

Primary Constituent Elements: Not applicable

Spatial data in recovery plan? Yes

Population size (most current estimate): 2011: 6,749 (1, p. 2).

Body weight (in g):

Adult average: 542 (3, p. 12)

Adult range 494-616 (estimate based on *Columbia livia*) (3, p. 12)

Breeding Period: Nest all year round.

Locations known to occur: **Puerto Rico**- Municipality of Cidra, and parts of the surrounding municipalities of Aguas Buenas, Aibonito, Caguas, Cayey, and Comerío in east-central Puerto Rico, municipalities of Aguadilla, Cabo Rojo, Camuy, Guayama, Luquillo, Mayagüez, Corozal, Morovis, Orocovis, Ponce, Utuado, Vega Alta, and Vieques (1, p. 9).

Federal lands or Indian reservations species is known to occur: None (4)

Migratory: No

Diet: plants (broadleaf) (2 p. 16), grass seeds, grains (1, p. 9)

Relevant EFED model(s): T-REX

Habitat:

Forest, agricultural areas, residential (1, p. 9).

Nesting, foraging, and roosting in trees at or near roads. It also may be found in areas of continuous secondary growth forest (e.g., gallery forests) or flying through farmlands and urban areas when traveling to feeding or roosting sites; also frequent dairy farms and croplands (1, p. 9).

Bamboo groves, hardwood canyons (2, p. 13)

Home Range: not indicated

Elevation restriction: not indicated

Obligate relationships: None noted in available USFWS documentation. Reviewer believes that there are no obvious obligate relationships related to diet or habitat.

Comments:

Plant species in the diet are royal palm (*Roystonea borinquena*), mountain immortelle (*Erythrina poeppigiana*), West Indies trema (*Trema lamarckiana*), white prickle (*Zanthoxylum martinicense*). (2, p. 16) All of these species may be considered broadleaf plants.

Individuals drink from blossoms of African tulip-tree (*Spathodea campanulata*), axils of bromeliads and ground puddles (2, p. 16).

Sites selected for nesting are characterized by the presence of dense vegetation and proximity to water (1, p. 10).

Peak of nest density usually occurs between the second week of April and second week 7 of June, with flocking behavior becoming conspicuous in July-August (Rivera-Milán 2001, p. 335, Rivera-Milán et al. 2003b, p. 471-476) (1, p. 6).

Puerto Rican Plain Pigeon is about the size and shape of the domestic pigeon (*Columbia livia*) (2, p. 3). Body weight data for the domestic pigeon were used as a surrogate for the Puerto Rican Plain Pigeon.

Name of data extractor and date: Valerie Woodard December 20, 2011

QC reviewer (date): Jean Holmes, 3/17/2012

Sources:

1. Five Year Review: [Puerto Rican plain pigeon or paloma sabanera (Patagioenas inornata wetmorei = Columba inornata wetmorei) 5-Year Review: Summary and Evaluation](http://ecos.fws.gov/docs/five_year_review/doc3952.pdf)
2. Species specific recovery plan available on FWS website. http://ecos.fws.gov/docs/recovery\_plan/821014.pdf
3. Dunning, J.B. 1984. Body weights of 686 species of North American Birds. Western Bird Banding Association. Monograph number 1. May 1984.
4. FESTF. 2012. Coincidence of ESA-listed species with federal lands and proximity to outer boundary. FIFRA Endangered Species Task Force. Data submitted to EPA March 2012.

**Species (common name): *Corvus hawaiiensis* (Hawaiian Crow)**

Listed status: Endangered (1, p. viii)

Designated critical habitat? No

Primary Constituent Elements: Not applicable

Spatial data in recovery plan? Yes (1)

Population size (most current estimate): Jan 2008: 56 in captivity at Keauhou and Maui Bird Conservation Centers (1, p. viii).

Body weight (in g):

Average female: 512±42.7 (2, p. 18)

Average male: 556±43.6 (2, p. 18)

Female range: 378-607 (2, p. 18)

Male range: 442-667 (2, p. 18)

Breeding Period: Nest construction begins in March; pairs will relay upon lost or removal of the first clutch and at times the second clutch. Incubation is 19-22 days and juveniles fledge approximately 40 days after hatching but remain near the ground for long periods (1, p. 1-8, 9).

Locations known to occur: Island of Hawaii and Maui. In captivity Keauhu and Maui Bird Conservation Centers on Hawaii and Maui islands respectively (1, p. viii).

Federal lands or Indian reservations species is known to occur: (5)

* National Guard Reservation (Army)
* Pohakuloa Training Area (Army)
* Hawaii Volcanoes National Park (NPS)
* Hakalau Forest National Wildlife Refuge (FWS)
* Hawaii Volcanoes Wilderness - Hawaii Volcanoes National Park (NPS)

Migratory: No

Diet: invertebrates, bird nestlings, fruit (1, p. I-8)

Carrion, flowers, nectar are minor components of the diet (1, p.I-8)

Relevant EFED model(s): T-REX

Habitat: dry and mesic forest (1, p. viii)

Home Range: Median reported =1,186 A with a range of 146-3,598 A. (1, p. I-15).

Elevation restriction: Historical: 300-1800 meters (1). 1976: Restricted to elevations between 900 and 1900 meters (1, p. 1-5).

Obligate relationships: None noted in available USFWS documentation. Reviewer believes that there are no obvious obligate relationships related to diet or habitat.

Comments: No known individuals in the wild (1, p. viii).

No body weight data could be locataed for the Hawaiian crow. A surrogate species, the Chihuahuan raven (*Corvus cryptoleucus*), was used to define body weights based on similar lengths. The length of the Hawaiian crow is 18-20 inches (3). The length of the Chihuahuan raven is 19.5 inches (4).

Resembles the common raven (*Corvus corax*) (1, p. 1-3). Body weight data for the common raven used as a surrogate for *C. hawaiiensis*. Body weight data were collected from individuals located in Alaska (2, p. 18).

Name of data extractor and date: Valerie Woodard December 20, 2011

QC reviewer (date): Jean Holmes, 3/9/2012

Kris Garber, 5/24/12

Sources:

1. Species specific recovery plan available on FWS website. http://ecos.fws.gov/docs/recovery\_plan/090417.pdf
2. Dunning, J.B. 1984. Body weights of 686 species of North American Birds. Western Bird Banding Association. Monograph number 1. May 1984.
3. Species profile for the Hawaiian crow (*Corvus hawaiiensis*). Available online at: <http://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B004>. Accessed 5/24/12.
4. Alsop, III, F.J. 2001. Birds of North America Western Region. Smithsonian Handbooks, New York, p. 490.
5. FESTF. 2012. Coincidence of ESA-listed species with federal lands and proximity to outer boundary. FIFRA Endangered Species Task Force. Data submitted to EPA March 2012.

**Species (common name): *Corvus kubaryi* (Mariana crow; Aga)**

Listed status: Endangered (1, p. iv)

Designated critical habitat? Yes

Primary Constituent Elements: In summary, the primary constituent elements required by the Mariana crow for the biological needs of foraging, sheltering, roosting, nesting, and rearing of young are found in areas that support limestone, secondary, ravine, swamp, agricultural, and coastal forests composed of native and introduced plant species. These forest types provide the primary constituent elements of:

(1) Emergent and subcanopy trees with dense cover for breeding such as fagot, pengua, ifit, ahgao, aabang, fig, yoga, and *Tristiropsis obtusangula* (faniok);

(2) Sufficient area of predominantly native limestone forest to allow nesting at least 950 ft (290 m) from the nearest road and 203 ft (62 m) from the nearest forest edge and to support Mariana crow breeding territories (approximately 30 to 91 ac (12 to 37 ha)) and foraging areas for nonbreeding juvenile crows; and

(3) Standing dead trees and plant species for foraging, such as *Aglaia mariannensis* (maypunayo), breadfruit, coconut palm, fagot, *Hibiscus tiliaceus* (pago), ifit, tangantangan, *Ochrosia mariannensis* (langiti), kafu, ahgao, fig, and yoga. (2, p.62948)

Spatial data in recovery plan? Yes (1, p. 6)

Population size (most current estimate): Approx. 85 pairs (170 individuals) on Rota and 10 individuals in Guam (1, p. iv, 6, 7).

Body weight (in g): 240 to 260 (1, p. 3)

Dates of Breeding Period:Year round (1, p. 18)

Locations known to occur: Guam, Northern Mariana islands

Federal lands or Indian reservations species is known to occur: None (3)

Migratory: No (1, p. 76)

Diet:

Fruit, seeds, foliage, and buds of trees; invertebrates (lepidopteran larvae, grasshoppers, mole crickets, praying mantis, earwigs, hermit crabs), reptiles (skinks, geckos), immature rats, bird eggs (1, p. 17)

Relevant EFED model(s): T-REX

Habitat: Forest (1)

Aga utilize a wide variety of forested habitats including limestone, strand, ravine, agricultural forests, and secondary forests. However, all evidence suggests aga are most abundant in native limestone forests. On both Guam and Rota, aga nests have been found exclusively in native tree species, and native trees also serve as the primary sources for foraging aga. (1, p. iv).

Habitat size (home range): Not reported

Elevation restriction: None listed

Obligate relationships: None noted in available USFWS documentation. Reviewer believes that there are no obvious obligate relationships related to diet or habitat.

Comments: This species is an omnivore, feeding on a wide variety of plants and animals (1, p. 16).

Name of data extractor and date: Brian Anderson, 1/7/12

QC reviewer (date): Jean Holmes, 3/5/2012

Sources:

1. Species specific recovery plan available on FWS website. <http://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B05X>
2. Federal Register Vol 69, No. 208; [Endangered and threatened wildlife and plants; designation of critical habitat for the mariana fruit bat and guam micronesian kingfisher on guam and the mariana crow on guam and in the commeonwealth of the northern mariana islands; final rule](http://ecos.fws.gov/docs/federal_register/fr4349.pdf); <http://ecos.fws.gov/docs/federal_register/fr4349.pdf>
3. FESTF. 2012. Coincidence of ESA-listed species with federal lands and proximity to outer boundary. FIFRA Endangered Species Task Force. Data submitted to EPA March 2012.

**Species (common name): *Corvus leucognaphalus* (White necked crow)**

Listed status: Endangered (1)

Designated critical habitat? No (1)

Comments:

**Presumed Extinct** – no data on diet or life history is available on the FWS website. Due to the presumption of extinction, no data collected on this species. (2)

Name of data extractor and date: Brian Anderson, 1/20/12

QC reviewer (date): Jean Holmes, 3/9/2012; Kris Garber (4/16/13)

Source:

1) http://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B08A

2) <http://www.fws.gov/caribbean/es/Endangered-Animals.html>

**Species (common name):** *Dendroica angelate* (Elfin-woods warbler)

Listed status: Candidate (1)

Designated critical habitat? No (1)

Primary Constituent Elements: Not applicable

Spatial data in recovery plan? Not available

Population size (most current estimate): Not available

Body weight (in g):

Adult 7.8±0.6 (6.9-8.8) (3)

Immature 7.4±1.1 (6.0-8.4) (3)

Dates of Breeding Period:March – June (3)

Locations known to occur: Cayey, Las Marias, Luquillo, Maricao, Rio Grande Counties in Puerto Rico (2)

Federal lands or Indian reservations species is known to occur:

The species has been found in Federal and Commonwealth forests and private lands: the Maricao, Toro Negro, and Carite Commonwealth Forests, managed by the Puerto Rico Department of Natural and Environmental Resources (DNER), and El Yunque National Forest, managed by the U.S. Forest Service. *Setophaga angelae* also has been found in private lands adjacent to these forests. (2)

Migratory: Yes (2)

Diet: insects (3)

Relevant EFED model(s): T-REX

Habitat: montane forest (2)

Dry slope forest, slope forest, mixed hardwood, exposed ridge woodland (2)

Habitat size (home range):Not available

Elevation restriction: 100 to 1,075 m (328 to 3,526 ft) (2)

Obligate relationships: None noted in available USFWS documentation. Reviewer believes that there are no obvious obligate relationships related to diet or habitat.

Comments:

Species migrates vertically in elevation (2)

Two populations exist (2)

Gleans insects from trees (3)

Name of data extractor and date: Kris Garber (4/28/15)

QC reviewer (date): Elyssa Arnold (5/5/15)

Sources:

1. Master list from FWS
2. <http://ecos.fws.gov/docs/candidate/assessments/2013/r4/B07V_V01.pdf>
3. Delannoy-Juliá, Carlos Alberto. 2009. Elfin-woods Warbler (*Setophaga angelae*), Neotropical Birds Online (T. S. Schulenberg, Editor). Ithaca: Cornell Lab of Ornithology; retrieved from Neotropical Birds Online: http://neotropical.birds.cornell.edu/portal/species/overview?p\_p\_spp=569996

**Species (common name): *Dendroica chrysopariai* (Golden-cheeked Warbler)**

Listed status: Endangered (1, p. iv)

Designated critical habitat? No (2)

Primary Constituent Elements: Not applicable

Spatial data in recovery plan? Yes (1, p. 5, 32)

Population size (most current estimate): 1990: 4,822-16,016 pairs (1, p. 18)

Body weight (in g):

Males (average): 10.2 (1, p. 2)

Females (average): 9.4 (1, p. 2)

Breeding Period: March-July (1, p. 13).

Locations known to occur: Breeds in Central Texas and winters in southern Mexico and North Central America (1, p. 1)

Bandera, Bastrop, Bell, Bexar, Blanco, Bosque, Burnet, Comal, Concho, Coryell, Dallas, Eastland, Edwards, Erath, Gillespie, Hamilton, Hays, Hood, Johnson, Kendall, Kerr, Kimble, Kinney, Lampasas, Lee, Llano, McLennan, Medina, Palo Pinto, Real, San Saba, Somervell, Stephens, Tom Green, Travis, Uvalde, Williamson counties (1, p. 4)

Federal lands or Indian reservations species is known to occur: (3)

* Camp Bullis (Army)
* Fort Hood (Army)
* Lake Travis (BOR)
* Balcones Canyonlands National Wildlife Refuge (FWS)

Migratory: Yes

Diet: insects (1, p. 16)

Relevant EFED model(s): T-REX

Habitat: Forest (1, p. 7)

Home Range: 1.3-2.4ha/territory (mean = 1/7 ha/territory) for territorial males. (1, p. 17)

Elevation restriction: None indicated

Obligate relationships: Requires bark strips from Ashe junipers (*Juniperus ashei*) to build nests (1, p. iv)

Comments: From July to Aug. species migrates south to southern Mexico and North Central America (1, p. 4). Migration records (1, p. 6)

Recovery plan indicates that this species frequents springs and seeps to bathe and drink (1, p. 8).

Name of data extractor and date: Valerie Woodard February 29, 2012

QC reviewer (date): Jean Holmes, March 30, 2012

Sources:

1. Species specific recovery plan available on FWS website.

<http://ecos.fws.gov/docs/recovery_plan/920930f.pdf>

1. USFWS Crit Hab List:

<http://ecos.fws.gov/tess_public/CriticalHabitat.do?nmfs=1>

1. FESTF. 2012. Coincidence of ESA-listed species with federal lands and proximity to outer boundary. FIFRA Endangered Species Task Force. Data submitted to EPA March 2012.

**Species (common name): *Empidonax traillii extimus* (Southwestern willow flycatcher)**

Listed status: Endangered (2)

Designated critical habitat? Yes (2)

Primary Constituent Elements: The primary constituent elements specific to the flycatcher are:

(1) Primary Constituent Element 1—*Riparian vegetation.* Riparian habitat along a dynamic river or lakeside, in a natural or manmade successional environment (for nesting, foraging, migration, dispersal, and shelter) that is comprised of trees and shrubs (that can include Gooddings willow, coyote willow, Geyer’s willow, arroyo willow, red willow, yewleaf willow, pacific willow, boxelder, tamarisk, Russian olive, buttonbush, cottonwood, stinging nettle, alder, velvet ash, poison hemlock, blackberry, seep willow, oak, rose, sycamore, false indigo, Pacific poison ivy, grape, Virginia creeper, Siberian elm, and walnut) and some combination of: (a) Dense riparian vegetation with thickets of trees and shrubs that can range in height from about 2 to 30 m (about 6 to 98 ft). Lower-stature thickets (2 to 4 m or 6 to 13 ft tall) are found at higher elevation riparian forests and tall-stature thickets are found at middleand lower-elevation riparian forests;

(b) Areas of dense riparian foliage at least from the ground level up to approximately 4 m (13 ft) above ground or dense foliage only at the shrub or tree level as a low, dense canopy; (c) Sites for nesting that contain a dense (about 50 percent to 100 percent) tree or shrub (or both) canopy (the amount of cover provided by tree and shrub branches measured from the ground); (d) Dense patches of riparian forests that are interspersed with small openings of open water or marsh or areas with shorter and sparser vegetation that creates a variety of habitat that is not uniformly dense. Patch size may be as small as 0.1 ha (0.25 ac) or as large as 70 ha (175 ac).

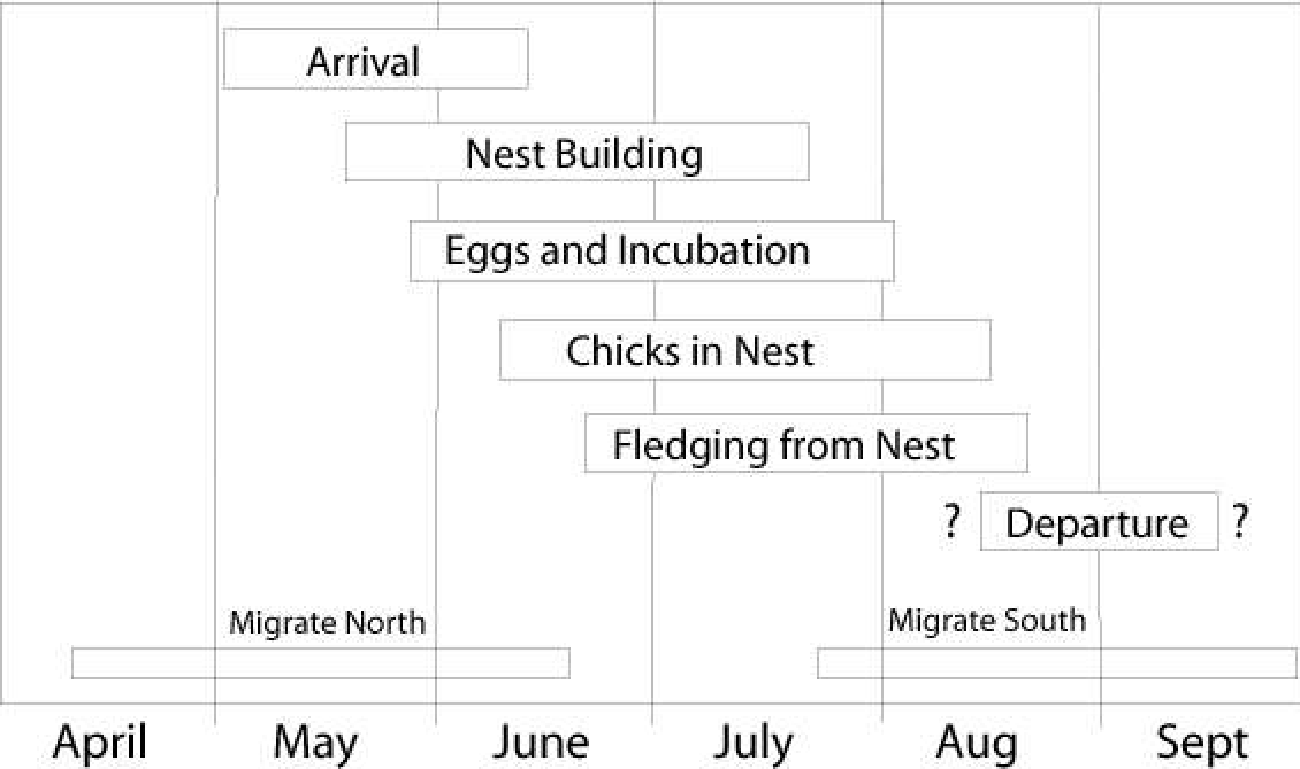
(2) Primary Constituent Element 2—*Insect prey populations.* A variety of insect prey populations found within or adjacent to riparian floodplains or moist environments, which can include: flying ants, wasps, and bees (Hymenoptera); dragonflies (Odonata); flies (Diptera); true bugs (Hemiptera); beetles (Coleoptera); butterflies, moths, and caterpillars (Lepidoptera); and spittlebugs (Homoptera). (3, p. 355,366)

Spatial data in recovery plan? Yes (1)

Population size (most current estimate): 900 to 1100 breeding pairs (1 p. iv).

Body weight (in g): 12 (1 p. 4)

Dates of Breeding Period:May through August (1 p. 21).



Locations known to occur: AZ, CA, CO, NV, NM, TX, UT) (2)

Far western Texas, New Mexico, Arizona, southern California, southern portions of Nevada and Utah, southwestern Colorado (1) iv.

Federal lands or Indian reservations species is known to occur: (4)

|  |  |  |
| --- | --- | --- |
| Federal Land Name | Owner | State(s) |
| Capitan Grande Indian Reservation | BIA (Bureau of Indian Affairs) | CA |
| Chemehuevi Indian Reservation | BIA (Bureau of Indian Affairs) | CA |
| Colorado River Indian Reservation | BIA (Bureau of Indian Affairs) | AZ, CA |
| Fort Apache Indian Reservation | BIA (Bureau of Indian Affairs) | AZ |
| Fort Mojave Indian Reservation | BIA (Bureau of Indian Affairs) | AZ, CA, NV |
| Fort Yuma Indian Reservation | BIA (Bureau of Indian Affairs) | CA |
| Hualapai Indian Reservation | BIA (Bureau of Indian Affairs) | AZ |
| Jicarilla Apache Indian Reservation | BIA (Bureau of Indian Affairs) | NM |
| Navajo Indian Reservation | BIA (Bureau of Indian Affairs) | AZ, NM, UT |
| Paiute Indian Reservation | BIA (Bureau of Indian Affairs) | UT |
| Pala Indian Reservation | BIA (Bureau of Indian Affairs) | CA |
| Picuris Indian Reservation | BIA (Bureau of Indian Affairs) | NM |
| San Carlos Indian Reservation | BIA (Bureau of Indian Affairs) | AZ |
| Taos Indian Reservation | BIA (Bureau of Indian Affairs) | NM |
| Uintah and Ouray Indian Reservation | BIA (Bureau of Indian Affairs) | UT |
| Indian Springs Air Force Auxiliary Field | Air Force | NV |
| Nellis Air Force Base | Air Force | NV |
| Isabella Reservoir | Army Corps of Engineers | CA |
| Yuma Proving Ground | Army | AZ |
| Bureau of Reclamation | BOR | NV |
| Alamo Lake | BOR | AZ |
| Apache Lake | BOR | AZ |
| Elephant Butte Reservoir | BOR | NM |
| Horseshoe Reservoir | BOR | AZ |
| Imperial Reservoir | BOR | AZ |
| Lake Mead | BOR | AZ, NV |
| Lake Mohave | BOR | AZ, NV |
| Lake Powell | BOR | AZ, UT |
| Theodore Roosevelt Lake | BOR | AZ |
| Camp Pendleton Marine Corps Base | Marine Corps | CA |
| Gila Box Riparian National Conservation Area - Public Domain Land | BLM | AZ |
| San Pedro Riparian National Conservation Area - Public Domain Land | BLM | AZ |
| Angeles National Forest | FS | CA |
| Apache National Forest | FS | AZ, NM |
| Carson National Forest | FS | NM |
| Cibola National Forest | FS | NM |
| Cleveland National Forest | FS | CA |
| Coconino National Forest | FS | AZ |
| Coronado National Forest | FS | AZ |
| Dixie National Forest | FS | UT |
| Fishlake National Forest | FS | UT |
| Gila National Forest | FS | NM |
| Los Padres National Forest | FS | CA |
| Manti-La Sal National Forest | FS | UT |
| Prescott National Forest | FS | AZ |
| San Bernardino National Forest | FS | CA |
| San Juan National Forest | FS | CO |
| Santa Fe National Forest | FS | NM |
| Sequoia National Forest | FS | CA |
| Toiyabe National Forest | FS | NV |
| Tonto National Forest | FS | AZ |
| Escalante National Monument | BLM | UT |
| Grand Canyon-Parashant National Monument | BLM | AZ |
| Petroglyph National Monument | NPS | NM |
| Tuzigoot National Monument | NPS | AZ |
| Bryce Canyon National Park | NPS | UT |
| Grand Canyon National Park | NPS | AZ |
| Zion National Park | NPS | UT |
| Glen Canyon National Recreation Area | NPS | AZ, UT |
| Lake Mead National Recreation Area | NPS | AZ, NV |
| Lake Mead National Recreation Area | NPS | NV |
| Lake Mead National Recreation Area - Grand Canyon-Parashant National Monument | NPS | AZ |
| Alamosa National Wildlife Refuge | FWS | CO |
| Ash Meadows National Wildlife Refuge | FWS | NV |
| Bill Williams River National Wildlife Refuge | FWS | AZ |
| Bosque del Apache National Wildlife Refuge | FWS | NM |
| Cibola National Wildlife Refuge | FWS | AZ, CA |
| Desert National Wildlife Range | FWS | NV |
| Havasu National Wildlife Refuge | FWS | AZ |
| Havasu National Wildlife Refuge | FWS | AZ, CA |
| Imperial National Wildlife Refuge | FWS | AZ, CA |
| Pahranagat National Wildlife Refuge | FWS | NV |
| San Diego National Wildlife Refuge | FWS | CA |
| Sevilleta National Wildlife Refuge | FWS | NM |
| Desert National Wildlife Range, Nellis Air Force Base | FWS, Air Force | NV |
| Public Domain Land | BLM | AZ |
| Public Domain Land | BLM | AZ, CA |
| Public Domain Land | BLM | AZ, CA, NV, UT |
| Public Domain Land | BLM | AZ, NM |
| Public Domain Land | BLM | CA |
| Public Domain Land | BLM | CO, UT, WY |
| Public Domain Land | BLM | NM |
| Public Domain Land | BLM | UT |
| Arrastra Mountain Wilderness, Public Domain Land | BLM | AZ |
| Dead Mountains Wilderness, Public Domain Land | BLM | CA |
| Domeland Wilderness, Public Domain Land | BLM | CA |
| Kiavah Wilderness, Public Domain Land | BLM | CA |
| Little Picacho Wilderness, Public Domain Land | BLM | CA |
| Rawhide Mountains Wilderness, Public Domain Land | BLM | AZ |
| Domeland Wilderness - Sequoia National Forest | FS | CA |
| Mt. Charleston Wilderness -Toiyabe National Forest | FS | NV |
| Salt River Canyon Wilderness -Tonto National Forest | FS | AZ |
| Weminuche Wilderness -San Juan National Forest | FS | CO |
| Bosque del Apache Wilderness - Bosque del Apache National Wildlife Refuge | FWS | NM |
| Havasu Wilderness - Havasu National Wildlife Refuge | FWS | AZ |
| Imperial Refuge Wilderness -Imperial National Wildlife Refuge | FWS | AZ |
| Imperial Refuge Wilderness -Imperial National Wildlife Refuge | FWS | CA |
| North Excalante Canyon/The Gulch Wilderness Study Area - Escalante National Monument, | BLM | UT |
| Paria-Hackberry Wilderness Study Area - Escalante National Monument | BLM | UT |
| Behind The Rocks Wilderness Study Area, Public Domain Land | BLM | UT |
| Desolation Canyon Wilderness Study Area, Public Domain Land | BLM | UT |
| Dirty Devil Wilderness Study Area, Public Domain Land | BLM | UT |
| The Watchman Wilderness Study Area, Public Domain Land | BLM | UT |
| Mount Stirling Wilderness Study Area - Toiyabe National Forest | FS | NV |
| Grand Canyon National Park Wilderness Study Area - Grand Canyon National Park | NPS | AZ |
| Lake Mead National Recreation Wilderness Study Area - Lake Mead National Recreation Area | NPS | AZ |

Note: List also includes land listed for the Willow flycatcher (*Empidonax traillii*)

Migratory: Yes (1 p. 4).

Diet: Insects (1 p. 26).

Relevant EFED model(s): T-REX

Habitat: -Breeding: Forested wetlands or scrub-shrub wetlands-dense riparian habitat of rivers, swamps, wetlands, lakes (1 p. iv).

-Wintering: brushy savanna edges, second growth, shrubby clearings and pastures, woodlands near water (1 p. iv).

Habitat size (home range)**:** Not indicated

Elevation restriction: None indicated

Obligate relationships: None noted in available USFWS documentation. Reviewer believes that there are no obvious obligate relationships related to diet or habitat.

Comments: Some plant material is also consumed, but it is considered negligible (1 p. 25).

Nesting habitat is in southwestern US and Northwestern Mexico (1, p. 4).

Flycatcher winters in Mexico, Central America and South America (1, p. 19). Therefore, this species is only located in the US during breeding, which occurs May through August (1 p. 21).

Name of data extractor and date: Brian Anderson, 1/20/2012

QC reviewer (date): Jean Holmes, 3/25/2012

Sources:

1. Species specific recovery plan available on FWS website.

<http://ecos.fws.gov/docs/recovery_plans/2002/020830c.pdf>

1. Species profile. Accessed 1/20/2012

<http://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B094>

1. Federal Register Vol. 78, No. 2. Endangered and Threatened Wildlife and Plants; Designation of Critical Habitat for Southwestern Willow Flycatcher. <http://www.gpo.gov/fdsys/pkg/FR-2013-01-03/pdf/2012-30634.pdf>
2. FESTF. 2012. Coincidence of ESA-listed species with federal lands and proximity to outer boundary. FIFRA Endangered Species Task Force. Data submitted to EPA March 2012.

**Species (common name):** *Eremophila alpestris strigata* (Streaked horned lark)

Listed status: Threatened (1)

Designated critical habitat? Yes (1)

Primary Constituent Elements: (5)

(i) Areas having a minimum of 16 percent bare ground that have sparse, low stature vegetation composed primarily of grasses and forbs less than 13 in (33 cm) in height found in:

a. Large (300-ac (120-ha)), flat (0–5 percent slope) areas within a landscape context that provides visual access to open areas such as open water or fields, or

b. Areas smaller than described in i(a), but that provide visual access to open areas such as open water or fields.

Spatial data in recovery plan? Not available

Population size (most current estimate): Not available

Body weight (in g):

Females: 30.8 (3)

Males: 31.9 (3)

Dates of Breeding Period:February – August (2)

Locations known to occur:

Oregon: Clackamas, Clatsop, Columbia, Lane, Linn, Marion, Multnomah, Polk, Washington, Yamhill

Washington: Grays Harbor, Mason, Pacific, Pierce, Thurston, Wahkiakum

(4)

Federal lands or Indian reservations species is known to occur: (6)

|  |  |  |
| --- | --- | --- |
| Federal Land Name | Owner | State(s) |
| Baskett Slough National Wildlife Refuge | FWS | OR |
| William L. Finley National Wildlife Refuge | FWS | OR |

ANKENY NATIONAL WILDLIFE REFUGE, BASKETT SLOUGH NATIONAL WILDLIFE REFUGE, JULIA BUTLER HANSEN REFUGE FOR THE COLUMBIAN WHITE-TAILED DEER, LEWIS AND CLARK NATIONAL WILDLIFE REFUGE, WILLAPA NATIONAL WILDLIFE REFUGE WILLIAM L. FINLEY NATIONAL WILDLIFE REFUGE (4)

Migratory: Yes (5)

Diet: mostly seeds, some insects during spring and fall (2)

Relevant EFED model(s): T-REX

Habitat: Breeding habitats may include “These habitats may be native prairies, coastal dunes, fallow and active agricultural fields, wetland mudflats, sparsely vegetated edges of grass fields, recently planted Christmas tree farms with extensive bare ground, moderately to heavily grazed pastures, gravel roads or gravel shoulders of lightly traveled roads, graveled or grassy areas adjacent to airport runways, idle industrial properties, and dredge material deposition sites.” (5)

Habitat size (home range):Not available

Elevation restriction: None

Obligate relationships: None noted in available USFWS documentation. Reviewer believes that there are no obvious obligate relationships related to diet or habitat.

Comments:

May use agricultural areas (5)

Migrate short distances to locations within Washington State (5)

Name of data extractor and date: Kris Garber (4/27/15)

QC reviewer (date): Elyssa Arnold (5/5/15)

Sources:

1. Master list from FWS
2. Beason, Robert C. 1995. Horned Lark (Eremophila alpestris), The Birds of North America Online (A. Poole, Ed.). Ithaca: Cornell Lab of Ornithology; Retrieved from the Birds of North America Online: <http://bna.birds.cornell.edu/bna/species/195>

[doi:10.2173/bna.195](http://dx.doi.org/10.2173/bna.195)

1. Dunning, J.B. 1984. Body weights of 686 species of North American Birds. Western Bird Banding Association. Monograph number 1. May 1984.
2. <http://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B0B3>
3. <http://www.gpo.gov/fdsys/pkg/FR-2013-10-03/pdf/2013-23552.pdf>
4. FESTF. 2012. Coincidence of ESA-listed species with federal lands and proximity to outer boundary. FIFRA Endangered Species Task Force. Data submitted to EPA March 2012.

**Species (common name): *Falco femoralis septentrionalis* (Northern aplomado falcon)**

Listed status: Endangered (1, p. 1)

Designated critical habitat? No

Primary Constituent Elements: Not applicable

Spatial data in recovery plan? Yes

Population size (most current estimate): No estimate found in recovery plan

Body weight (in g): 325 (sum of male and female body mass was listed as 650 grams) (1, p. 16)

Dates of Breeding Period:Nesting occurs from January through June in Eastern Mexico. Most eggs are set from April to May (1 p. 18).

Incubation lasts 31-32 days, nestlings fledge at 32-40 days, and post fledging dependence lasts approximately 4 weeks (Hector 1988). With a breeding season of 6 - 8 months (181-242 days) northern aplomado falcons could raise more than one brood per year. (1 p. 18).

Locations known to occur: Texas

“Laguna Atascosa National Wildlife Refuge and some private lands on its borders are the only areas in the United States categorized as habitat occupied by aplomado falcons in 1990 (Figure 5).” (1 p. 8).

Federal lands or Indian reservations species is known to occur: (2)

* Holloman Air Force Base (Air Force)
* White Sands Missile Range (Army)
* Coronado National Forest (FS); AZ, NM
* White Sands National Monument; White Sands Missile Range (NPS; Army)
* Public Domain Land (BLM)

Migratory: No (1, p. 18)

Diet: Small birds, insects, rodents, reptiles (1 p. 8).

Relevant EFED model(s): T-REX

Habitat: (1 p. 13).

Open terrain with scattered trees or shrubs.

Found along yacca covered sand ridges in costal praries

Riparian woodlands in open grasslands

Desert grasslands

Habitat size (home range):Approximately 8400 acres (estimated from regression) (1 p. 16).

Elevation restriction: None listed

Obligate relationships: None noted in available USFWS documentation. Reviewer believes that there are no obvious obligate relationships related to diet or habitat.

Comments: “Pesticide contamination may have further reduced habitat quality for northern aplomado falcons inhabiting the U.S. This is likely because: (1) this falcon is an upper trophic level predator; (2) nesting pairs were present in the U.S. at the beginning (post-1947) of the DDT era (Hector 1983, 1987); and (3) falcons nesting at the same time in eastern Mexico were heavily contaminated by residues of DDT” (1 p. 8).

Name of data extractor and date: Brian Anderson, 1/10/12

QC reviewer (date): Jean Holmes, 3/5/2012, K. Garber 2/15/13

Sources:

1. Species specific recovery plan available on FWS website.

<http://ecos.fws.gov/docs/recovery_plan/900608.pdf>

1. FESTF. 2012. Coincidence of ESA-listed species with federal lands and proximity to outer boundary. FIFRA Endangered Species Task Force. Data submitted to EPA March 2012.

**Species (common name): *Fulica alai* (Hawaiian coot or `alae ke`oke`o)**

Listed status: Endangered (1, p. 3)

Designated critical habitat? No (1, p. 3)

Primary Constituent Elements: Not applicable

Maps of locations/ranges in recovery plan? Yes (1)

Population size (most current estimate): 1500 winter, 2000 summer (3 p. 5).

Body weight (in g):

Male average = 724 (2)

Male range = 576-848 (2)

Female average = 560 (2)

Female range = 427-628 (2)

Locations known to occur: Hawaii (1 p. 11)

Ni`ihau, Kaua`i, O`ahu, Maui, Moloka`i, Lana`i, and Hawai`i (1)

-All the main Hawaiian islands except Kaho`olawe (3 p. 4).

Federal lands or Indian reservations species is known to occur: (4)

|  |  |  |
| --- | --- | --- |
| Federal Land Name | Owner | State(s) |
| Bellows Air Force Station | Air Force | HI |
| Dillinghan Air Force Base | Air Force | HI |
| Kahuku Training Area (Military Reservation) | Army | HI |
| Military Reservation | Army | HI |
| Upolu Point Loran Station | Coast Guard | HI |
| Government Reservation | GOV | HI |
| Kaneohe Marine Corps Air Station | Marine Corps | HI |
| Kaloko-Honokohau National Historical Park | NPS | HI |
| National Memorial Cemetery of the Pacific | VA | HI |
| Hanalei National Wildlife Refuge | FWS | HI |
| Huleia National Wildlife Refuge | FWS | HI |
| Kakahaiµa National Wildlife Refuge | FWS | HI |
| Kealia Pond National Wildlife Refuge | FWS | HI |
| Kii National Wildlife Refuge | FWS | HI |
| National Wildlife Refuge | FWS | HI |
| Punamano National Wildlife Refuge | FWS | HI |
| Barbers Point Naval Air Station (Closed) | Navy | HI |
| Laulaulei Naval Reservation | Navy | HI |
| Naval Reservation | Navy | HI |
| Pacific Missile Range Facility, Barking Sands | Navy | HI |
| Pearl Harbor Naval Station | Navy | HI |

Migratory: No (1 p. 11).

Date of Breeding Period: Year round; primarily March-September (1 p. 16)

Diet: aquatic plant seeds and leaves, aquatic invertebrates (snails, crustaceans, and insects), terrestrial insects, tadpoles, small fish (1 p. 17).

Relevant EFED model(s): T-REX, KABAM

Habitat: Wetlands, coastal ponds and playa wetlands, (1 p. 16).

- nest on open fresh water and brackish ponds, taro ponds, shallow reservoirs, irrigation ditches, and in small openings of marsh vegetation (1 p. 16).

- nest on shorelines or rocky islets (1 p. 16),

-nest on Agricultural habitats: taro ponds (1 p. 17).

-Aquaculture ponds, sewage treatment ponds, golf courses (1 p. 15).

Home range: Not indicated.

Elevation restriction: usually found below 400 m (1 p. 15).

Some birds use pools up to 2000 m (1 p. 15).

Obligate relationships: None noted in available USFWS documentation. Reviewer believes that there are no obvious obligate relationships related to diet or habitat.

Comments: Species is endemic to HI (1 p. 11).

Was once considered a subspecies of the American coot (*Fulica americana*) (1 p. 11).

Smaller than American coot (1 p. 11).

Generalist feeders (1 p. 17).

Graze on golf courses adjacent to wetlands (1 p. 17).

Note that body weights correspond to American coot.

Name of data extractor and date: Kris Garber, 9/15/11

QC reviewer (date): Jean Holmes, 3/30/12

Source(s):

1. Species specific recovery plan available on FWS website. <http://ecos.fws.gov/docs/recovery_plan/061213.pdf>
2. Dunning, J.B. 1984. Body weights of 686 species of North American Birds. Western Bird Banding Association. Monograph number 1. May 1984.
3. Hawaiian Coot or ala eke oke o (Fulica alai) 5-Year Review Summary and Evaluation <http://ecos.fws.gov/docs/five_year_review/doc3337.pdf>
4. FESTF. 2012. Coincidence of ESA-listed species with federal lands and proximity to outer boundary. FIFRA Endangered Species Task Force. Data submitted to EPA March 2012.

**Species (common name): *Gallinula chloropus guami* (Mariana common moorhen)**

Listed status: Endangered (3)

Designated critical habitat? No (3)

Primary Constituent Elements: Not applicable

Spatial data in recovery plan? Yes

Population size (most current estimate): 180 to 425 (1 p. iii).

Body weight (in g): 334 ±24.6 (2, p. 8)

Dates of Breeding Period:Breeds throughout the year (1 p. 17)

Locations known to occur: Northern Mariana Islands and Guam (1 p. 4)

Guam County in **Guam** (3)

Northern Islands, Rota, Saipan, and Tinian counties of **Northern Mariana Islands.** (3)

Federal lands or Indian reservations species is known to occur: None (4)

Migratory: No (1 p. 18)

Diet: Plant and animal matter in or near water; grass, adult insects, and insect larvae (1 p. 18).

Relevant EFED model(s): T-REX, KABAM

Habitat: freshwater marshes, ponds, and placid rivers, although it can occasionally be seen far from wetland areas (1 p. 16).

Habitat size (home range):No information available (1 p. 18).

Elevation restriction: None listed

Obligate relationships: None noted in available USFWS documentation. Reviewer believes that there are no obvious obligate relationships related to diet or habitat.

Comments:

Moorhen are probably opportunistic feeders, so the diet varies with the particular habitat (1 p. 18).

Habitat: man-made as well as natural wetlands are used. They have been observed in commercial fish ponds, taro patches, rice paddies, sewage treatment plants and reservoirs. (1 p. 16)

Body weight based on the common moorhen (*Gallinula chloropus*).

Name of data extractor and date: Brian Anderson, 1/16/2012

QC reviewer (date): Jean Holmes, 3/5/2012

Sources:

1. Species specific recovery plan available on FWS website.

<http://ecos.fws.gov/docs/recovery_plan/910928.pdf>

1. Dunning, J.B. 1984. Body weights of 686 species of North American Birds. Western Bird Banding Association. Monograph number 1. May 1984.
2. Species Profile FWS website: http://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B062
3. FESTF. 2012. Coincidence of ESA-listed species with federal lands and proximity to outer boundary. FIFRA Endangered Species Task Force. Data submitted to EPA March 2012.

**Species (common name): *Gallinula chloropus sandvicensis* (Hawaiian common moorhen or `alae `ula)**

Listed status: Endangered (1, p. 3)

Designated critical habitat? No (1, p. 3)

Primary Constituent Elements: Not applicable

Maps of locations/ranges in recovery plan? Yes (1)

Population size (most current estimate): < 450 winter, < 400 summer (3, p. 4).

Body weight (in g): 334 ±24.6 (2, p. 8)

Dates of Breeding Period: Year round, primarily March-August (1, p. 23).

Locations known to occur: Hawaii (3, p. 4).

Kaua’i and O’ahu islands (3, p. 4).

Federal lands or Indian reservations species is known to occur: (4)

|  |  |  |
| --- | --- | --- |
| Federal Land Name | Owner | State(s) |
| Bellows Air Force Station | Air Force | HI |
| Dillinghan Air Force Base | Air Force | HI |
| Kamehameha Military Reservation | Army | HI |
| Military Reservation | Army | HI |
| Government Reservation | GOV | HI |
| Kaneohe Marine Corps Air Station | Marine Corps | HI |
| Kaloko-Honokohau National Historical Park | NPS | HI |
| Hanalei National Wildlife Refuge | FWS | HI |
| Huleia National Wildlife Refuge | FWS | HI |
| Kakahaiµa National Wildlife Refuge | FWS | HI |
| Kii National Wildlife Refuge | FWS | HI |
| National Wildlife Refuge | FWS | HI |
| Punamano National Wildlife Refuge | FWS | HI |
| Barbers Point Naval Air Station (Closed) | Navy | HI |
| Laulaulei Naval Reservation | Navy | HI |
| Naval Reservation | Navy | HI |
| Pacific Missile Range Facility, Barking Sands | Navy | HI |
| Pearl Harbor Naval Station | Navy | HI |

Migratory: No (1, p. 18)

Diet: algae, aquatic insects, mollusks, fruit (guava), plants, grass seeds (1, p. 23).

Relevant EFED model(s): T-REX, KABAM

Habitat: Wetlands (1 p. iii)

Habitats are predominantly freshwater, but can be saltwater or brackish (1, p. 24)

Agricultural habitats: taro patches, lotus fields, irrigation ditches, wet pastures (1, p. 22, 24).

Home range: Territory size of nesting pairs range from 853 to 2,416 square meters (1, p. 23).

Elevation restriction: generally found below 125 m (1, p. 19).

Obligate relationships: None noted in available USFWS documentation. Reviewer believes that there are no obvious obligate relationships related to diet or habitat.

Comments: Species is endemic to HI (1)

Subspecies of the common moorhen (*Gallinula chlorpus*) (1, p. 18).

Similar in size to North American moorhens (1, p. 18).

Body weight based on the common moorhen (*Gallinula chloropus*).

Opportunistic feeders (1, p. 23).

Generally nest in areas with standing freshwater less than 60centimeters (24 inches) deep (1, p. 22).

For modeling purposes (with T-REX), it is assumed that this species may eat grass because 1) it is opportunistic and 2) it eats plants and 2) it eats grass seeds.

Name of data extractor and date: Kris Garber, 9/15/11

QC reviewer (date): Jean Holmes 3/30/12

Source(s):

1. USFWS. 2005. Draft revised recovery plan for Hawaiian waterbirds. United States Fish and Wildlife Service. Available online at: <http://ecos.fws.gov/docs/recovery_plan/061213.pdf>.
2. Dunning, J.B. 1984. Body weights of 686 species of North American Birds. Western Bird Banding Association. Monograph number 1. May 1984.
3. Hawaiian Common Moorhen or Ale aula (*Gallinula chloropus sandvicensis*) 5 Year Review Summary Evaluation: <http://ecos.fws.gov/docs/five_year_review/doc3340.pdf>
4. FESTF. 2012. Coincidence of ESA-listed species with federal lands and proximity to outer boundary. FIFRA Endangered Species Task Force. Data submitted to EPA March 2012.

**Species (common name):** *Gallicolumba stairi* (Friendly ground-dove; American Samoa DPS)

Listed status: Candidate (1)

Designated critical habitat? No (1)

Primary Constituent Elements: Not applicable

Spatial data in recovery plan? Not applicable

Population size (most current estimate): Not available

Body weight (in g): 58-154 (4)

Dates of Breeding Period:Not available

Locations known to occur: Manu’a County, American Samoa (2)

Federal lands or Indian reservations species is known to occur: None (5)

Migratory: No

Diet: omnivore (3)

Seeds, fruit (berries), buds, leaves, invertebrates (4)

Relevant EFED model(s): T-REX

Habitat: forest, brushy vegetation, bamboo thickets, steep slopes (3)

Habitat size (home range):Not available

Elevation restriction: None

Obligate relationships: None noted in available USFWS documentation. Reviewer believes that there are no obvious obligate relationships related to diet or habitat.

Comments:

Little information is available for this species.

It is assumed that this species does not migrate. USFWS species assessment form (3) indicates that this species is not expected to recolonize unoccupied islands far from American Samoa.

Species forages on ground (3)

Body weight data not available for this species. Body weight range applies to other species in the genus (4).

Name of data extractor and date: Kris Garber (4/29/15)

QC reviewer (date): Elyssa Arnold (5/6/15)

Sources:

1. Master list from FWS
2. <http://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B0AJ>
3. <http://ecos.fws.gov/docs/candidate/assessments/2014/r1/B0AJ_V01.pdf>
4. Gibbs, D. 2001. Pigeons and Doves: A Guide to the Pigeons and Doves of the World. Pica Press.
5. FESTF. 2012. Coincidence of ESA-listed species with federal lands and proximity to outer boundary. FIFRA Endangered Species Task Force. Data submitted to EPA March 2012.

**Species (common name): *Grus americana* (Whooping crane)**

Listed status: Endangered (1, p. xi)

Designated critical habitat? Yes (1, p. xi)

Primary Constituent Elements: Not applicable

Spatial data in recovery plan? Yes

Population size (most current estimate): approximately 473 (1 p. xi).

Body weight (in g): 5400 - 6400 (3, p. 8)

Dates of Breeding Period: April- September (1)

Migratory: Yes (1 p. 18)

Home Range: Not listed

Locations known to occur: Colorado, Kansas, Montana, Nebraska, North Dakota, Oklahoma, South Dakota, Texas – Experimental populations are located in other areas; however, those populations are not endangered or threatened (2)

Federal lands or Indian reservations species is known to occur: (4)

|  |  |  |
| --- | --- | --- |
| Federal Land Name | Owner | State(s) |
| Cheyenne River Indian Reservation | BIA (Bureau of Indian Affairs) | SD |
| Fort Berthold Indian Reservation | BIA (Bureau of Indian Affairs) | ND |
| Lower Brule Indian Reservation | BIA (Bureau of Indian Affairs) | SD |
| Pine Ridge Indian Reservation | BIA (Bureau of Indian Affairs) | SD |
| Rosebud Indian Reservation | BIA (Bureau of Indian Affairs) | SD |
| Santee Sioux Indian Reservation | BIA (Bureau of Indian Affairs) | NE |
| Standing Rock Indian Reservation | BIA (Bureau of Indian Affairs) | ND, SD |
| Wind River Indian Reservation | BIA (Bureau of Indian Affairs) | WY |
| Yankton Indian Reservation | BIA (Bureau of Indian Affairs) | SD |
| Harlan County Lake | Army Corps of Engineers | NE |
| Lake Francis Case | Army Corps of Engineers | SD |
| Lake Francis Case, Yankton Indian Reservation | Army Corps of Engineers, BIA (Bureau of Indian Affairs) | SD |
| Lake Oahe | Army Corps of Engineers | ND, SD |
| Lake Oahe, Standing Rock Indian Reservation | Army Corps of Engineers, BIA (Bureau of Indian Affairs) | ND, SD |
| Lake Sakakawea | Army Corps of Engineers | ND |
| Lake Sakakawea, Fort Berthold Indian Reservation | Army Corps of Engineers, BIA (Bureau of Indian Affairs) | ND |
| Lake Sharpe | Army Corps of Engineers | SD |
| Fort Carson Military Reservation | Army | CO |
| Fort Sill Military Reservation | Army | OK |
| Calamus Reservoir | BOR | NE |
| Harry Strunk Lake | BOR | NE |
| Shadehill Reservoir | BOR | SD |
| Public Domain Land | BOR | WY |
| Arapaho National Forest | FS | CO |
| Bridger National Forest | FS | WY |
| Nebraska National Forest | FS | NE |
| Teton National Forest | FS | WY |
| Buffalo Gap National Grassland | FS | SD |
| Fort Pierre National Grassland | FS | SD |
| Grand River National Grassland | FS | SD |
| Little Missouri National Grassland | FS | ND |
| Badlands National Park | NPS | SD |
| Grand Teton National Park | NPS | WY |
| Yellowstone National Park | NPS | ID, MT, WY |
| Missouri National Recreational River | NPS | NE, SD |
| Aransas National Wildlife Refuge | FWS | TX |
| Arapaho National Wildlife Refuge | FWS | CO |
| Audubon National Wildlife Refuge | FWS | ND |
| Bear Lake National Wildlife Refuge | FWS | ID |
| Bosque del Apache National Wildlife Refuge | FWS | NM |
| Des Lacs National Wildlife Refuge | FWS | ND |
| Fort Niobrara National Wildlife Refuge | FWS | NE |
| Grays Lake National Wildlife Refuge | FWS | ID |
| Lacreek National Wildlife Refuge | FWS | SD |
| Lake Ilo National Wildlife Refuge | FWS | ND |
| Long Lake National Wildlife Refuge | FWS | ND |
| Lostwood National Wildlife Refuge | FWS | ND |
| National Elk Refuge | FWS | WY |
| Pocasse National Wildlife Refuge | FWS | SD |
| Quivira National Wildlife Refuge | FWS | KS |
| Seedskadee National Wildlife Refuge | FWS | WY |
| Sevilleta National Wildlife Refuge | FWS | NM |
| Shell Lake National Wildlife Refuge | FWS | ND |
| Valentine National Wildlife Refuge | FWS | NE |
| Wichita Mountains National Wildlife Refuge | FWS | OK |
| Cokeville Meadows National Wildlife Refuge, Bear Valley Wetlands Study Area | FWS | WY |
| Public Domain Land | BLM | CO |
| Public Domain Land | BLM | ID, WY |
| Public Domain Land | BLM | SD |
| Public Domain Land | BLM | WY |
| Burke County Waterfowl Production Area | FWS | ND |
| Divide County Waterfowl Production Area | FWS | ND |
| Kidder County Waterfowl Production Area | FWS | ND |
| Oxford Slough Waterfowl Production Area | FWS | ID |
| Eagles Nest Wilderness - Arapaho National Forest | FS | CO |
| Ptarmigan Peak Wilderness - Arapaho National Forest | FS | CO |
| Bosque del Apache Wilderness - Bosque del Apache National Wildlife Refuge | FWS | NM |
| Chase Lake Wilderness - Chase Lake National Wildlife Refuge | FWS | ND |
| Lostwood Wilderness - Lostwood National Wildlife Refuge | FWS | ND |
| Badlands Wilderness -Badlands National Park | NPS | SD |
| Bear Valley Wetlands Study Area | FWS | WY |

Diet: **Omnivorous,** “Summer foods include large nymphal or larval forms of insects, frogs, rodents, small birds, minnows, and berries. Foods utilized during migration are poorly documented but include frogs, fish, plant tubers, crayfish, insects, and agricultural grains. The largest amount of time is spent feeding in harvested grain fields (Johns et al. 1997). The winter diet consists predominately of animal foods, especially blue crabs (*Callinectes sapidus*), clams (*Tagelus plebius, Ensis minor, Rangia cuneata, Cyrtopleura costada, Phacoides pectinata, Macoma constricta*), and the plant wolfberry (*Lycium carolinianum*)(Allen 1952, Uhler and Locke 1970, Blankinship 1976 and 1987, Hunt and Slack 1987, Chavez-Ramirez 1996). Most foraging occurs in the brackish bays, marshes, and salt flats on the edge of the mainland and on barrier islands.” (1 p. 8)

Relevant EFED model(s): T-REX, KABAM

Habitat: Variety of habitats, including coastal marshes and estuaries, inland marshes, lakes, ponds, wet meadows and rivers, and agricultural fields (1 p. xi).

Nesting habitat includes marshes and prairies; migratory habitat varies considerably and includes cropland; wintering habitat includes salt flats and marshes (1 p. 17-18).

Elevation restriction: None listed

Obligate relationships: None noted in available USFWS documentation. Reviewer believes that there are no obvious obligate relationships related to diet or habitat.

Comments:

Areas characterized by wetland mosaics appear to provide the most suitable stopover habitat (Johns et al. 1997, Richert et al. *Inpress*) (1 p. 18).

During migration, whooping cranes often are recorded in riverine habitats, especially in Nebraska (1 p. 18).

Cranes winter along the Gulf of Mexico at the Arasnas National Wildlife Revuge. They leave wintering grounds between March 25 and May 1. They migrate to their nesting grounds in Wood Buffalo National Park in Canada. In April, they begin to build their nests and lay their eggs from April to May. Eggs hatch 1 month later (May – June). Their activities are limited to the breeding grounds for a few months after the chicks hatch (until September). They migrate back to their wintering grounds between mid-September and mid-November (1, p. 5-6).

Whooping cranes are omnivorous (Walkinshaw 1973), probing the soil subsurface with their bills and taking foods from the soil surface or vegetation (1 p. 8).

Name of data extractor and date: Brian Anderson, 12/21/2011

QC reviewer (date): Jean Holmes, 3/9/2012

Sources:

1. Species specific recovery plan available on FWS website. <http://ecos.fws.gov/docs/recovery_plan/070604_v4.pdf>
2. Species profile from FWS website. http://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B003
3. Dunning, J.B. 1984. Body weights of 686 species of North American Birds. Western Bird Banding Association. Monograph number 1. May 1984.
4. FESTF. 2012. Coincidence of ESA-listed species with federal lands and proximity to outer boundary. FIFRA Endangered Species Task Force. Data submitted to EPA March 2012.

**Species (common name): *Grus canadensis pulla* (Mississippi sandhill crane)**

Listed status: Endangered (2)

Designated critical habitat? Yes (2)

Primary Constituent Elements: Not applicable

Spatial data in recovery plan? Yes (1)

Population size (most current estimate): Approximately 34 nesting pairs on the MS Sandhill Crane National Wildlife Refuge and approximately 80 to 90 total birds (1, p. 8).

Body weight (in g): 2450 - 6700 (3, p. 8)

Dates of Breeding Period: April – July (1, p. 5)

Migratory: No (1) n

America and the Soviet Union and in the winter migrate

Home Range: Nesting territories average about 180 ha (+/- 71 ha) (1, p. 5)

Locations known to occur: Jackson county, **Mississippi** (2); largely confined to the MS Sandhill Crane National Wildlife Refuge (1, p. 3).

Federal lands or Indian reservations species is known to occur: (4)

* DeSoto National Forest (FS)
* Mississippi Sandhill Crane National Wildlife Refuge (FWS)
* Bronson Field (Navy)
* Pensacola Naval Air Station (Navy)
* Saufley Field (Navy)

Diet: adult and larval insects, earthworms, crayfish, small reptiles, amphibians, (possibly small birds and mammals), roots, tubers, seeds, nuts, fruit, and leaves (1, p. 9)

They feed on farms nearby the refuge and may eat corn, chufa, pastures, pecan orchards. (1, p. 9)

Relevant EFED model(s): T-REX, KABAM, earthworm

Habitat: Savannas, swamps, pine plantations, and cleared land (primarily savannas) (1, p. 9)

Marshes are fresh or slightly brackish (1, p. 9)

Elevation restriction: None listed

Obligate relationships: None noted in available USFWS documentation. Reviewer believes that there are no obvious obligate relationships related to diet or habitat.

Comments: For modeling purposes, it is assumed that this species may consume amphibians located in aquatic habitats. The medium sized fish (100 g) was selected to represent this dietary item.

Body weight data based on other subspecies of sandhill crane (*i.e.,* *Grus canadensis canaensis, G.c. tabida, G.c. pratensis).*

Eggs are first laid in April. The incubation period is one month (i.e., hatch is in May). They fledge in about 75 days (i.e., in July) (1, p. 5).

Name of data extractor and date: Brian Anderson, 12/21/2011

QC reviewer (date): Jean Holmes, 3/5/2012

Sources:

1. Species specific recovery plan available on FWS website. <http://ecos.fws.gov/docs/recovery_plan/910906.pdf>
2. Species profile from FWS website. <http://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B04I#crithab>
3. Dunning, J.B. 1984. Body weights of 686 species of North American Birds. Western Bird Banding Association. Monograph number 1. May 1984.
4. FESTF. 2012. Coincidence of ESA-listed species with federal lands and proximity to outer boundary. FIFRA Endangered Species Task Force. Data submitted to EPA March 2012.

**Species (common name): *Gymnopyps californianus* (California Condor)**

Listed status: Endangered (1, p. v)

Designated critical habitat? Yes (2)

Primary Constituent Elements: Not applicable

Spatial data in recovery plan? Yes (1, p. 3)

Population size (most current estimate): 103 (86 are in captivity); the remaining 17 were captive-hatched and released into Santa Barbary and San Luis Obispo counties in Southern California (1 p. v).

Body weight (in g): 8500 - 14,000 (3, p. 5)

Dates of Breeding Period: December through spring months (1 p. 2).

Migratory: No

Locations known to occur: Arizona and California,

Apache, Coconino, Mohave, Navajo, and Yavapai counties in Arizona,

Inyo, Kern, Los Angeles, Mono, Monterey, San Benito, San Bernardino, San Luis Obispo, Santa Barbara, Tulare, Ventura counties in CA (2)

Federal lands or Indian reservations species is known to occur: (4)

|  |  |  |
| --- | --- | --- |
| Federal Land Name | Owner | State(s) |
| Lake Kaweah | Army Corps of Engineers | CA |
| Success Lake | Army Corps of Engineers | CA |
| Angeles National Forest | FS | CA |
| Los Padres National Forest | FS | CA |
| Sequoia National Monument, Sequoia National Forest | FS | CA |
| Bitter Creek National Wildlife Refuge | FWS | CA |
| Blue Ridge National Wildlife Refuge | FWS | CA |
| Hopper Mountain National Wildlife Refuge | FWS | CA |
| Public Domain Land | BLM | CA |
| Santa Lucia Wilderness, Public Domain Land | BLM | CA |
| Dick Smith Wilderness - Los Padres National Forest | FS | CA |
| Machesna Mountain Wilderness - Los Padres National Forest | FS | CA |
| Matilija Wilderness - Los Padres National Forest | FS | CA |
| San Rafael Wilderness - Los Padres National Forest | FS | CA |
| Santa Lucia Wilderness - Los Padres National Forest | FS | CA |
| Sespe Wilderness- Angeles National Forest | FS | CA |
| Sespe Wilderness - Los Padres National Forest | FS | CA |

Diet: Opportunistic scavengers; carcasses of dead mammals (1 p. 5, 6).

Relevant EFED model(s): T-REX

Habitat: Chaparral, coniferous forests, and oak savannah habitats in southern and central CA (1 p. v).

Elevation restriction: none listed

Obligate relationships: None noted in available USFWS documentation. Reviewer believes that there are no obvious obligate relationships related to diet or habitat.

Comments: California condors have been observed feeding on 24 different mammal species, including cattle, sheep, ground squirrels, mule deer and horses (1, p. 6).

On the Pacific Ocean’s shore, the diet may include marine mammals (1, p. 5)

Bin 1 not included for this species because species is primarily terrestrial.

Name of data extractor and date: Brian Anderson, 12/19/2011

QC reviewer (date): Jean Holmes, 12/25/2012, modified by K. Garber on 5/22/15

Sources:

1. Species specific recovery plan available on FWS website. <http://ecos.fws.gov/docs/recovery_plan/960425.pdf>
2. Species profile available on FWS website. <http://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B002#crithab>
3. Dunning, J.B. 1984. Body weights of 686 species of North American Birds. Western Bird Banding Association. Monograph number 1. May 1984.
4. FESTF. 2012. Coincidence of ESA-listed species with federal lands and proximity to outer boundary. FIFRA Endangered Species Task Force. Data submitted to EPA March 2012.

**Species (common name): *Halcyon cinnamomina cinnamomina* (Guam Micronesian Kingfisher)**

Listed status: Endangered (1, p. iv)

Designated critical habitat? Yes (1, p. 14)

Primary Constituent Elements: In summary, the primary constituent elements required for the Guam Micronesian kingfisher for the biological needs of foraging, sheltering, roosting, nesting, and rearing of young are found in areas that support limestone, secondary, ravine, swamp, agricultural, and coastal forests containing native and introduced plant species. These forest types include the primary constituent elements of:

(1) Closed canopy and well-developed understory vegetation; large (minimum of approximately 17 in (43 cm) dbh), standing dead trees (especially faniok, umumu, breadfruit, fig, and coconut palm); mud nests of *Nasutitermes* spp.jtermites; and root masses of epiphytic ferns for breeding;

(2) Sufficiently diverse structure to provide exposed perches and ground surfaces, leaf litter, and other substrates that support a wide range of vertebrate and invertebrate prey species for foraging kingfishers; and

(3) Sufficient overall breeding and foraging area to support kingfisher territories of approximately 25 ac (10 ha) each. (2, p.62948, 62949)

Spatial data in recovery plan? Yes

Population size (most current estimate): 100 in captivity (1, p. iv)

Body weight (in g):

Males: 50.5-63.8 (1, p. 5)

Females: 58-76 (1, p. 5)

Locations known to occur: Captive Breeding in 16 zoological institutions in the continental United States and at the Guam Division of Aquatic and Wildlife Resources Facility on Guam (1 p. 1).

Federal lands or Indian reservations species is known to occur: None (3)

Migratory: No

Diet: Feed entirely on animal matter including insects, worms, hermit crabs, crustaceans, birds/chicks, skinks, geckos, fish, rats (1 p. 12).

Relevant EFED model(s): T-REX, earthworm, KABAM

Dates of Breeding: December – July (1 p. 11).

Habitat: Limestone Forest, forest edges, coastal strand vegetation, riparian (1 p. 12)

Habitat range: Records indicate that the birds maintain year round territories averaging 10 hectares (25 acres) (1 p. 10).

Elevation restriction: Not indicated

Obligate relationships: None noted in available USFWS documentation. Reviewer believes that there are no obvious obligate relationships related to diet or habitat.

Comments: Closely related to Pohnpei and Palau Micronesian Kingfisher (1 p. 10)

Extirpated from the wild, only found in captivity (1, p. iv)

Requires large (17 inch diameter), standing dead trees for cavity nests (1, p. iv).

Prey are captured from the ground and bark of trees (1, p. 12)

Designated critical habitat is located on Guam National Wildlife Refuge in Guam(1, p. 14)

Name of data extractor and date: Valerie Woodard December 20, 2011

QC reviewer (date): Jean Holmes, 3/15/2012

Kris Garber, 5/23/12

Sources:

1. Species specific recovery plan available on FWS website.

[Revised Recovery Plan for Sihek or Guam Micronesian Kingfisher (Halcyon cinnamomina cinnamomina)](http://ecos.fws.gov/docs/recovery_plan/081114.pdf)

1. Federal Register /Vol. 69, No. 208.Endangered and Threatened Wildlife and Plants; Designation of Critical Habitat for the Mariana Fruit Bat and Guam Micronesian Kingfisher on Guam and the Mariana Crow on Guam and in the Commonwealth of the

Northern Mariana Islands. <http://ecos.fws.gov/docs/federal_register/fr4349.pdf>

1. FESTF. 2012. Coincidence of ESA-listed species with federal lands and proximity to outer boundary. FIFRA Endangered Species Task Force. Data submitted to EPA March 2012.

**Species (Honeycreepers): *Hemignathus affinis* (Maui Nukupu`u) and Hemignathus Hanapepe (Kauai Nukupu`u)**

Listed status: Endangered (2, p. 2-90)

Designated critical habitat? No (2)

Primary Constituent Elements: Not applicable

Spatial data in recovery plan? No

Population size (most current estimate): Several recent intensive surveys (1981 to 2000) have failed to find the Kaua`i nukupu`u (Pratt and Pyle 2000). However, skilled observers reported three (unconfirmed) sightings of Kaua`i nukupu`u in 1995 (1, p. 2-90).

Body weight (in g): 23 (1, p. 2-92)

Breeding Period: Nothing is known but likely similar to its closest relative. `akiapōlā`au (1, p. 2-89). Akiapōlā`au breeding period is mainly Feb-July, but can breed any month of the year (1, p. 2-97).

Locations known to occur: Hawaii, Southwestern slope of Kaua’i island (1)

Federal lands or Indian reservations species is known to occur: (4)

Two subspecies:

1. Kaua`i nukupu`u (*Hemignathus hanapepe*)

* Kokee Air Force Station (Air Force)

2. Maui nukupu`u (*Hemignathus affinis*)

* Haleakala National Park (NPS)
* Haleakala Wilderness - Haleakala National Park (NPS)

Migratory: No

Diet: insects (weevils, beetle larvae, Lepidoptera larvae, adult beetles), may take nectar from flowers (1, p. 2-89, 2-92)

Relevant EFED model(s): T-REX

Habitat: Forest (1, p. 2-89).

Home Range: Not indicated.

Elevation restriction: 610-1,220 meters (1, p. 2-90)

Obligate relationships: None noted in available USFWS documentation. Reviewer believes that there are no obvious obligate relationships related to diet or habitat.

Comments:

This species includes two subspecies that may survive: the Kaua`i nukupu`u (*Hemignathus lucidus hanapepe*) and the Maui nukupu`u (*Hemignathus lucidus affinis*) (1, p. 2-92).

Kaua`i nukupu`u differ from Maui nukupu`u by their larger size and subtle differences in plumage (1, p. 2-92).

This species feeds by probing bark, lichen and branches for insects (1, p. 2-92).

Name of data extractor and date: Valerie Woodard December 20, 2011

QC reviewer (date): Jean Holmes, 3/17/2012

Sources:

1. USFWS. 2006. Revised recovery plan for Hawaiian forest birds. United States Fish and Wildlife Service. Available online at: <http://ecos.fws.gov/docs/recovery_plan/060922a.pdf>
2. Species Profile FWS website: <http://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B048>
3. Birds of North America species profile.
4. FESTF. 2012. Coincidence of ESA-listed species with federal lands and proximity to outer boundary. FIFRA Endangered Species Task Force. Data submitted to EPA March 2012.

**Species (common name): *Hemignathus munroi* (Akiapola ̀au)**

Listed status: Endangered (2)

Designated critical habitat? No (2)

Primary Constituent Elements: Not applicable

Spatial data in recovery plan? Yes (1, p. 2-100)

Population size (most current estimate): Maybe 2,100 island-wide. For 1990-1995 was estimated at 1,163. (1 p. 2-100).

Body weight (in g): 28 (1, p. 2-96)

Dates of Breeding Period: Mainly Feb-July, but can breed any month of the year. (1 p. 2-97).

Locations known to occur: Island of Hawaii: Hamakua region; Ka ̀u/

Kapapala; Kulani; Keauhou ranch areas, Central and south Kona and Mauna Kea (1)

Federal lands or Indian reservations species is known to occur: (3)

* Pohakuloa Training Area (Army)
* Hawaii Volcanoes National Park (NPS)
* Hakalau Forest National Wildlife Refuge (FWS)
* Hawaii Volcanoes Wilderness - Hawaii Volcanoes National Park (NPS)

Migratory: No

Diet: Mainly insectivorous (moth, larvae spiders, long-horned beetle larvae) (1 p. 2-97)

Rarely drinks nectar from flowers but seen to drink sap from Ohi tree (1 p. 2-98).

Relevant EFED model(s): T-REX

Habitat: Forest (mountain mesic wet forest dominated by Koa and Ohi a or in subalpine dry forest dominated by mamane or naio1 p. 2-99. Although Koa/Ohi a forests occur below 1,300 meters, few Akiapola ̀au are found there (1, p. 2-99).

Home Range: 5-40 hectares (12-100 A) (1)

Elevation restriction: Although Koa/Ohi a forests occur below 1,300 meters, few Akiapola ̀au are found there (1, p. 2-99).

Obligate relationships: None noted in available USFWS documentation. Reviewer believes that there are no obvious obligate relationships related to diet or habitat.

Comments: None

Name of data extractor and date: Valerie Woodard December 20, 2011

QC reviewer (date): Jean Holmes, 3/15/2012

Sources:

1. Species specific recovery plan available on FWS website.

[Revised Hawaiian Forest Birds Recovery Plan](http://ecos.fws.gov/docs/recovery_plan/060922a.pdf)

1. Species profile on FWS site: <http://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B001>
2. FESTF. 2012. Coincidence of ESA-listed species with federal lands and proximity to outer boundary. FIFRA Endangered Species Task Force. Data submitted to EPA March 2012.

**Species (common name): *Hemignathus procerus* (Kauai Akialoa)**

Listed status: Endangered (2)

Designated critical habitat? No (2)

Primary Constituent Elements: Not applicable

Spatial data in recovery plan? No

Population size (most current estimate): Not seen since the late 1960s – may be extinct; however, additional survey effort is required to confirm this status (1, p. 2-87).

Body weight (in g): 34-38 (estimated, see comment below)

Breeding Period: Nothing was discovered regarding its nesting biology. (1, p. 2-86).

Locations known to occur: Kauai County in **Hawaii.** (2)

Federal lands or Indian reservations species is known to occur: None (3)

Diet: arthropods, nectar from flowers (1, p. 2-86).

Relevant EFED model(s): T-REX

Habitat: Forest (1, p. 2-86).

Home Range: May be extinct. Some possibility that may be in small remote areas or the location of the last reports of the species, which was on private land (1 p. 2-87).

Elevation restriction: above 200 meters (660 ft.) (1, p. 2-86).

Obligate relationships: None noted in available USFWS documentation. Reviewer believes that there are no obvious obligate relationships related to diet or habitat.

Comments: No body weight data have been located for *Hemignathus procerus*; however, body weight can be estimated using the ratio of length to weight of a similar species and the body weight of *H. procerus*, which is 17-19 cm (1, p. 2-86). *H. munroi*, which is in the same genus*,* is 14 cm in length and 28 g in weight (ratio of 0.5) (1, p. 2-96). Using this ratio, the estimated body weight for *H. procerus* is 34-38 g.

Name of data extractor and date: Valerie Woodard December 20, 2011

QC reviewer (date): Jean Holmes, 3/15/2012

Kris Garber, 5/23/12

Sources:

1. Species specific recovery plan available on FWS website.
2. Species Profile in Fish and Wildlife Service website: <http://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B000>
3. FESTF. 2012. Coincidence of ESA-listed species with federal lands and proximity to outer boundary. FIFRA Endangered Species Task Force. Data submitted to EPA March 2012.

**Species (common name): *Himantopus mexicanus* *knudseni* (Hawaiian stilt or ae`o)**

Listed status: Endangered (1, p. 3)

Designated critical habitat? No (1, p. 3)

Primary Constituent Elements: Not applicable

Maps of locations/ranges in recovery plan? Yes (1)

Population size (most current estimate): < 2,000 (3, p. 5).

-1200-1500 (1)

Body weight (in g): Average adult: 166 (2, p. 8)

Dates of Breeding Period: mid-February- August (normally but varies among years) (1, p. 30).

Locations known to occur: Hawaii (1 p. 25).

-Ni`ihau, Kaua`i, O`ahu, Maui, Moloka`i, Lana`i, and Hawai`i (1, p. 25).

-All the main Hawaiian islands except Kaho`olawe (3, p. 5).

Federal lands or Indian reservations species is known to occur: (4)

|  |  |  |
| --- | --- | --- |
| Federal Land Name | Owner | State(s) |
| Bellows Air Force Station | Air Force | HI |
| Dillinghan Air Force Base | Air Force | HI |
| Kamehameha Military Reservation | Army | HI |
| Military Reservation | Army | HI |
| Coast Guard Reservation | Coast Guard | HI |
| Government Reservation | GOV | HI |
| Kaneohe Marine Corps Air Station | Marine Corps | HI |
| Kaloko-Honokohau National Historical Park | NPS | HI |
| Hanalei National Wildlife Refuge | FWS | HI |
| Huleia National Wildlife Refuge | FWS | HI |
| Kakahaiµa National Wildlife Refuge | FWS | HI |
| Kealia Pond National Wildlife Refuge | FWS | HI |
| Kii National Wildlife Refuge | FWS | HI |
| National Wildlife Refuge | FWS | HI |
| Punamano National Wildlife Refuge | FWS | HI |
| Barbers Point Naval Air Station (Closed) | Navy | HI |
| Laulaulei Naval Reservation | Navy | HI |
| Naval Reservation | Navy | HI |
| Pacific Missile Range Facility, Barking Sands | Navy | HI |
| Pearl Harbor Naval Station | Navy | HI |

Migratory: No

Diet: aquatic invertebrates, fish, tadpoles (1, p. 31).

Relevant EFED model(s): KABAM

Habitat: -Wetlands (1)

Wetlands utilized most frequently are coastal wetlands (3, p. 7).

Agricultural habitats: taro ponds, sugarcane ponds (1, p. 28)

Water treatment, and aquaculture ponds (1, p. 28).

Wastewater treatment ponds (3, p. 29).

Home range: Disperse between various islands (1, p. 28).

Elevation restriction: rarely found above 200 m (1, p. 31).

Obligate relationships: None noted in available USFWS documentation. Reviewer believes that there are no obvious obligate relationships related to diet or habitat.

Comments: Species is endemic to HI (1)

Opportunistic feeders (1, p. 31).

Body weight from *Himantopus mexicanus* individuals located in CA (2)

Name of data extractor and date: Kris Garber, 9/15/11

QC reviewer (date): Jean Holmes, 3/30/12

Source(s):

1. USFWS. 2005. Draft revised recovery plan for Hawaiian waterbirds. United States Fish and Wildlife Service. Available online at: <http://ecos.fws.gov/docs/recovery_plan/061213.pdf>.
2. Dunning, J.B. 1984. Body weights of 686 species of North American Birds. Western Bird Banding Association. Monograph number 1. May 1984.
3. Hawaiian Stilt or Ae o (*Himantopus mexicanus knudseni*) 5-Year Review Summary and Evaluation: <http://ecos.fws.gov/docs/five_year_review/doc3341.pdf>
4. FESTF. 2012. Coincidence of ESA-listed species with federal lands and proximity to outer boundary. FIFRA Endangered Species Task Force. Data submitted to EPA March 2012.

**Species (common name): *Lanius ludovicianus mearnsi* (San Clemente Loggerhead shrike)**

Listed status: Endangered (2)

Designated critical habitat? No (2)

Primary Constituent Elements: Not applicable

Spatial data in recovery plan? No

Population size (most current estimate): 206 adults/juveniles (1 p. 2).

Body weight (in g): 45 – 50 (1, p. 4).

Dates of Breeding Period: November – April (March and April prime nesting period) (3 p. 74).

Locations known to occur: San Clemente Island, CA (1 p. 5).

Federal lands or Indian reservations species is known to occur: (4)

* San Clemente Island Naval Reservation (Navy)

Migratory: No (1 p. 5).

Diet: arthropods such as (Hymenoptera, Lepidoptera, Homoptera, and Orthoptera), reptiles (lizards), small mammals (mice) small birds (wrens, warblers) (1 p. 4).

Relevant EFED model(s): T-REX

Habitat: Sage scrub, coastal salt marsh, and island grassland (1 p. 4).

Habitat size (home range): not specified

Elevation restriction: none indicated

Obligate relationships: None noted in available USFWS documentation. Reviewer believes that there are no obvious obligate relationships related to diet or habitat.

Comments: - Utilize only island canyons for nesting activities (3)

Name of data extractor and date: Steve Carey 2/15/12

QC reviewer (date): Jean Holmes, 3/30/12

Sources:

1. San Clement Loggerhead Shrike (*Lanius ludovicianus mearnsi*) 5-Year Review: Summary and Evaluation: <http://ecos.fws.gov/docs/five_year_review/doc2631.pdf>
2. <http://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B05R>
3. California Channel Island Species Recovery plan (Species Profile FWS website).
4. FESTF. 2012. Coincidence of ESA-listed species with federal lands and proximity to outer boundary. FIFRA Endangered Species Task Force. Data submitted to EPA March 2012.

**Species (common name): *Loxiodes bailleui* (Palila)**

Listed status: Endangered (1, p. 2-68)

Designated critical habitat? Yes (1, p. 2-67)

Primary Constituent Elements: Not applicable

Spatial data in recovery plan? Yes (1, p. 2-62)

Population size (most current estimate): 2,640 (2, p. 8)

Body weight (in g): Adults: 38-40 (2, p. 7)

Dates of Breading Period: January-September: Nesting from as early as Jan/Feb, but usually March to early May and continues through Aug or mid Sept. Peak is May or June. (1 p. 2-58)

Locations known to occur: Mauna Kea, Hawaii (1, p. 2-61)

Federal lands or Indian reservations species is known to occur: (3)

* Pohakuloa Training Area (Army)
* Hakalau Forest National Wildlife Refuge (FWS)

Migratory: No

Diet: **flowers**, buds, and **leaves** of māmane (*Sophora chrysophylla;* Family: Fabaceae) and berries of naio (*Myoporum sandwicense*), **insects** (2, p. 7)

Insects are important to nestling diets (1, p. 2-57)

Relevant EFED model(s): T-REX

Habitat: Forest (1, p. 2-60)

Home Range: No more than one-third of the way around Mauna Kea island (1) 2-58. Male home range during nesting 23.4 +/- 4.8 acres; mean distance between center of daytime locations and the nests is 73 +/- 2.1 meters (1, p. 2-59).

Elevation restriction: upper elevation limit 2,850 meters, lower elevation limit 2,000 meters (2, p. 8).

Obligate relationships: adults prefer to eat primarily māmane seeds, leaves, flowers, buds, berries) (1, p. 2-57)

Comments:

Population estimate is from 2008.

Caterpillars and other insects are important in the diet of nestlings and are eaten frequently by adults (2, p. 7).

Palila moves “in response to the availability of māmane seeds” (1, 2-58)

As much as 96 percent of the entire wild palila population currently occurs

within about 30 square kilometers (11.6 square miles) of forest on the southwestern slope of Mauna Kea (USFWS 2006, page 2-71) (2, p. 8).

Name of data extractor and date: Valerie Woodard December 20, 2011

QC reviewer (date): Jean Holmes, 3/30/2012

Kris Garber (5/14/12)

Sources:

1. Species specific recovery plan available on FWS website.

[Revised Hawaiian Forest Birds Recovery Plan](http://ecos.fws.gov/docs/recovery_plan/060922a.pdf)

1. Palila, (*Loxioides bailleui*) 5-Year Review Summary and Evaluation, <http://ecos.fws.gov/docs/five_year_review/doc2542.pdf>
2. FESTF. 2012. Coincidence of ESA-listed species with federal lands and proximity to outer boundary. FIFRA Endangered Species Task Force. Data submitted to EPA March 2012.

**Species (common name): *Loxops caeruleirostris* (Akekee)**

Listed status: Endangered (1)

Designated critical habitat? Yes (2)

Primary Constituent Elements: Arthropod prey, montane mesid and montane wet forest (2).

Spatial data in recovery plan? No

Population size (most current estimate): 3536 ± 1030 (in 2007) (2, p. 18969)

Body weight (in g):

Mean: 10.8±0.8 (3)

Range: 9.5-12.5 (3)

Dates of Breeding Period: unknown

Migratory: No

Locations known to occur: Hawaii; Found only on the island of Kauai (1).

Federal lands or Indian reservations species is known to occur: None (4)

Diet: Arthropods (insects, insect larvae, spiders) (1).

Relevant EFED model(s): T-REX

Habitat: Montane mesic and montane wet ecosystems in forests dominated by *Metrosideros polymorpha*, *Acacia koa*, *Cheirodendron trigynum*, and *C. platyphyllum* (1).

Elevation restriction: None listed

Obligate relationships: This species is a specialist on the ohia tree (*Metrosideros polymorpha*) (1)

Comments: When foraging, this bird uses its bill to open flower and leaf buds (1)

Name of data extractor and date: Brian Anderson, 12/16/2011

QC reviewer (date): Jean Holmes, 3/15/2012, Kris Garber 2/15/13

Sources:

1. Species Profile FWS website. <http://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B0AF>
2. USFWS. 2010. Endangered and threatened wildlife and plants; determination of endangered status for 48 species on Kauai and designation of final critical habitat. Final rule. Available online at: <http://www.gpo.gov/fdsys/pkg/FR-2010-04-13/pdf/2010-1904.pdf#page=2>
3. Dunning, Jr. J.B. 2008. CRC handbook of avian body masses, second edition. CRC Press, Boca Raton, FL.
4. FESTF. 2012. Coincidence of ESA-listed species with federal lands and proximity to outer boundary. FIFRA Endangered Species Task Force. Data submitted to EPA March 2012.

**Species (common name): *Loxops coccineus coccineus* (Hawaii akepa)**

Listed status: Endangered (1)

Designated critical habitat? No (1)

Primary Constituent Elements: Not applicable

Spatial data in recovery plan? Yes

Population size (most current estimate): 12,000 (3, p. 7)

Body weight (in g): 10-12 (3, p. 7)

Dates of Breeding Period: Early March-late May (2, p. 2-125)

Locations known to occur: Island of Hawai’i (1)

Federal lands or Indian reservations species is known to occur: (4)

* Hawaii Volcanoes National Park (NPS)
* Hakalau Forest National Wildlife Refuge (FWS)
* Hawaii Volcanoes Wilderness - Hawaii Volcanoes National Park (NPS)

Migratory: No

Diet: arthropods (insects, spiders, caterpillars), nectar (rarely), berries (*Rubus hawaiiensis*) and leaves of broadleaf plants (*Myoporum sandicense, Dodonaea viscose, Styphelia tameiameiae, Coprosoma spp., Vaccinium calycinum* and *Rubus hawaiiensis*) (2 p. 2-126,127).

Relevant EFED model(s): T-REX

Habitat: Forest (old growth trees) (2, p. 2-127)

Home range: 12 to 15 acres during non-breeding and smaller range during breeding (2, p. 2-127).

Elevation restriction: > 1300 meters above sea level (3, p. 7, 8)

Obligate relationships: Obligate relationships: None noted in available USFWS documentation. Reviewer believes that there are no obvious obligate relationships related to diet or habitat.

Comments: This species must nest in cavities. Most often nests are found in large old-growth trees of *Metrosideros polymorpha* and *Acacia koa* (2, p. 2-125).

Breeding season from early March to late May; egg-laying from mid-March to late May; hatching late March to early June; Fledging from April 2 to June 30th. 1 Brood can be raised per year (2, p. 2-125).

Nestlings 6 days old weighed as much as their parents, and those 12 days old weighed up to 1.5 times that of their parents (2, p. 2-125).

Hawai`i `ākepa are currently found in four disjunct populations in `ōhi`a/koa forests in Hāmākua, Kūlani/Keauhou, Ka`ū, and southern Kona/Hualālai. The highest densities occur in the southwestern portion of the Ka`ū Forest Reserve and in the Pua `Ākala Tract of Hakalau Forest National Wildlife Refuge (Scott *et al.* 1986) (3, p. 9).

-Philopatric to breeding area maximum distance traveled is 5 km (3.1 miles) from breeding nest.

Name of data extractor and date: Brian Anderson, 12/16/2011

QC reviewer (date): Jean Holmes, 3/27/2012

Kris Garber, 5/23/12

Sources:

1. Species Specific Profile FWS website: <http://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B044>
2. Revised Recovery Plan for Hawaiian Forest Birds. USFWS. 2006 profile.
3. Hawai I Akepa (*Loxopscoccineus coccineus*) 5-Year Summary and Evaluation: <http://ecos.fws.gov/docs/five_year_review/doc3853.pdf>
4. FESTF. 2012. Coincidence of ESA-listed species with federal lands and proximity to outer boundary. FIFRA Endangered Species Task Force. Data submitted to EPA March 2012.

**Species (common name): *Loxops coccineus ochraceus* (Maui akepa)**

Listed status: Endangered (1)

Designated critical habitat? No (1)

Primary Constituent Elements: Not applicable

Spatial data in recovery plan? No

Population size (most current estimate): 230 +/- 290 individuals estimate was based on potentially confusing auditory detections (3 p. 9).

Body weight (in g): 10 - 12 (3 p. 7)

Dates of breeding period: Not indicated.

Locations known to occur: Hawaii, Island of Maui (1). Maui-the current population, if any, therefore remains undetected and most likely survives in the vicinity of the northeastern rift of Haleakalā, the location of the last reports (2 p. 2-136).

Federal lands or Indian reservations species is known to occur: (4)

* Haleakala National Park (NPS)
* Haleakala Wilderness - Haleakala National Park (NPS)

Migratory: no

Diet: arthropods (caterpillars, small spiders, beetles and other insects); will drink nectar (2 p. 2-135).

Relevant EFED model(s): T-REX

Habitat: Forest; mixed shrub montane forest (2 p. 2-135).

Home range: not indicated.

Elevation restriction: above 914-1219 meters (3 p. 8).

Obligate relationships: None noted in available USFWS documentation. Reviewer believes that there are no obvious obligate relationships related to diet or habitat.

Comments: Body weight based on the Hawai`i `ākepa (*Loxops coccineus coccineus).*

Name of data extractor and date: Brian Anderson, 12/16/2011

QC reviewer (date): Jean Holmes, 3/27/2012

Sources:

1. Species Specific Profile on FWS website:
2. Revised Recovery Plan for Hawaiian Forest Birds. USFWS. 2006.
3. Maui akepa (Loxopscoccineus ochaceus 5-Year Review Summary and Evaluation: <http://ecos.fws.gov/docs/five_year_review/doc3857.pdf>
4. FESTF. 2012. Coincidence of ESA-listed species with federal lands and proximity to outer boundary. FIFRA Endangered Species Task Force. Data submitted to EPA March 2012.

**Species (common name): *Megapodius laperouse* (Micronesian Megapode)**

Listed status: Endangered (1, p. 3)

Designated critical habitat? No

Primary Constituent Elements: Not applicable

Spatial data in recovery plan? Yes (1)

Population size (most current estimate): 1998: 1,440-1,975 through the Marianas. (1, p. iii)

Body weight (in g): Average: 350 (1, p. 4)

Breeding Period: Jan-Aug. Some islands-year around. (1, p. 6)

Locations known to occur: Mariana Islands. Islands of Aguiguan, Tinian, Saipan, Farallon de Medinilla, Anatahan, Guguan, Sarigan, Alamagan, Pagan, Ascuncion, Maug, and possibly Agrihan (1) Guam, Palau, Rota (N. Mariana Islands) (2)

Federal lands or Indian reservations species is known to occur: None (3)

Migratory: No but will fly between islands (1, p. 9, 10)

Diet: insects (beetles, ants, centipedes) and plant matter (seeds) (1, p. 10)

Relevant EFED model(s): T-REX

Habitat: Forest (1, p. 10)

Home Range: Does defend territory. Movements: 1984 seen within 70 meters; 1986 seen within 150 meters. Up to 2.5 kilometers for nesting activities; fly between islands (1, p. 9, 10)

Elevation restriction: none specified.

Obligate relationships: None noted in available USFWS documentation. Reviewer believes that there are no obvious obligate relationships related to diet or habitat.

Comments:

Species is an omnivore (1, p. 10)

Generally dependent on limestone forest. May use secondary forest adjacent to limestone forest. (1, p. iii)

Name of data extractor and date: Valerie Woodard December 20, 2011

QC reviewer (date): Jean Holmes, 3/17/2012

Kris Garber (5/14/12)

Sources:

1. Species specific recovery plan available on FWS website.
2. Species profile on FWS website.
3. FESTF. 2012. Coincidence of ESA-listed species with federal lands and proximity to outer boundary. FIFRA Endangered Species Task Force. Data submitted to EPA March 2012.

**Species (common name): *Melamprosops phaeosoma* (Po’ouli)**

Listed status: Endangered (2)

Designated critical habitat? No (2)

Primary Constituent Elements: Not applicable

Spatial data in recovery plan? No

Population size (most current estimate): 3 individuals (1, p. 2-148)

Body weight (in g): 26 (1, p. 2-144)

Dates of Breeding Period:Not listed, but Egg laying occurred in March in one pair (1 p. 2-145).

Locations known to occur: HI, 3200 acre section of forest on the northern and eastern slopes of Haleakala volcano, Maui (1) 2-146.

Federal lands or Indian reservations species is known to occur: (3)

* Haleakala National Park (NPS)
* Haleakala Wilderness - Haleakala National Park (NPS)

Migratory: No

Diet: invertebrates, primarily snails and beetles (1, p. 2-144).

Relevant EFED model(s): T-REX

Habitat: Montane wet forest

Habitat size (home range):not listed

Elevation restriction: 1440- 2100 m (4750 to 7000 ft) (1 p. 2-146).

Obligate relationships: None noted in available USFWS documentation. Reviewer believes that there are no obvious obligate relationships related to diet or habitat.

Comments:

Name of data extractor and date: Brian Anderson, 1/23/12

QC reviewer (date): Jean Holmes, 3/9/2012

Sources:

1. Species specific recovery plan available on FWS website.

<http://ecos.fws.gov/docs/recovery_plan/060922a.pdf>

1. Species Profile available on FWS website.

<http://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B04N#crithab>

1. FESTF. 2012. Coincidence of ESA-listed species with federal lands and proximity to outer boundary. FIFRA Endangered Species Task Force. Data submitted to EPA March 2012.

**Species (common name): *Moho braccatus* (Kauai Òo)**

Listed status: Endangered (1, p. 2-49)

Designated critical habitat? No (2)

Primary Constituent Elements: Not applicable

Spatial data in recovery plan? No (1)

Population size (most current estimate): 1981= 1 pair. Likely extinct (1, p. 2-48); however, recent 5-year review by USFWS does not recommend changing the status of this species to extinct based on possibility that it may exist.

Body weight (in g):

Male: 39 (5)

Female: 38 (5)

Dates of Breeding Period:

Locations known to occur: HI, Last known location was Central Alakà I Wilderness Preserve (1 p. 2-47).

Federal lands or Indian reservations species is known to occur: (3)

* Kokee Air Force Station (Air Force)
* NASA Tracking Station (NASA)
* Hanalei National Wildlife Refuge (FWS)

Migratory: No

Breeding Period: Little information is known about nesting. Two nestlings reported in June 1971 and two others monitored in late May and early June (1 p. 2-47).

Diet: insects, snails, moths, crickets, fruit, nectar from flowering plants (1 p. 2-48)

Relevant EFED model(s): T-REX

Habitat: Forest (1, p. 2-47)

Home Range: none indicated.

Elevation restriction: none indicated.

Obligate relationships: None noted in available USFWS documentation. Reviewer believes that there are no obvious obligate relationships related to diet or habitat.

Comments: None found during 1989, 1994, 2000 or 2005 surveys (1, p. 2-48).

Individuals in this species are 19.5 centimeters (7.7 inches) long, shorter-tailed, and somewhat smaller than the `ō`ō species in HI (1 p. 2-47).

Name of data extractor and date: Valerie Woodard December 22, 2011

QC reviewer (date): Jean Holmes, 3/17/2012

Sources:

1. Species specific recovery plan available on FWS website.

[Revised Hawaiian Forest Birds Recovery Plan](http://ecos.fws.gov/docs/recovery_plan/060922a.pdf)

1. Species Profile FWS website
2. FESTF. 2012. Coincidence of ESA-listed species with federal lands and proximity to outer boundary. FIFRA Endangered Species Task Force. Data submitted to EPA March 2012.
3. USFWS. 2009 5-yr review (<http://ecos.fws.gov/docs/five_year_review/doc2534.pdf>)
4. Dunning, Jr. J.B. 2008. CRC handbook of avian body masses, second edition. CRC Press, Boca Raton, FL.

**Species (common name): *Myadestes lanaiensis rutha* (Molokai Thrush or Olomà o)**

Listed status: Endangered (2)

Designated critical habitat? No (2)

Primary Constituent Elements: Not applicable

Spatial data in recovery plan? Yes (1, p. 2-29)

Population size (most current estimate): Not known if extinct. (1 p. 2-27).

Body weight (in g): 50 (based on closely related species: `ōma`o (*Myadestes obscurus*)) (3, Vol. 460 p. 2), (1 p. 2-26)

Breeding period: May be similar to closely related ̀Ōma Ò; fledglings tended for about 6 weeks. Successful `ōma`o parents can raise two broods per season. (1 p. 2-26/27).

Locations known to occur: Hawaii: Molokài Island (1 p. 2-27).

Federal lands or Indian reservations species is known to occur: (4)

* Kalaupapa National Historical Park (NPS)

Migratory: No

Diet: fruit, insects (1 p. 2-27).

Relevant EFED model(s): T-REX

Habitat: Forest (1 p. 2-27).

Home range: small (not defined) (1 p. 2-27).

Elevation restriction: above 1,000 meters (1 p. 2-27).

Obligate relationships: None noted in available USFWS documentation. Reviewer believes that there are no obvious obligate relationships related to diet or habitat.

Comments: No sightings in surveys conducted in 1988, 1995 and 2004 (1 p. 2-27).

Much like the related `ōma`o, oloma`o live solitarily or in pairs and seldom leave their small home range (Bryan 1908, Ralph and Fancy 1994b) (1 p. 2-27).

Name of data extractor and date: Valerie Woodard December 21, 2011

QC reviewer (date): Jean Holmes, 3/17/2012

Sources:

1. Species specific recovery plan available on FWS website.

[Revised Hawaiian Forest Birds Recovery Plan](http://ecos.fws.gov/docs/recovery_plan/060922a.pdf)

1. Species Profile FWS website: <http://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B04E>
2. Birds of North America species profile Vol. 460 pg 2.
3. FESTF. 2012. Coincidence of ESA-listed species with federal lands and proximity to outer boundary. FIFRA Endangered Species Task Force. Data submitted to EPA March 2012.

**Species (common name): *Myadestes myadestinus* (Large Kauai Thrush or Kāmào)**

Listed status: Endangered (1)

Designated critical habitat? No (1)

Primary Constituent Elements: Not applicable

Spatial data in recovery plan? Yes (2, p. 2-21)

Population size (most current estimate): Not seen since 1989, not considered extinct. (2, p. 2-22).

Body weight (in g): 50 (based on closely related species: `ōma`o (*Myadestes obscurus*)) (3, Vol. 460 p. 2), (1 p. 2-19)

Breeding Period: Nesting April-July. (2, p. 2-19).

Locations known to occur: HI, Alakài plateau (2)31-

Federal lands or Indian reservations species is known to occur: (4)

* Kokee Air Force Station (Air Force)
* NASA Tracking Station (NASA)
* Hanalei National Wildlife Refuge (FWS)
* Huleia National Wildlife Refuge (FWS)

Migratory: No

Diet: insects, fruit, berries, snails (2, p. 2-19).

Relevant EFED model(s): T-REX

Habitat: Forest (2, p. 2-20).

Home Range: None indicated

Elevation restriction: above 1,100 meters (2, p. 2-20).

Obligate relationships: None noted in available USFWS documentation. Reviewer believes that there are no obvious obligate relationships related to diet or habitat.

Comments: Closely related to `ōma`o or Hawai`i thrush (*Myadestes obscurus*) (2, p. 2-29).

Name of data extractor and date: Valerie Woodard December 20, 2011

QC reviewer (date): Jean Holmes, 3/17/2012

Sources:

1. Species specific recovery plan available on FWS website.
2. [Revised Hawaiian Forest Birds Recovery Plan](http://ecos.fws.gov/docs/recovery_plan/060922a.pdf)
3. Birds of North America species profile Vol. 460 pg 2
4. FESTF. 2012. Coincidence of ESA-listed species with federal lands and proximity to outer boundary. FIFRA Endangered Species Task Force. Data submitted to EPA March 2012.

**Species (common name): *Myadestes palmeri* (small Kauai Thrush or puaiohi)**

Listed status: Endangered (1, p. 2-41)

Designated critical habitat? No (1)

Primary Constituent Elements: Not applicable

Spatial data in recovery plan? Yes (1, p. 2-36)

Population size (most current estimate): Recently: 300-500 (1 p. 3-35).

Body weight (in g): 37-43 (1)

Breeding Period: March – September; Nesting starts in March, peaks in April-June and continues through mid September (1 p. 2-32).

Locations known to occur: Kauai **Hawaii** (2); The highest densities of puaiohi occur in three adjacent drainages: the Upper Mōhihi, Upper Waiakoali and the northeastern upper Kawaikōī (the "core" or "Mōhihi/Waiakoali" population) (1 p. 3-35. Puaiohi are permanent residents of stream valleys and associated ridges of the Alaka`i Wilderness Preserve and adjacent forest, the island of Kaua`I (3 p. 7).

Federal lands or Indian reservations species is known to occur: (4)

* Kokee Air Force Station (Air Force)
* NASA Tracking Station (NASA)

Migratory: No

Diet: fruits, insects, snails, and other invertebrates (1) 2-33.

Relevant EFED model(s): T-REX

Habitat: Forest (wet montane) (1 p. 2-34).

Home Range: Breeding territories of 50-540 meters. (1 p.

Elevation restriction: 1050-1300 meters (1 p. 2-34).

Obligate relationships: None noted in available USFWS documentation. Reviewer believes that there are no obvious obligate relationships related to diet or habitat.

Comments: - During the non-breeding season, foraging attempts were 82 percent fruits and 18 percent insects or other invertebrates; while rearing nestlings, the proportion of foraging directed at insects increased to 57 percent. pg 2-33.

Name of data extractor and date: Valerie Woodard December 22, 2011

QC reviewer (date): Jean Holmes, 3/17/2012

Sources:

1. Species specific recovery plan available on FWS website.

[Revised Hawaiian Forest Birds Recovery Plan](http://ecos.fws.gov/docs/recovery_plan/060922a.pdf)

1. Species Profile FWS website: <http://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B00S>
2. FWS website: Pauaiohi (*Myadestes palmeri*) 5-Year Review Summary and Evaluation. <http://ecos.fws.gov/docs/five_year_review/doc2532.pdf>
3. FESTF. 2012. Coincidence of ESA-listed species with federal lands and proximity to outer boundary. FIFRA Endangered Species Task Force. Data submitted to EPA March 2012.

**Species (common name): *Mycteria Americana* (Wood Stork)**

Listed status: Endangered (4)

Designated critical habitat? No (4)

Primary Constituent Elements: Not applicable

Spatial data in recovery plan? Yes (1)

Population size (most current estimate): The 2006 survey documented 11,279 pairs (3 p. 6. Three-year population averages of 6,000 nesting pairs and productivity of 1.5 chicks per nest/year (3 p. 21).

Body weight (in g):

Average males: 2702 (2, p. 3)

Average females: 2050 (2, p. 3)

Breeding Period: GA and SC is March to May; FL is October to June; Everglades is November to January (1 p. 6).

Locations known to occur: Nesting populations in **Florida, Georgia, South Carolina, North Carolina** (3 p. 7. 10. Non-breeding season range includes peninsular **Florida**; the coastal plain and large river systems of **Alabama, Georgia, South Carolina**; and southern **North Carolina** and eastern **Mississippi** (3 p. 11)**.**

Federal lands or Indian reservations species is known to occur: (5)

|  |  |  |
| --- | --- | --- |
| Federal Land Name | Owner | State(s) |
| MacDill Air Force Base | Air Force | FL |
| Laurel Bay Naval Area | Marine Corps | SC |
| Francis Marion National Forest | FS | SC |
| Osceola National Forest | FS | FL |
| Everglades National Park | NPS | FL |
| Big Cypress National Preserve | NPS | FL |
| Timucuan Ecological And Historic Preserve | NPS | FL |
| Timucuan Ecological And Historic Preserve - Open Water | NPS | FL |
| Cumberland Island National Seashore | NPS | GA |
| Canaveral National Seashore; Merritt Island National Wildlife Refuge; John F. Kennedy Space Center | NPS; FWS; NASA | FL |
| Cumberland Island National Seashore - Open Water | NPS | GA |
| Arthur R. Marshall Loxahatchee National Wildlife Refuge | FWS | FL |
| Blackbeard Island National Wildlife Refuge | FWS | GA |
| Florida Panther National Wildlife Refuge | FWS | FL |
| Harris Neck National Wildlife Refuge | FWS | GA |
| Ten Thousand Islands National Wildlife Refuge | FWS | FL |
| Merritt Island National Wildlife Refuge; John F. Kennedy Space Center | FWS; NASA | FL |
| Merritt Island National Wildlife Refuge; John F. Kennedy Space Center - Open Water | FWS; NASA | FL |
| Pelican Island National Wildlife Refuge - Open Water | FWS | FL |
| Kings Bay Naval Submarine Support Base | Navy | GA |
| Rodman Bombing Range | Navy | FL |
| Mayport Naval Station; Timucuan Ecological And Historic Preserve - Open Water | Navy | FL |
| Big Gum Swamp Wilderness - Osceola National Forest | FS | FL |
| Okefenokee Wilderness - Okefenokee National Wildlife Refuge | FWS | GA |
| Marjory Stoneman Douglas Wilderness - Everglades National Park | NPS | FL |
| Cumberland Island Wilderness - Cumberland Island National Seashore | NPS | GA |

Migratory: Yes (3 p. 9, 10).

Diet: fish (1 p.4).

Relevant EFED model(s): KABAM

Habitat: Freshwater and estuarine Wetlands. (1 p. iii).

Home Range: Feeding ranges: 10-96 kilometers (6-60 miles) (1 p. 5).

Elevation restriction: None indicated.

Obligate relationships: None noted in available USFWS documentation. Reviewer believes that there are no obvious obligate relationships related to diet or habitat.

Comments:

Wood storks bred in FL, GA and SC. They migrate south in winter (1, p. 2).

Require a mosaic of wetlands with varying climatological and seasonal conditions around colonies and within the wintering habitat in the coastal plain of the Southeast U.S. (3 p. 12).

Specialized feeding (grope feeding)

Wood storks are more likely to return to the same nesting site year after year than other wading birds (Frederick and Ogden 1997) (3 p. 8).

During a satellite tracking study of wood storks in Mississippi and Louisiana, extensive inter- and intra-regional movements from both Southeast U.S. and Mexican/Guatemalan populations of wood storks were documented (Bryan, in press). Storks observed in eastern Mississippi likely originate from the 9 southeastern U.S. population and those observed in western Mississippi and Louisiana likely originate from Mexican/Guatemalan populations (3 p. 9, 10).

The Service recommends that the Southeast U.S. breeding population of the wood stork be reclassified as threatened (3 p. 22).

Name of data extractor and date: Valerie Woodard February 9, 2012

QC reviewer (date): Jean Holmes, 3/23/2012

Kris Garber, 5/23/12

Sources:

1. Species specific recovery plan available on FWS website.

<http://ecos.fws.gov/docs/recovery_plan/970127.pdf>

1. Dunning, J.B. 1984. Body weights of 686 species of North American Birds. Western Bird Banding Association. Monograph number 1. May 1984.
2. FWS website: Wood stork (Mycteria Americana) 5-Year Review: Summary and Evaluation, <http://ecos.fws.gov/docs/five_year_review/doc1115.pdf>
3. Species Profile FWS website. <http://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B06O>
4. FESTF. 2012. Coincidence of ESA-listed species with federal lands and proximity to outer boundary. FIFRA Endangered Species Task Force. Data submitted to EPA March 2012.

**Species (common name): *Numenius borealis* (Eskimo Curlew)**

Listed status: Endangered (1)

Designated critical habitat? No (1)

Primary Constituent Elements: Not applicable

Spatial data in recovery plan? No

Population size (most current estimate) : <50 (2, p. 5)

Body weight (in g): 270-454 (3)

Breeding Period: May – August (time when birds are on breeding grounds; 2 p. 4)

Locations known to occur: (1)

Alaska (no counties specified);

Nebraska (Counties: Antelope, Boone, Butler, Cedar, Clay, Colfax, Fillmore, Hamilton, Jefferson, Knox, Madison, Merrick, Nance, Nuckolls, Pierce, Platte, Polk, Saline, Seward, Stanton, Thayer, Wayne, and York);

Oklahoma (counties not specified);

Texas (Galveston County)

Federal lands or Indian reservations species is known to occur:

Roman L. Hruska U.S. Animal Meat Research Center (Nebraska), ARS - Agricultural Research Service (4)

Migratory: Yes (2, p. 3)

Diet: berries (crowberries; *Empetrum nigrum*), insects (including grasshoppers - specifically egg cases and emerging nymphs), intertidal and other invertebrates (2, p. 3-4)

Relevant EFED model(s): T-REX

Habitat: barren grounds (breeding habitat), vegetated and non-vegetated intertidal habitats, heath-shrub, prairie, agricultural fields (2, p. 3)

Home Range: none identified in USFWS documentation (1, 2)

Elevation restriction: none identified in USFWS documentation (1, 2)

Obligate relationships: None noted in available USFWS documentation. Reviewer believes that there are no obvious obligate relationships related to diet or habitat.

Comments:

No recovery plan was located for this species.

The last confirmed sighting of this species was in 1963. There have been 39 possible sightings since that time in 22 different years. The most recent sighting occurred in Sept. 2006 in Peggy’s Cove, Nova Scotia (2, p. 4). However, the Eskimo curlew can be difficult to distinguish from other shorebirds, particularly juvenile whimbrels (*Numenius phaeopus*)and little curlews (*Numenius minutus*), leading to difficulty in confirming sightings (2 p. 8).

USFWS cannot conclude that this species is extinct (2, p. 8). The USFWS does not recommend delisting of this species (2, p. 9).

Species breeds in Canada (Northwest Territories, possibly Nanavut) and possibly into Alaska and eastern Russia. After nesting, curlews move to Labrador and eastern Canada to eat berries. They migrate non-stop across the Western Atlantic to South America (late summer and fall). They winter in the Pampas (Argentina, Uruguay, southern Brazil, and Chile). In the spring, they migrate back North, flying over the Gulf of Mexico (into Texas) and the prairies of the Midwestern US and Canada. The species preferred burned and disturbed prairie and agricultural fields during their migration through the Midwest. Spring migration occurred February - May (2, p. 3-4).

The extinct Rocky Mountain grasshopper (*Melanoplus spretus*) was an important food source for migrating curlews in the prairies of the Midwestern US (2, p. 3).

Hatching period occurs in late June to early July (2, p. 4).

Name of data extractor and date: Kris Garber (4/29/13)

QC reviewer (date): Christina Wendel (4/30/13)

Sources:

1. <http://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B01A>
2. USFWS. 2011. **Eskimo Curlew (*Numenius borealis*)** Five year review: summary and evaluation. United States Fish and Wildlife Service. Available online at: <http://ecos.fws.gov/docs/five_year_review/doc3902.pdf>
3. Dunning, Jr. J.B. 2008. CRC handbook of avian body masses, second edition. CRC Press, Boca Raton, FL.
4. FESTF. 2012. Coincidence of ESA-listed species with federal lands and proximity to outer boundary. FIFRA Endangered Species Task Force. Data submitted to EPA March 2012.

**Species (common name):** *Oceanodroma castro* (Band-rumped storm-petrel)

Listed status: candidate (1)

Designated critical habitat? No (1)

Primary Constituent Elements: Not applicable

Spatial data in recovery plan? Not available

Population size (most current estimate): “a few hundred pairs” (4)

Body weight (in g): overall range: 31.5-67 (2)

Galápagos Is., Dec: 38.7 ± 3.8 (31.5–50.0, n = 37); June: 45.3 ± 5.1 (33.5–54.0, n = 102)

Azores, hot season: 44.1 ± 4.4 (33–58, n = 229); cool season: 49.2 ± 4.5 (36–67, n = 729)

Farilon Is., Portugal: 48.2 ± 2.37 (43–52, n = 15).

Ascension I., 43.5 ± 5.0 (n = 12)

Dates of Breeding Period:March – October (2)

Locations known to occur: Hawaii, Kauai and Maui counties, Hawaii (3)

Federal lands or Indian reservations species is known to occur: None (5)

Migratory: Yes (2)

Diet: fish and squid (2)

Relevant EFED model(s): KABAM

Habitat: Forages in ocean. Nests on islands free of mammalian predators. (2)

Habitat size (home range): Not available

Elevation restriction: None

Obligate relationships: None noted in available USFWS documentation. Reviewer believes that there are no obvious obligate relationships related to diet or habitat.

Comments:

Food is from surface of ocean (2)

Fish in diet are small (37-50 mm) (2)

Disperses widely (2)

Migrate August to February (2)

In HI, nests observed on very steep cliffs. Some birds likely nest on lava flows at the tops of volcanos (2).

Name of data extractor and date: Kris Garber (4/27/15)

QC reviewer (date): Elyssa Arnold (5/6/15)

Sources:

1. Master list from FWS
2. Slotterback, John W. 2002. Band-rumped Storm-Petrel (Oceanodroma castro), The Birds of North America Online (A. Poole, Ed.). Ithaca: Cornell Lab of Ornithology; Retrieved from the Birds of North America Online: <http://bna.birds.cornell.edu/bna/species/673a>

[doi:10.2173/bna.673](http://dx.doi.org/10.2173/bna.673)

1. <http://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B08V>
2. http://ecos.fws.gov/docs/candidate/assessments/2014/r1/B08V\_V01.pdf
3. FESTF. 2012. Coincidence of ESA-listed species with federal lands and proximity to outer boundary. FIFRA Endangered Species Task Force. Data submitted to EPA March 2012.

**Species (common name): *Oreomystis bairdi* (Akikiki)**

Listed status: Endangered (2)

Designated critical habitat? Yes (2)

Primary Constituent Elements: Not applicable

Spatial data in recovery plan? Yes

Population size (most current estimate): 3536 (4 p. 3).

Body weight (in g):

11.5-17 (3, p. 2-155)

Dates of breeding period: not mentioned.

Locations known to occur: Kauai County, HI (2)

Federal lands or Indian reservations species is known to occur: None (5)

Migratory: No

Date of Breeding Period: Not identified

Diet: Insects, insect larvae, spiders; rarely eat fruits and nectar (3, p. 2-157).

Relevant EFED model(s): T-REX

Habitat: Forest; mesic and wet forests (3) 2-157.

Home Range: Not indicated.

Elevation restriction: 600-1,600 meters (3 p. 2-158).

Obligate relationships: None noted in available USFWS documentation. Reviewer believes that there are no obvious obligate relationships related to diet or habitat.

Comments:

Range of species (not home range) is approximately 36 square km (3 p. 2-158).

Endemic to the Island of Kaua`I (3) 2-155.

Name of data extractor and date: Brian Anderson, 12/16/2011

QC reviewer (date): Jean Holmes, 3/27/2012

Sources:

1. Species specific recovery plan available on FWS website.
2. Species Profile FWS website: <http://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B0AI>
3. Revised Recovery Plan for Hawaiian Forest Birds. USFWS. 2006.
4. Recovery Outline for the Kauai Ecosystem June 2010: <http://ecos.fws.gov/docs/recovery_plan/Recovery%20Outline%20Kauai%20Ecosystem.pdf>
5. FESTF. 2012. Coincidence of ESA-listed species with federal lands and proximity to outer boundary. FIFRA Endangered Species Task Force. Data submitted to EPA March 2012.

**Species (common name): *Oreomystis mana* (Hawaii Creeper)**

Listed status: Endangered (1)

Designated critical habitat? No (1)

Primary Constituent Elements: Not applicable

Spatial data in recovery plan? Yes

Population size (most current estimate): 2009: approximately 14,000 birds distributed in five wild populations (3)

Body weight (in g): 13.7 (2, p. 2-108)

Dates of Breeding Period: January-Aug., peak Feb.-May (2, p. 2-109).

Locations known to occur: Hawaii County in **Hawaii** (1)

Federal lands or Indian reservations species is known to occur: (4)

* Coast Guard Reservation (Coast Guard)
* Hawaii Volcanoes National Park (NPS)
* Hakalau Forest National Wildlife Refuge (FWS)
* Hawaii Volcanoes Wilderness - Hawaii Volcanoes National Park (NPS)

Migratory: no (2, p. 2-211)

Diet: arthropods (insects and spiders) (2, p. 2-109).

Beetle larvae make up a large part of its diet (2, p. 2-109)

Relevant EFED model(s): T-REX

Habitat: - mesic, wet, mamane **forests** (2, p. 2-111).

Habitat size (home range): 4 to 7 hectare (9.9 to 17.3 acre) home range during the breeding season; 11 hectares (27.2 acres) during non-breeding season (2, p. 2-109).

Elevation restriction: primarily above 1,500 meters above sea level (3, p. 8).

Obligate relationships: None noted in available USFWS documentation. Reviewer believes that there are no obvious obligate relationships related to diet or habitat.

Comments: - During the non-breeding season they range 4.3 to 27.1 hectares

(10.6 to 66.9 acres); Snetsinger (1995) observed a Hawai`i creeper in māmane (*Sophora chrysophylla*) forest 7 kilometers (4.35 miles) from the nearest known population, (2) 2-211.

- Density is increasing in Hakalau Forest National Wildlife Refuge, possibly stable in upper Ka`ū, likely decreasing in central windward Hawai`i Island, and the species has been nearly extirpated from Hualālai and central Kona (Gorresen *et al.* 2009, p. 135) (3, p. 7).

Name of data extractor and date: Jean Holmes 3/30/12

QC reviewer (date): Kris Garber, 5/23/12

Sources:

1. Species Specific Profile on FWS website: <http://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B04M>
2. [Revised Hawaiian Forest Birds Recovery Plan](http://ecos.fws.gov/docs/recovery_plan/060922a.pdf) , 2006
3. Hawaii Creeper (Oreomystis mana) 5-Year Review Summary and Evaluation: <http://ecos.fws.gov/docs/five_year_review/doc3854.pdf>
4. FESTF. 2012. Coincidence of ESA-listed species with federal lands and proximity to outer boundary. FIFRA Endangered Species Task Force. Data submitted to EPA March 2012.

**Species (common name): *Palmeria dolei* (Crested honeycreeper)**

Listed status: Endangered (2)

Designated critical habitat? Yes (4)

Primary Constituent Elements: Not applicable

Spatial data in recovery plan? Yes (1, p. 2-141)

Population size (most current estimate): 1980 Survey 3800 +/- 700 (95% CI) birds (1, p. 2-140)

Body weight (in g): 24 - 29 (1, p. 2-128)

Dates of Breeding Period**:** October to May (1 p. 2-129)

Migratory: No.

Locations known to occur: Maui, **Hawaii**

Federal lands or Indian reservations species is known to occur: (3)

* Kalaupapa National Historical Park (NPS)
* Haleakala National Park (NPS)
* Haleakala Wilderness - Haleakala National Park (NPS)

Diet: Nectar (primarily), caterpillars, spiders, dipterans (1 p. 2-128)

Relevant EFED model(s): T-REX

Habitat: Forest, monane wet and mesic forest (1 p. 2-139)

Habitat size (home range):Not stated

Elevation restriction: 1500 to 2100 meters (5000 to 6600 ft) (1 p. 2-139)

Obligate relationships: None noted in available USFWS documentation. Reviewer believes that there are no obvious obligate relationships related to diet or habitat.

Comments: None

Name of data extractor and date: Brian Anderson, 1/20/2012

QC reviewer (date): Jean Holmes, 2/25/2012

Updated: 4/9/15 (K. Garber)

Sources:

1. Species specific recovery plan available on FWS website.

<http://ecos.fws.gov/docs/recovery_plan/060922a.pdf>

1. Species profile available on FWS website.

<http://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B00E>

1. FESTF. 2012. Coincidence of ESA-listed species with federal lands and proximity to outer boundary. FIFRA Endangered Species Task Force. Data submitted to EPA March 2012.
2. http://www.gpo.gov/fdsys/pkg/FR-2012-06-11/pdf/2012-11484.pdf

**Species (common name*): Paroreomyza flammea* (Molokai creeper)**

Listed status: Endangered (2)

Designated critical habitat? No (2)

Primary Constituent Elements: Not applicable

Spatial data in recovery plan? No

Population size (most current estimate): May be extinct, last observed in 1963 (1 p. 2-122 and 2-123).

Body weight (in g): 14 (estimated based on related species, O’ahu and Hawaii creepers); O’ahu creeper was listed as a closely related species (1 p. 2-122. 2-108).

Breeding period: unknown

Locations known to occur: Historically, the species was recorded only from Moloka`i (1) Figure 8, pg 2-29. Maui county of **Hawaii** (2)

Federal lands or Indian reservations species is known to occur: (3)

* Kalaupapa National Historical Park (NPS)

Migratory: No

Diet: insects (1 p. 2-122).

Relevant EFED model(s): T-REX

Habitat: Forest (1 p. 2-122).

Elevation restriction: High elevation, but no specific elevation restrictions (1 p. 2-122).

Obligate relationships: None noted in available USFWS documentation. Reviewer believes that there are no obvious obligate relationships related to diet or habitat.

Comments: Species is an insectivore. Gleans vegetation and bark in wet `ōhi`a (*Metrosideros polymorpha*) forests (1, p. 2-122). Maui creeper (*P.montana*) and the O`ahu creeper (*P. maculata*) were listed as closest relatives (1 p. 2-122)

Name of data extractor and date: Brian Anderson, 1/7/12

QC reviewer (date): Jean Holmes, 3/5/2012

Sources:

1. Species specific recovery plan available on FWS website. <http://ecos.fws.gov/docs/recovery_plan/060922a.pdf>
2. Species Profile on FWS website: http://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B04H
3. FESTF. 2012. Coincidence of ESA-listed species with federal lands and proximity to outer boundary. FIFRA Endangered Species Task Force. Data submitted to EPA March 2012.

**Species (common name): *Paroreomyza maculate* (O’ahu creeper)**

Listed status: Endangered (1)

Designated critical habitat? No

Primary Constituent Elements: Not applicable

Spatial data in recovery plan? Yes (1, p. 2-119)

Population size (most current estimate): No estimate, but appears to be very low (1 p. 2-118).

Body weight (in g): 14 grams (estimated based on related species of similar total length, Hawaii creeper) (1 p. 2-116).

Maui creeper (*P.montana*) was listed as close relatives in the recovery plan. (1 p. 2-116).

Breeding period: unknown (1 p. 2-117).

Locations known to occur: Possibly Oahu island, HI (1) 2-120.

Federal lands or Indian reservations species is known to occur: (2)

|  |  |  |
| --- | --- | --- |
| Federal Land Name | Owner | State(s) |
| Wheeler Air Force Base | Air Force | HI |
| Fort Shafter | Army | HI |
| Helemano Military Reservation | Army | HI |
| Kahuku Training Area (Military Reservation) | Army | HI |
| Kawailoa Training Area (Military Reservation) | Army | HI |
| Makua Military Reservation | Army | HI |
| Military Reservation | Army | HI |
| Schofield Barracks Military Reservation | Army | HI |
| Upper Kipapa Military Reservation | Army | HI |
| Wahiawa Naval Reservation | Navy | HI |
| Schofield Barracks Military Reservation - Oahu Forest National Wildlife Refuge | Army; FWS | HI |
| Laulaulei Naval Reservation | Navy | HI |
| Naval Reservation | Navy | HI |
| Wahiawa Naval Reservation | Navy | HI |
| Waimano Training School and Hospital | GOV | HI |

Migratory: No

Diet: Insects – largely on caterpillars, spiders, and carabid beetles (1 p. 2-117).

“The O`ahu creeper is insectivorous and forages by creeping methodically up and down the trunks and branches of large trees, probing the bark for insects. It rarely forages in foliage and does not visit flowers like the `amakihi (Perkins 1903, Shallenberger and Pratt 1978). Perkins (1903) reported that it fed largely on caterpillars and spiders, and that the stomach contents of specimens included large numbers of Carabid beetles.”

Relevant EFED model(s): T-REX

Habitat: Forest (1, p. 2-117)

Habitat range: Not indicated (1)

Elevation restriction: Mid-elevation (bird sightings were in forests at 300 to 600 meters), but no specific elevation restrictions in recovery plan (1 p. 2-117).

Obligate relationships: None noted in available USFWS documentation. Reviewer believes that there are no obvious obligate relationships related to diet or habitat.

Comments: The O`ahu creeper is very similar in appearance to the

O`ahu `amakihi (*Hemignathus flavu)* which makes identification of Oahu creeper hard (1) 2-118. Small populations of `i`iwi have been rediscovered recently on O`ahu in both the Wai`anae and Ko`olau Mountains (VanderWerf and Rohrer 1996), and it is possible that isolated populations of the O`ahu creeper also still exist in remote areas of the island. (1) 2-120.

In FESTF database (2), species name is listed as *P. maculata* not *P. maculate*

Name of data extractor and date: Brian Anderson, 1/7/12

QC reviewer (date): Jean Holmes, 3/9/2012

Sources:

1. Species specific recovery plan available on FWS website. <http://ecos.fws.gov/docs/recovery_plan/060922a.pdf>
2. FESTF. 2012. Coincidence of ESA-listed species with federal lands and proximity to outer boundary. FIFRA Endangered Species Task Force. Data submitted to EPA March 2012.

**Species (common name): *Phoebastria albatrus* (Short tailed albatross)**

Listed status: Endangered (1)

Designated critical habitat? No (1)

Primary Constituent Elements: Not applicable

Spatial data in recovery plan? Yes

Population size (most current estimate): Approximately2,572 (estimated world population in 2008-2009) (4 p. 18).

Date of breeding period: October-June (3 p. 10).

Body weight (in g): 4309 (2, vol. 6)

Locations known to occur:

Pelagic Seabird - Alaska, California, Hawaii, Oregon, Washington (1)

Federal lands or Indian reservations species is known to occur: None (5)

Migratory: Yes

Diet: squid, shrimp, fish, fish eggs, and crustaceans (and scavenge marine mammals and fish) (4 p. 15).

Relevant EFED model(s): KABAM

Habitat: Ocean

Home range: not indicated

Elevation restriction: none

Obligate relationships: None noted in available USFWS documentation. Reviewer believes that there are no obvious obligate relationships related to diet or habitat.

Comments:

Seabird, not relevant to typical agricultural uses unless atmospheric transport may occur, resulting in exposure.

Short-tailed albatross breed (during October-June) on only two remote islands in the western Pacific: Torishima (Japan) and Minami-kojima, a site in the Senkaku Islands, to the southwest of Torishima (4 p. 8).

When in Alaska, short-tailed albatross spent the greatest proportion of time within the exclusive economic zone near fisheries (4 p. 11).

Sighted near costal areas (3 p. 6)

Name of data extractor and date: Brian Anderson, 12/16/2011

QC reviewer (date): Jean Holmes, 3/27/2012

Sources:

1. Species specific Profile on FWS website.
2. Birds of North America species profile: <http://www.birds-of-north-america.net/list-of-north-american-birds.html#780>
3. U.S. Fish and Wildlife Service. 2008. Short-tailed Albatross Recovery Plan. Anchorage, AK, 105 pp. : <http://ecos.fws.gov/docs/recovery_plan/090520.pdf>
4. Short-tailed Albatross (Phoebastria albatrus) 5-Year Review Summary and Evaluation: <http://ecos.fws.gov/docs/five_year_review/doc2623.pdf>
5. FESTF. 2012. Coincidence of ESA-listed species with federal lands and proximity to outer boundary. FIFRA Endangered Species Task Force. Data submitted to EPA March 2012.

**Species (common name): *Picoides borealis* (Red-cockaded Woodpecker)**

Listed status: Endangered (1, p. ix)

Designated critical habitat? No (3)

Primary Constituent Elements: Not applicable

Spatial data in recovery plan? No

Population size (most current estimate): 14,068 (1, p. ix)

Body weight (in g): 40-55 (1, p. 10)

Dates of Breeding Period: spring – summer (not very clear) (1, p. 16)

Migratory: No

Locations known to occur: Alabama, Arkansas, Florida, Georgia, Louisiana, Mississippi, Missouri, North Carolina, Oklahoma, South Carolina, Texas, Virginia (1, p. xviii - xx and 3)

Federal lands or Indian reservations species is known to occur: (3)

|  |  |  |
| --- | --- | --- |
| Federal Land Name | Owner | State(s) |
| Alabama-Coushatta Indian Reservation | BIA (Bureau of Indian Affairs) | TX |
| Avon Park Air Force Bombing Range | Air Force | FL |
| Dare County Range | Air Force | NC |
| Eglin Air Force Base | Air Force | FL |
| Pope Air Force Base | Air Force | NC |
| Broken Bow Lake | Army Corps of Engineers | OK |
| Falls Lake Reservoir | Army Corps of Engineers | NC |
| J. Strom Thurmond Lake | Army Corps of Engineers | GA, SC |
| Lake Seminole | Army Corps of Engineers | FL, GA |
| Sam Rayburn Reservoir | Army Corps of Engineers | TX |
| Camp MacKall Military Reservation | Army | NC |
| Fort Benning Military Reservation | Army | AL, GA |
| Fort Bragg Military Reservation | Army | NC |
| Fort Gordon | Army | GA |
| Fort Jackson | Army | SC |
| Fort Polk Military Reservation | Army | LA |
| Fort Stewart | Army | GA |
| Hunter Army Airfield | Army | GA |
| Louisiana Ordnance Plant | Army | LA |
| Military Ocean Terminal Sunny Point | Army | NC |
| Fort Polk Military Reservation, Kisatchie National Forest | Army, FS | LA |
| Savannah River Plant | DOE (Dept. Energy) | SC |
| Camp Lejeune Marine Corps Base | Marine Corps | NC |
| Angelina National Forest | FS | TX |
| Apalachicola National Forest | FS | FL |
| Bienville National Forest | FS | MS |
| Conecuh National Forest | FS | AL |
| Croatan National Forest | FS | NC |
| Daniel Boone National Forest | FS | KY |
| Davy Crockett National Forest | FS | TX |
| DeSoto National Forest | FS | MS |
| Francis Marion National Forest | FS | SC |
| Holly Springs National Forest | FS | MS |
| Homochitto National Forest | FS | MS |
| Kisatchie National Forest | FS | LA |
| Ocala National Forest | FS | FL |
| Oconee National Forest | FS | GA |
| Osceola National Forest | FS | FL |
| Ouachita National Forest | FS | AR, OK |
| Sabine National Forest | FS | TX |
| Sam Houston National Forest | FS | TX |
| Sumter National Forest | FS | SC |
| Talladega National Forest | FS | AL |
| Tombigbee National Forest | FS | MS |
| Uwharrie National Forest | FS | NC |
| William B. Bankhead National Forest | FS | AL |
| Cumberland Gap National Historical Park | NPS | KY, TN, VA |
| Chickamauga and Chattanooga National Military Park | NPS | GA |
| Mammoth Cave National Park | NPS | KY |
| Big Cypress National Preserve | NPS | FL |
| Big Thicket National Preserve | NPS | TX |
| Big South Fork National River and Recreation Area | NPS | KY, TN |
| Ozark National Scenic Riverways | NPS | MO |
| Alligator River National Wildlife Refuge | FWS | NC |
| Big Branch Marsh National Wildlife Refuge | FWS | LA |
| Black Bayou Lake National Wildlife Refuge | FWS | LA |
| Carolina Sandhills National Wildlife Refuge | FWS | SC |
| D'Arbonne National Wildlife Refuge | FWS | LA |
| Eufaula National Wildlife Refuge | FWS | GA |
| Felsenthal National Wildlife Refuge | FWS | AR |
| Great Dismal Swamp National Wildlife Refuge | FWS | NC, VA |
| Mississippi Sandhill Crane National Wildlife Refuge | FWS | MS |
| Noxubee National Wildlife Refuge | FWS | MS |
| Okefenokee National Wildlife Refuge | FWS | GA |
| Pee Dee National Wildlife Refuge | FWS | NC |
| Piedmont National Wildlife Refuge | FWS | GA |
| Pocosin Lakes National Wildlife Refuge | FWS | NC |
| Saint Marks National Wildlife Refuge | FWS | FL |
| Santee National Wildlife Refuge | FWS | SC |
| Upper Ouachita National Wildlife Refuge | FWS | LA |
| Charleston Naval Weapons Station | Navy | SC |
| Guntersville Lake | TVA | AL |
| Beaver Creek Wilderness - Daniel Boone National Forest | FS | KY |
| Big Gum Swamp Wilderness - Osceola National Forest | FS | FL |
| Big Slough Wilderness - Davy Crockett National Forest | FS | TX |
| Black Creek Wilderness - DeSoto National Forest | FS | MS |
| Clifty Wilderness - Daniel Boone National Forest | FS | KY |
| Indian Mounds Wilderness - Sabine National Forest | FS | TX |
| Kisatchie Hills Wilderness - Kisatchie National Forest | FS | LA |
| Little Lake Creek Wilderness - Sam Houston National Forest | FS | TX |
| Mud Swamp/New River Wilderness - Apalachicola National Forest | FS | FL |
| Pocosin Wilderness - Croatan National Forest | FS | NC |
| Sheep Ridge Wilderness - Croatan National Forest | FS | NC |
| Sipsey Wilderness - William B. Bankhead National Forest | FS | AL |
| Turkey Hill Wilderness - Angelina National Forest | FS | TX |
| Upland Island Wilderness - Angelina National Forest | FS | TX |
| Okefenokee Wilderness - Okefenokee National Wildlife Refuge | FWS | GA |
| St. Marks Wilderness - Saint Marks National Wildlife Refuge | FWS | FL |
| Congaree National Park Wilderness - Congaree National Park | NPS | SC |

Diet: >75% insects, <25% fruit and seeds (1, p. 42)

Relevant EFED model(s): T-REX

Habitat: Forest, Savannah (open pine woodlands and savannahs with large old pines) (1, p. x)

Habitat size (home range): 116 – 357 acres (1, p. 49)

Elevation restriction: None specified

Obligate relationships: pine trees – longleaf were preferred (now endangered). Other species of pine (e.g., loblolly, shortleaf, slash, pond) are used as well; although, they have suffered severe declines as well. (1, p. 1, 2)

Comments: endemic to open, mature and old growth pine ecosystems in the southeastern US (1, p. ix); No change to distribution (2, p. 9) and no change to listed status recommended in 5 yr Review (2, p. 14)

Name of data extractor and date: Elyssa Gelmann, 15 February 2012

QC reviewer (date): Jean Holmes, 25 February 2012

Sources:

1. Species specific recovery plan available on FWS website, 2003:

<http://ecos.fws.gov/docs/recovery_plan/030320_2.pdf>

1. Red-cockaded Woodpecker (*Picoides borealis*)5-Year Review Summary and Evaluation
2. FESTF. 2012. Coincidence of ESA-listed species with federal lands and proximity to outer boundary. FIFRA Endangered Species Task Force. Data submitted to EPA March 2012.

**Species (common name): *Pipilo crissalis eremophilus* (Inyo California towhee)**

Listed status: Threatened (1, p. 1)

Designated critical habitat? Yes (1, p. 1)

Primary Constituent Elements: Not applicable

Spatial data in recovery plan? Yes (1, p. 3, 7)

Population size (most current estimate): 741 (estimate based on 2007 survey) (2, pg 7)

Body weight (in g):

Average Male: 53.9 (3, p. 23)

Average Female: 51.8 (3, p. 23)

Male Range: 48.6-61.2 (3, p. 23)

Female Range: 46.3-61.2 (3, p. 23)

Dates of Breeding Period: March - June (1, p. 8)

Migratory: No

Locations known to occur: Inyo County, California (4)

Southern Argus Mountains of the Mojave Desert, a north-south oriented range between the Sierra Nevada to the west and the Panamint and Slate Ranges to the East (1, pg 4)

Federal lands or Indian reservations species is known to occur: (5)

* China Lake Naval Weapons Center (Navy)
* Public Domain Land (BLM)
* Argus Range Wilderness (Public Domain Land, BLM)
* Great Falls Basin Wilderness Study Area (Public Domain Land, BLM)

Diet: insects, seeds, grain, fruit (1, p. 9)

Relevant EFED model(s): T-REX

Habitat: Riparian – nest and forage in areas of dense riparian vegetation dominated by willows, Fremont cottonwood, and desert olive with associated rubber rabbit brush and squaw waterweed. Also nest in shrubs of the upland community adjacent to riparian habitat. (1, p. 4)

Habitat size (home range): 25-62 acres (1, p. 9)

Elevation restriction: None specified but the mountain habitat ranges from ~2680-5630 ft above sea level (1, pg 4). May migrate to lower elevations when snow impedes foraging for seeds (1, pg 10)

Obligate relationships: None noted in available USFWS documentation. Reviewer believes that there are no obvious obligate relationships related to diet or habitat.

Comments: The 2008 5-year review recommends delisting based on population recovery and habitat protection (2, p. 20)

Body weight data are based on the brown towhee (*Pipilo fuscus crissalis*) which was considered the same species as *Pipilo crissalis eremophilus*until 1995 (1, p. 1). It is assumed that the two species are similar in body weight.

Name of data extractor and date: Elyssa Gelmann, 15 February 2012

QC reviewer (date): Jean Holmes, 25 February 2012

Sources:

1. Species specific recovery plan available on FWS website, 1998:

http://ecos.fws.gov/docs/recovery\_plan/980410c.pdf

1. Inyo California Towhee 5-Year Review available on FWS website, 2008:

http://ecos.fws.gov/docs/five\_year\_review/doc1991.pdf

1. Dunning, J.B. 1984. Body weights of 686 species of North American Birds. Western Bird Banding Association. Monograph number 1. May 1984.
2. Species profile for the Inyo California towhee (*Pipilo crissalis eremophilus*). Available online at: <http://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B07Q>. Accessed 5-24-12.
3. FESTF. 2012. Coincidence of ESA-listed species with federal lands and proximity to outer boundary. FIFRA Endangered Species Task Force. Data submitted to EPA March 2012.

**Species (common name): *Polioptila californica californica* (Coastal California gnatcatcher)**

Listed status: Threatened (1)

Designated critical habitat? Yes (1)

Primary Constituent Elements: The PCEs for the coastal California gnatcatcher are:

(1) Dynamic and successional sage scrub habitats: Venturan coastal sage scrub, Diegan coastal sage scrub, Riversidean sage scrub, maritime succulent scrub, Riversidean alluvial fan scrub, southern coastal bluff scrub, and coastal sage-chaparral scrub in Ventura, Los Angeles, Orange,

Riverside, San Bernardino, and San Diego Counties that provide space for individual and population growth, normal behavior, breeding, reproduction, nesting, dispersal and foraging; and

(2) Non-sage scrub habitats such as chaparral, grassland, riparian areas, in proximity to sage scrub habitats as described for PCE 1 above that provide space for dispersal, foraging, and nesting. ( 3 , p. 72035)

Spatial data in recovery plan? Yes (2, p. 7)

Population size (most current estimate): 2562 pairs (2 p. 8)

Body weight (in g): 6 (1)

Dates of Breeding Period**:** Feb. through July (2 p. 9)

Migratory: No (2 p. 2)

Locations known to occur: CA (LA, Orange, riverside, San Bernardino, Sand Diego, and Ventura counties) (1)

Pacific coastal regions of Southern California and northern Baja California (2 p. 2).

“The range of the gnatcatcher is coastal southern California and northwestern Baja California,

Mexico, from southern Ventura and San Bernardino Counties, California, south to approximately

El Rosario, Mexico, at about 30 degrees north latitude (Grinnell 1926, p. 499; AOU 1957, p.

451; Miller et al. 1957, p. 204; Atwood 1991, p. 127; Phillips 1991, pp. 25–26; Atwood and

Bontrager 2001, p. 3) (Figure 1).” (2 p. 6)

Federal lands or Indian reservations species is known to occur: (4)

|  |  |  |
| --- | --- | --- |
| Federal Land Name | Owner | State(s) |
| Camp Pendleton Marine Corps Base | Marine Corps | CA |
| El Toro Marine Corps Air Station (Closed) | Marine Corps | CA |
| Cleveland National Forest | FS | CA |
| San Bernardino National Forest | FS | CA |
| California Coastal National Monument | BLM | CA |
| Cabrillo National Monument | NPS | CA |
| San Diego National Wildlife Refuge | FWS | CA |
| San Diego National Wildlife Refuge, Miramar Naval Air Station | FWS, Navy | CA |
| El Centro Naval Air Facility | Navy | CA |
| Miramar Naval Air Station | Navy | CA |
| Naval Weapons Station (Fallbrook Annex) | Navy | CA |
| Public Domain Land | BLM | CA |
| Otay Mountain Wilderness, Public Domain Land | BLM | CA |

Diet: arthropods (insects, caterpillars, spiders) some seeds and berries (3)

Relevant EFED model(s): T-REX

Habitat: Coastal scrub vegetation communities (2 p. 2)

Habitat size (home range): 2 – 14 acres (2 p. 9)

Elevation restriction: None listed

Obligate relationships: None noted in available USFWS documentation. Reviewer believes that there are no obvious obligate relationships related to diet or habitat.

Comments: None

Name of data extractor and date: Brian Anderson, 1/20/2012

QC reviewer (date): Jean Holmes, 2/25/2012

Sources:

1. Species profile available on FWS website.

<http://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B08X>

1. USFWS. 2010. 5-year review.

<http://ecos.fws.gov/docs/five_year_review/doc3571.pdf>

1. Federal Register /Vol. 72, No. 243 Endangered and Threatened Wildlife and Plants; Revised Designation of Critical Habitat for the Coastal California Gnatcatcher (*Polioptila*

*californica californica* <http://www.gpo.gov/fdsys/pkg/FR-2007-12-19/pdf/07-6003.pdf#page=1>

1. FESTF. 2012. Coincidence of ESA-listed species with federal lands and proximity to outer boundary. FIFRA Endangered Species Task Force. Data submitted to EPA March 2012.

**Species (common name): *Polyborus plancus audubonii* (Audubon’s crested caracara)**

Listed status: Threatened (1)

Designated critical habitat? No (1)

Primary Constituent Elements: Not applicable

Spatial data in recovery plan? Yes (2, p. 4-219)

Population size (most current estimate): 400 to 500 in FL (2 p. 4-225)

Body weight (in g):

Average male: 834±63.2 (3, p. 6)

Average female: 953±133 (3, p. 6)

Dates of Breeding Period: late September-April but can occur throughout year (2 p. 4-223)

Migratory: No

Locations known to occur: Florida (not protected in other states) (2 p. 4-219)

Brevard, Broward, Charlotte, Collier, DeSoto, Glades, Hardee, Hendry, Highlands, Hillsborogh, Indian River, Lee, manatee, martin, Miami-Dade, Okeechobee, Orange, Osecola, Palm Beach, Polk, Sarasota, St. Lucie (1)

Federal lands or Indian reservations species is known to occur: (4)

|  |  |  |
| --- | --- | --- |
| Federal Land Name | Owner | State(s) |
| Big Cypress Indian Reservation | BIA (Bureau of Indian Affairs) | FL |
| Brighton Indian Reservation | BIA (Bureau of Indian Affairs) | FL |
| Miccosukee Indian Reservation | BIA (Bureau of Indian Affairs) | FL |
| Avon Park Air Force Bombing Range | Air Force | FL |
| Lake Wales Ridge National Wildlife Refuge | FWS | FL |

Note: List includes land for the Crested Caracara (*Caracara cheriway*), which represents the FL population.

Diet: Carrion and live prey; insects and other invertebrates, fish, snakes, turtles, birds, and mammals; rabbits, skunks, prairie dogs, opossums, rats, mice, squirrels, frogs, lizards, young alligators, crabs, fish, young birds, cattle egrets, beetles, grasshoppers, maggots, and worms (2 p. 4-223)

Relevant EFED model(s): T-REX, KABAM, earthworm

Habitat: Prairie areas, lightly wooded areas, pastures, wetlands (2 p. 4-222)

Elevation restriction: none listed

Obligate relationships: None noted in available USFWS documentation. Reviewer believes that there are no obvious obligate relationships related to diet or habitat.

Home Range: up to 2389 ha; average 1552 ha (2 p. 4-224)

Comments: Caracaras are resident, diurnal, and nonmigratory (2 p. 4-219)

Body weight data based on individuals of *Polyborus plancus* from Panama (3).

Name of data extractor and date: Brian Anderson, 12/19/2011

QC reviewer (date): Jean Holmes, 2/25/2012, modified by K. Garber 5/22/15

Sources:

1. Species profile accessed on 12/19/2011. <http://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B06Q#recovery>
2. Species recovery plan available on FWS website. <http://ecos.fws.gov/docs/recovery_plan/990518_1.pdf>
3. Dunning, J.B. 1984. Body weights of 686 species of North American Birds. Western Bird Banding Association. Monograph number 1. May 1984.
4. FESTF. 2012. Coincidence of ESA-listed species with federal lands and proximity to outer boundary. FIFRA Endangered Species Task Force. Data submitted to EPA March 2012.

**Species (common name): *Polysticta stelleri* (Steller’s eider)**

Listed status: Threatened (2)

Designated critical habitat? Yes (2)

Primary Constituent Elements:

1. Critical habitat units are depicted for the Yukon - kuskokwim delta (unit 1), kuskokwim shoals (unit 2), seal islands (unit 3), nelson lagoon (unit 4), and izembek lagoon (unit 5) on the maps below. The maps are for reference only; the areas in critical habitat are legally described below.

2. Within these areas, the primary constituent elements are those habitat components that are essential for the primary biological needs of feeding, roosting, molting, and wintering. The primary constituent elements for unit 1 include the vegetated intertidal zone and all open water inclusions within this zone. The primary constituent elements for units 2, 3, 4, and 5 are marine waters up to 9 m (30 feet) deep and the underlying substrate, the associated invertebrate fauna in the water column, the underlying marine benthic community, and where present, eelgrass beds and associated flora and fauna. Critical habitat does not include those areas within the boundary of any unit that do not fit the description of primary constituent elements for that unit. (4, p. 8878).

Spatial data in recovery plan? Yes (1)

Population size (most current estimate): Alaskan breeding population was estimated to be 138,000 (1 p. 3; Northern Alaska breeding population was estimated to be 176 to 2543 (1 p. 6).

Body weight (in g): 800 (1, p. 3)

Average male: 773 (3, p. 5)

Average female: 842 (3, p. 5)

Dates of Breeding Period: May - Aug (1, p. 4)

Migratory: yes (1 p. 4, 16).

Locations known to occur: Aleutians East, Aleutians West, Bethel, Bristol Bay, Dillingham, Kenai Peninsula, Kodiak Island, Lake and Peninsula, Nome, North Slope, Northwest Arctic, and Wade Hampton counties in **Alaska** (2)

Federal lands or Indian reservations species is known to occur: None (5)

Diet: Aquatic insects and plants (young), marine invertebrates (mollusks and crustaceans). (1, p. 4-5).

Relevant EFED model(s): KABAM

Habitat: near-shore marine waters; Tundra near or within grained lake basins up to 56 miles inland; Estuaries; nest in terrestrial environments (1, p. 4-5).

Habitat size (home range): None listed

Elevation restriction: None listed

Obligate relationships: None noted in available USFWS documentation. Reviewer believes that there are no obvious obligate relationships related to diet or habitat.

Comments: Three breeding populations two in Arctic Russia and one in Alaska. Only Alaska population is listed (1 p. 3).

Map of breeding range and wintering range is available (1 p. 4). Wintering range includes locations in Alaska that are south of breeding areas.

Body weight data from source 3 from individuals located in Russia.

Birds lay eggs in may and they hatch in June. Juveniles can fly 40 d after hatching (i.e., in August) (1, p. 4)

Name of data extractor and date: Brian Anderson, 1/17/12

QC reviewer (date): Jean Holmes, 3/25/2012

Sources:

1. Species specific recovery plan available on FWS website. <http://ecos.fws.gov/docs/recovery_plan/020930b.pdf>
2. Species profile accessed on USFW website. <http://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B090>
3. Dunning, J.B. 1984. Body weights of 686 species of North American Birds. Western Bird Banding Association. Monograph number 1. May 1984.
4. Federal Register / Vol. 66, No. 23. Endangered and Threatened Wildlife and Plants; Final Determination of Critical Habitat for the Alaska-Breeding Population of the Steller’s Eider
5. FESTF. 2012. Coincidence of ESA-listed species with federal lands and proximity to outer boundary. FIFRA Endangered Species Task Force. Data submitted to EPA March 2012.

**Species (common name):** *Porzana tabuensis* (Spotless crake)

Listed status: Not warranted

Designated critical habitat? No (1)

Primary Constituent Elements: Not applicable

Spatial data in recovery plan? Not applicable

Population size (most current estimate): Not available

Body weight (in g):

Males: 47-52 (4)

Females: 44-51 (4)

Juveniles: 44-45 (4)

Dates of Breeding Period:Not available

Locations known to occur: Manu'a County, American Samoa (2)

Federal lands or Indian reservations species is known to occur: None (6)

Migratory: No

Diet: seeds, fruit, leaves (aquatic plants), aquatic and terrestrial invertebrates (worms, snails, spiders, beetles, other insects) (5)

Relevant EFED model(s): T-REX, KABAM

Habitat: predominantly freshwater wetlands, some forests (5)

Habitat size (home range):Not available

Elevation restriction: None

Obligate relationships: None noted in available USFWS documentation. Reviewer believes that there are no obvious obligate relationships related to diet or habitat.

Comments:

Few documents are available to describe the characteristics of this species.

Species is not known to disperse via long distances (3)

Name of data extractor and date: Kris Garber (4/29/15)

QC reviewer (date): Elyssa Arnold (5/6/15)

Sources:

1. Master list from FWS
2. <http://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B0AH>
3. <http://www.gpo.gov/fdsys/pkg/FR-2014-12-05/pdf/2014-28536.pdf>
4. Sidney Dillon Ripley, S.D.; Lansdowne, J.F.; Olson, S.L. 1977. Rails of the world: A Monograph of the Family Rallidae. David R. Godine Publisher.
5. http://www.doc.govt.nz/nature/native-animals/birds/birds-a-z/spotless-crake-puweto/
6. FESTF. 2012. Coincidence of ESA-listed species with federal lands and proximity to outer boundary. FIFRA Endangered Species Task Force. Data submitted to EPA March 2012.

**Species (common name): *Pseudonestor xanthophrys* (Maui Parrotbill)**

Listed status: Endangered (1, p. 2-82)

Designated critical habitat? Yes (5)

Primary Constituent Elements: Not applicable

Spatial data in recovery plan? Yes (1, p. 2-80)

Population size (most current estimate): 502 +/- SE 116 individuals, based on the

1980 Hawai’i Forest Bird Survey (3 p. 8).

Body weight (in g): 20-25 (1, p. 2-77).

Breeding Period: possibly year round

Locations known to occur: Haleakalā Volcano in east Maui, HI (3 p. 8).

Federal lands or Indian reservations species is known to occur: (5)

* Haleakala National Park (NPS)
* Haleakala Wilderness - Haleakala National Park (NPS)

Migratory: No (3 p. 7).

Diet: insects (1 p. 2-77).

Relevant EFED model(s): T-REX

Habitat: Forest; montane wet forest and a few mesic areas (1 p. 2-79).

Home Range: 2.3 hectares (5.7 acres) year round. (1 p. 2-78)

Elevation restriction: 1200-2,350 meters (1 p. 2-79).

Obligate relationships: None noted in available USFWS documentation. Reviewer believes that there are no obvious obligate relationships related to diet or habitat.

Comments: Preferred diet includes larvae and pupae of various beetles and moths (1 p. 2-77).

Selection of nest site occurs between November and June. Fledgings depend on their parents for 5-8 months (1, p. 2-78). Based on this information, the breeding period could last year round.

Name of data extractor and date: Valerie Woodard December 20, 2011

QC reviewer (date): Jean Holmes, 3/17/2012

Updated: 4/9/15 (K. Garber)

Sources:

1. Species specific recovery plan available on FWS website.

<http://ecos.fws.gov/docs/recovery_plan/060922a.pdf>

1. Species Profile FWS website; http://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B00M
2. Kiwikiu (Maui Parrotbill) (*Psendonestor xanthoplirys*) 5-Year Review Summary and Evaluation
3. FESTF. 2012. Coincidence of ESA-listed species with federal lands and proximity to outer boundary. FIFRA Endangered Species Task Force. Data submitted to EPA March 2012.
4. http://www.gpo.gov/fdsys/pkg/FR-2012-06-11/pdf/2012-11484.pdf

**Species (common name): *Psittirostra psittacea* (̀ O ̀u)**

Listed status: Endangered (1, p. 2-55)

Designated critical habitat? No (2)

Primary Constituent Elements: Not applicable

Spatial data in recovery plan? Yes (1, p. 2-53)

Population size (most current estimate): Last count=400±300 (1970’s). Possibly extinct; although insufficient surveys to determine status. (1 p. 2-54) Five year review by USFWS does not recommend changing the status of this species to extinct (3). Recent natural disasters may have affected some of the last remaining `ō`ū populations (3 p. 6).

Body weight (in g): 20-25 (estimated)

Breeding Period: April – June (1, p. 2-51)

Locations known to occur: HI: Alakà I Wilderness Preserve and eastern slopes of Mauna Kea and Mauna Loa (1 p. 2-54).

Federal lands or Indian reservations species is known to occur: (4)

|  |  |  |
| --- | --- | --- |
| Federal Land Name | Owner | State(s) |
| Kokee Air Force Station | Air Force | HI |
| Army Reserve Center | Army | HI |
| Fort Shafter | Army | HI |
| Keaukaha Military Reservation (Hawaii Nat. Guard) | Army | HI |
| Military Reservation | Army | HI |
| Schofield Barracks Military Reservation | Army | HI |
| Tripler Military Hospital | Army | HI |
| Coast Guard Reservation | Coast Guard | HI |
| Kalaupapa National Historical Park | NPS | HI |
| Haleakala National Park | NPS | HI |
| Hawaii Volcanoes National Park | NPS | HI |
| Hakalau Forest National Wildlife Refuge | FWS | HI |
| Naval Reserve Electronic Facility | Navy | HI |
| Red Hill Naval Supply Center | Navy | HI |
| Haleakala Wilderness - Haleakala National Park | NPS | HI |
| Hawaii Volcanoes Wilderness - Hawaii Volcanoes National Park | NPS | HI |

Migratory: No

Diet: insects, fruit (guava, mountain apple, banana, peach, mulberry), leaves (*Acacia koa*), nectar (1 p. 2-51/52).

Relevant EFED model(s): T-REX

Habitat: Forest (1)

Home Range: not indicated

Elevation restriction: 900-1,500 meters (1 p. 2-52).

Obligate relationships: None noted in available USFWS documentation. Reviewer believes that there are no obvious obligate relationships related to diet or habitat.

Comments: Perkins (1903) noted them feeding exclusively on caterpillars (Geometridae), feeding them to young during the summer months in the Ka`ū/Kīlauea area of the Big Island. (1 p. 2-52.

No body weight data were located for this species. Body estimated using a surrogate species: the Maui Parrotbill, which is a Hawaiian honeycreeper in the same family and subfamily as the Ou (family Fringillidae, subfamily Drepanidinae) (1 p. 2-50, 2-77).

Nesting has never been described and little is known of breeding habits. Peak nesting may be from April-May. Fledglings have been observed in June (1 p. 2-51).

Name of data extractor and date: Valerie Woodard December 22, 2011

QC reviewer (date): Jean Holmes, 3/17/2012

Sources:

1. Species specific recovery plan available on FWS website.

[Revised Hawaiian Forest Birds Recovery Plan](http://ecos.fws.gov/docs/recovery_plan/060922a.pdf)

1. Species Profile FWS website. <http://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B00J>
2. FWS website: O’u (*Psittirostra psittacea*) 5-Year Review Summary and Evaluation. <http://ecos.fws.gov/docs/five_year_review/doc2541.pdf>
3. FESTF. 2012. Coincidence of ESA-listed species with federal lands and proximity to outer boundary. FIFRA Endangered Species Task Force. Data submitted to EPA March 2012.

**Species (common name): *Pterodroma phaeopygia sandwichensis* (Hawaiian Dark rumped petrel)**

Listed status: Endangered (4)

Designated critical habitat? No (4)

Primary Constituent Elements: Not applicable

Spatial data in recovery plan? No

Population size (most current estimate): 19,000 (95% CI: 11,000 – 34,000) (2 p. 8)

Body weight (in g): Adult average: 434 ±53 (3, p. 239)

Dates of Breeding Period: March to November (1 p. 13)

Migratory: Yes

Locations known to occur: Maui, Hawai’I, Kaua’I, Lana’I, and possibly Moloka’I (2 p. 9)

Federal lands or Indian reservations species is known to occur: (5)

|  |  |  |
| --- | --- | --- |
| Federal Land Name | Owner | State(s) |
| Pohakuloa Training Area | Army | HI |
| Kalaupapa National Historical Park | NPS | HI |
| Haleakala National Park | NPS | HI |
| Hawaii Volcanoes National Park | NPS | HI |
| Hanalei National Wildlife Refuge | FWS | HI |
| Haleakala Wilderness - Haleakala National Park | NPS | HI |
| Hawaii Volcanoes Wilderness - Hawaii Volcanoes National Park | NPS | HI |

Note: List also includes lands listed for the Hawaiian Petrel (*Pterodroma sandwichensis*)

Diet: small fish, crustaceans, and squid (1 p. 14)

Relevant EFED model(s): KABAM

Habitat: ocean (pelagic zone), breeding is at high elevation with grass and fern vegetation (1 p. 12)

Habitat size (home range):Migratory

Elevation restriction: >2200 m or >7200 ft (1 p. 12)

Obligate relationships: None noted in available USFWS documentation. Reviewer believes that there are no obvious obligate relationships related to diet or habitat.

Comments: Seabirds that breed in Hawaii; spend most of their time in the ocean (1 p. 14)

85% of the population nest in the county of Maui (2 p. 8)

Name of data extractor and date: Brian Anderson, 1/23/12

QC reviewer (date): Jean Holmes, 12/25/2012

Sources:

1. Species specific recovery plan available on FWS website.

<http://ecos.fws.gov/docs/recovery_plan/830425.pdf>

1. US FWS Pacific Office Honolulu Hawaii Five Year Review [http://ecos.fws.gov/docs/five\_year\_review/doc3866.pdf](http://ecos.fws.gov/docs/five_year_review/doc3866.pdf%20)
2. Simons, TR. 1984. Biology and Behavior of the Endangered Hawaiian Dark-Rumped Petrel. The Condor: 87:229-245. Available on-line at <http://elibrary.unm.edu/sora/Condor/files/issues/v087n02/p0229-p0245.pdf>
3. Species profile available on FWS website.

<http://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B00N#crithab>

1. FESTF. 2012. Coincidence of ESA-listed species with federal lands and proximity to outer boundary. FIFRA Endangered Species Task Force. Data submitted to EPA March 2012.

**Species (common name): *Puffinus auricularis newelli* (Newell’s townsend’s shearwater)**

Listed status: Threatened (3)

Designated critical habitat? No (3)

Primary Constituent Elements: Not applicable

Spatial data in recovery plan? Yes

Population size (most current estimate): approximately 21, 000. Estimate in the early 1990s was 83,739 (95% CI: 57360 to 115093); estimates of 75% decline since the survey was conducted resulting in an estimated population size of approximately 21,000 (2 p. 8, 9).

Body weight (in g): 454 (4)

Dates of Breeding Period**:** April-November (1, p. 11)

Locations known to occur: Manu’a **American Samoa**, Hawaii, Honolulu, and Kauai Hawaii(3).

|  |  |  |
| --- | --- | --- |
| Federal Land Name | Owner | State(s) |
| Kahuku Training Area (Military Reservation) | Army | HI |
| Kalaupapa National Historical Park | NPS | HI |
| Kii National Wildlife Refuge | FWS | HI |
| Kilauea National Wildlife Refuge | FWS | HI |
| Punamano National Wildlife Refuge | FWS | HI |
| Hawaii Volcanoes Wilderness - Hawaii Volcanoes National Park | NPS | HI |

Federal lands or Indian reservations species is known to occur: (5)

Migratory: No

Diet: assume fish based on the family

Relevant EFED model(s): KABAM

Habitat: Ocean, nesting habitat is associated with dense stands of uauhe (*Dicranopteris lineris)* and similar ferns (1 p. 10). Mountain terrain (1 p. 11).

Habitat size (home range): None indicated

Elevation restriction: 152.4- 609.6 meters for nesting sites (1 p. 11).

Obligate relationships: None noted in available USFWS documentation. Reviewer believes that there are no obvious obligate relationships related to diet or habitat.

Comments: None

Name of data extractor and date: Brian Anderson, 1/12/2012

QC reviewer (date): Jean Holmes, 4/13/12

Sources:

1. Species specific recovery plan available on FWS website: <http://ecos.fws.gov/docs/recovery_plan/830425.pdf>
2. Newell’s Shearwater ([*Puffinus auricularis newelli*](http://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B04O)) 5-Year Review Summary and Evaluation: <http://ecos.fws.gov/docs/five_year_review/doc3867.pdf>
3. Species Profile FWS website.
4. Birds of North America species profile.
5. FESTF. 2012. Coincidence of ESA-listed species with federal lands and proximity to outer boundary. FIFRA Endangered Species Task Force. Data submitted to EPA March 2012.

**Species (common name): *Rallus longirostris levipes* (Light-footed clapper rail)**

Listed status: Endangered (4)

Designated critical habitat? No (4)

Primary Constituent Elements: Not applicable

Spatial data in recovery plan? Yes (1, p. 6)

Population size (most current estimate): 443 pairs (886 individuals) (1 p. 1)

Body weight (in g):

Average female: 271 (3, p. 7)

Average male: 323 (3, p. 7)

Female range: 250-275 (3, p. 7)

Male range: 300-350 (3, p. 7)

Dates of Breeding Period:March to August (1 p. 4)

Locations known to occur: Los Angles, Orange, San Diego, Santa Barbara, and Ventura counties of **CA.** (4)

Federal lands or Indian reservations species is known to occur: (5)

|  |  |  |
| --- | --- | --- |
| Federal Land Name | Owner | State(s) |
| Camp Pendleton Marine Corps Base | Marine Corps | CA |
| California Coastal National Monument | BLM | CA |
| San Diego Bay National Wildlife Refuge | FWS | CA |
| San Diego National Wildlife Refuge | FWS | CA |
| Seal Beach National Wildlife Refuge | FWS | CA |
| Tijuana Slough National Wildlife Refuge | FWS | CA |
| Tijuana Slough National Wildlife Refuge, Imperial Beach Naval Air Station | FWS, Navy | CA |
| San Diego National Wildlife Refuge - Open Water | FWS | CA |
| Seal Beach National Wildlife Refuge - Open Water | FWS | CA |
| Imperial Beach Naval Air Station | Navy | CA |
| Point Mugu Pacific Missile Test Center | Navy | CA |
| San Diego Naval Station | Navy | CA |
| Seal Beach Naval Weapons Station | Navy | CA |

Migratory: No (2 p. 64)

Diet: salt marsh invertebrates including beetles, garden snails, CA hornsnails, salt marsh snails, fiddler and hermit crabs, crayfish, and decapods (1 p. 4)

Relevant EFED model(s): KABAM

Habitat: coastal marshes, lagoons (1 p. 1)

Habitat size (home range)**:** 0.8 to 4 acres (1 p. 4)

Elevation restriction: None listed

Obligate relationships: None noted in available USFWS documentation. Reviewer believes that there are no obvious obligate relationships related to diet or habitat.

Comments: Species is an omnivore (1, p. 4)

Body weight data from *Rallus longirostris* individuals from South Carolina (3).

Name of data extractor and date: Brian Anderson, 1/23/12

QC reviewer (date): Jean Holmes, 3/2/2012

Sources:

1. Species specific 5-yr review available on FWS website.

<http://ecos.fws.gov/docs/five_year_review/doc2573.pdf>

1. Species specific recovery plan available on FWS website.

<http://ecos.fws.gov/docs/recovery_plan/850624.pdf>

1. Dunning, J.B. 1984. Body weights of 686 species of North American Birds. Western Bird Banding Association. Monograph number 1. May 1984.
2. Species Profile Fish and Wildlife Service website. http://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B04B
3. FESTF. 2012. Coincidence of ESA-listed species with federal lands and proximity to outer boundary. FIFRA Endangered Species Task Force. Data submitted to EPA March 2012.

**Species (common name): *Rallus longirostris obsoletus* (California Clapper Rail)**

Listed status: Endangered (1, Ch 2, p. 94)

Designated critical habitat? No (1, Ch 2, p. 109)

Primary Constituent Elements: Not applicable

Spatial data in recovery plan? Yes (1, Ch 2, p. 99-100)

Population size (most current estimate): 543 in 2008 survey (1, Ch 2 pg 97)

Body weight (in g): Males 300-350; Females 248-301 (1, Ch 2 pg 94)

Dates of Breeding Period: mid-February to July (South Bay) or August (North Bay) (1, Ch 2 pg 102)

Migratory: No. However, infrequent long distance dispersal does occur primarily in late summer and fall (1, Ch 2 pg 106)

Locations known to occur: Marshes of the San Francisco Bay estuary in CA (1, Ch 2 pg 97)

Federal lands or Indian reservations species is known to occur: (2)

|  |  |  |
| --- | --- | --- |
| Federal Land Name | Owner | State(s) |
| Oakland Army Base (Closed) | Army | CA |
| California Coastal National Monument | BLM | CA |
| Golden Gate National Recreation Area | NPS | CA |
| Golden Gate National Recreation Area - Open Water | NPS | CA |
| Don Edwards San Francisco Bay National Wildlife Refuge | FWS | CA |
| Humboldt Bay National Wildlife Refuge | FWS | CA |
| Don Edwards San Francisco Bay National Wildlife Refuge - Open Water | FWS | CA |
| Humboldt Bay National Wildlife Refuge - Open Water | FWS | CA |
| San Pablo Bay National Wildlife Refuge - Open Water | FWS | CA |
| Concord Naval Weapons Station | Navy | CA |
| Mare Island Naval Station (Closed) | Navy | CA |
| Skaggs Island Naval Security Group Activity | Navy | CA |

Diet: primarily bivalves, crustaceans, and terrestrial invertebrates (1, Ch 2 pg 105)

Relevant EFED model(s): T-REX, KABAM

Habitat: Wetlands - salt and brackish marshes (1, Ch 2 pg 97)

Habitat size (home range): Average 11.6 acres, core use area of 2.2 acres (1, Ch 2 pg 105)

Elevation restriction: not specified but found only in tidal marshes of SF Bay

Obligate relationships: None noted in available USFWS documentation. Reviewer believes that there are no obvious obligate relationships related to diet or habitat.

Comments:

Diet includes a broad feeding niche overall and could possibly include Insects, small mammals, birds, aquatic and terrestrial invertebrates (1, Ch 2 pg 105)

Name of data extractor and date: Elyssa Gelmann, 14 February 2012

QC reviewer (date): Jean Holmes, 25 February 2012

Sources:

1. Species specific recovery plan available on FWS website.

http://ecos.fws.gov/docs/recovery\_plan/TMRP\_Intro\_1.pdf

Chapter 2: http://ecos.fws.gov/docs/recovery\_plan/TMRP/Chapter%20II%20Species%20Accounts.pdf

1. FESTF. 2012. Coincidence of ESA-listed species with federal lands and proximity to outer boundary. FIFRA Endangered Species Task Force. Data submitted to EPA March 2012.

**Species (common name): *Rallus longirostris yumanensis* (Yuma clapper rail)**

Listed status: Endangered (1, p. iv)

Designated critical habitat? No (1, p. iv)

Primary Constituent Elements: Not applicable

Spatial data in recovery plan? Yes

Population size (most current estimate): 707 (1, p. 10).

Body weight (in g):

Average female: 226 (1, p. 4)

Average male: 267 (1, p. 4)

Dates of Breeding Period:February to June (1, p. 14).

Locations known to occur: CA, AZ, NV.

The Yuma clapper rail occurs along the lower Colorado River (LCR) and tributaries (Virgin River, Bill Williams River, lower Gila River [LGR]) in Arizona, California, Nevada; the Salton Sea in California; and the Cienegade Santa Clara and Colorado River Delta in Mexico pg iv.

Federal lands or Indian reservations species is known to occur: (2)

|  |  |  |
| --- | --- | --- |
| Federal Land Name | Owner | State(s) |
| Chemehuevi Indian Reservation | BIA (Bureau of Indian Affairs) | CA |
| Colorado River Indian Reservation | BIA (Bureau of Indian Affairs) | AZ, CA |
| Fort Mojave Indian Reservation | BIA (Bureau of Indian Affairs) | AZ, CA, NV |
| Fort Yuma Indian Reservation | BIA (Bureau of Indian Affairs) | CA |
| Gila River Indian Reservation | BIA (Bureau of Indian Affairs) | AZ |
| Torres-Martinez Indian Reservation | BIA (Bureau of Indian Affairs) | CA |
| Imperial Reservoir | BOR | AZ |
| Lake Mead | BOR | AZ, NV |
| Lake Mead | BOR | NV |
| Tonto National Forest | FS | AZ |
| Organ Pipe Cactus National Monument | NPS | AZ |
| Lake Mead National Recreation Area | NPS | AZ, NV |
| Ash Meadows National Wildlife Refuge | FWS | NV |
| Cibola National Wildlife Refuge | FWS | AZ, CA |
| Havasu National Wildlife Refuge | FWS | AZ |
| Havasu National Wildlife Refuge | FWS | AZ, CA |
| Havasu National Wildlife Refuge | FWS | AZ, CA |
| Imperial National Wildlife Refuge | FWS | AZ, CA |
| Imperial National Wildlife Refuge | FWS | CA |
| Sonny Bono Salton Sea National Wildlife Refuge | FWS | CA |
| El Centro Naval Auxiliary Air Station | Navy | CA |
| Public Domain Land BLM | BLM | AZ |
| Public Domain Land BLM | BLM | AZ, CA |
| Public Domain Land BLM | BLM | AZ, CA, NV, UT |
| Public Domain Land BLM | BLM | CA |
| Chemehuevi Mountains Wilderness | BLM | CA |
| Little Picacho Wilderness | BLM | CA |
| Muggins Mountain Wilderness | BLM | AZ |
| Trigo Mountain Wilderness | BLM | AZ |
| Mazatzal Wilderness - Tonto National Forest | FS | AZ |
| Havasu Wilderness - Havasu National Wildlife Refuge | FWS | AZ |
| Imperial Refuge Wilderness - Imperial National Wildlife Refuge | FWS | AZ |
| Imperial Refuge Wilderness - Imperial National Wildlife Refuge | FWS | CA |
| Organ Pipe Cactus Wilderness - Organ Pipe Cactus National Monument | NPS | AZ |

Migratory: Yes (1, p. 12)

Diet: Crayfish, small fish, tadpoles, clams, and other aquatic invertebrates (1, p. 13).

Relevant EFED model(s): KABAM

Habitat: salt to brackish water marshes, mangrove swamps, other tidal wetlands (1, p. 2).

Habitat size (home range):17 to 37 acres (1, p. 17).

Elevation restriction: None listed

Obligate relationships: None noted in available USFWS documentation. Reviewer believes that there are no obvious obligate relationships related to diet or habitat.

Comments: Yuma clapper rails are active most of the daylight hours, with little to no activity after dark (Eddleman 1989). Daily movement was lowest during the late breeding period (May-July) and highest during the late winter (January-February) (Conway et al. 1993) (1, p. 12).

Not all individuals migrate (1, p. 13)

Name of data extractor and date: Brian Anderson, 1/24/12

QC reviewer (date): Jean Holmes, 3/14/2012

Sources:

1. Species specific recovery plan available on FWS website.

<http://ecos.fws.gov/docs/recovery_plan/Draft%20Yuma%20Clapper%20Rail%20Recovery%20Plan,%20First%20Revision.pdf>

1. FESTF. 2012. Coincidence of ESA-listed species with federal lands and proximity to outer boundary. FIFRA Endangered Species Task Force. Data submitted to EPA March 2012.

**Species (common name): *Rallus owstoni* (Guam Rail)**

Listed status: Endangered (2, p. 29)

Designated critical habitat? No (3)

Primary Constituent Elements: Not applicable

Spatial data in recovery plan? Yes

Population size (most current estimate): approx. 248; June 2008- 158 in captivity; approximately 90 from releases in Rota and Guam (5 p. 4).

Body weight (in g): 67 to 490 (estimated based on other species in this genus) (2 p. 7).

Breeding Period: Year round ground nester, peak breeding period is in the rainy season (May-Oct.) (1 p. 9).

Locations known to occur: Only in captivity on the Island of Guam and in stateside zoos (1) executive summary.

-Anderson Air Force Base (1 p. 48).

Federal lands or Indian reservations species is known to occur: None (5)

Migratory: No

Diet: seeds, palm leaves, carrion, gastropods, skinks, geckos (1 p. 9).

Relevant EFED model(s): T-REX

Habitat: Edge habitat especially grassy or secondary vegetation areas (4 p. 4)

Home Range: not indicated

Elevation restriction: not indicated

Obligate relationships: None noted in available USFWS documentation. Reviewer believes that there are no obvious obligate relationships related to diet or habitat.

Comments:

No body weight data have been located for this species. Body weight data are based on data other species within the same genus (*R. longirostris*: 250-350 g; *R. elegans*: 253-490 g;

*R. limicola*: 67-120 g (2, p. 7)).

Only in captivity and in an experimental population on Rota, Commonwealth of the Northern Mariana Islands (P. Wenninger, pers. comm. 2008) (5, p. 4)

No wild ko’ko’ are believed to be present on Guam at this time (5 p. 6)

The genus of ko’ko’ has been changed from *Rallus* spp. to *Gallirallus* spp.; therefore, ko’ko’ are now referred to as *Gallirallus owstoni (5 p. 5*)*.*

Name of data extractor and date: Valerie Woodard December 20, 2011

QC reviewer (date): Jean Holmes, 3/17/2012

Sources:

1. Species specific recovery plan available on FWS website.

[Native Forest Birds of Guam and Rota of the Commonwealth of the Northern Mariana Islands Recovery Plan](http://ecos.fws.gov/docs/recovery_plan/900928b.pdf)

1. Dunning, J.B. 1984. Body weights of 686 species of North American Birds. Western Bird Banding Association. Monograph number 1. May 1984.
2. Species profile FWS website.
3. Guam Rail 5 –Year review Summary and Evaluation. http://ecos.fws.gov/docs/five\_year\_review/doc2529.pdf
4. FESTF. 2012. Coincidence of ESA-listed species with federal lands and proximity to outer boundary. FIFRA Endangered Species Task Force. Data submitted to EPA March 2012.

**Species (common name): *Rostrhamus sociabilis plumbeus* (Everglade snail kite)**

Listed status: Endangered (2)

Designated critical habitat? Yes (2)

Primary Constituent Elements: Not applicable

Spatial data in recovery plan? Yes (1, p. 4-291)

Population size (most current estimate): 1648 (95% CI: 1392 to 1950) (1 p. 5)

Body weight (in g): 380 (4, p. 6)

Dates of Breeding Period:December through July (1 p. 4-297)

Migratory: No

Locations known to occur: Central and Southern Florida (1 p. 4-293) Brevard, Broward, Collier, Glades, Hendry, Highlands, Indian River, Lee, Martin, Miami-Dade, Monroe, Okeechobee, Orange, Osceola, Palm Beach, Polk, St. Lucie counties (2)

Federal lands or Indian reservations species is known to occur: (5)

* Big Cypress National Preserve (NPS)
* Arthur R. Marshall Loxahatchee National Wildlife Refuge (FWS)
* Marjory Stoneman Douglas Wilderness - Everglades National Park (NPS)

Diet: Apple snails (*Pomacea paludosa*) (almost exclusively) (1 p. 4-297)

Relevant EFED model(s): KABAM

Habitat: Wetlands; lowland freshwater marshes, shallow vegetated edges of lakes, natural and manmade. (1 p. 4-294)

Habitat size (home range): Range restricted to the watersheds of the Everglades, Lake Okeechobee and Kissimmee, and Upper St. John River (1 p. 4-291)

Elevation restriction: none listed

Obligate relationships: Apple snails (*Pomacea paludosa*)

Comments: Non-migratory (1 p. 4-298)

Body weight from *Rostrahmus sociabilis* individuals from Surinam (4).

Name of data extractor and date: Brian Anderson, 1/20/2012

QC reviewer (date): Jean Holmes, 2/25/2012

Sources:

1. Species specific recovery plan available on FWS website.

<http://www.fws.gov/verobeach/MSRPPDFs/EvergladeSnailKite.pdf>

1. Species profile available on FWS website.

<http://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B00F>

1. Fish and Wild Life Service Quick Facts of FWS website. http://www.fws.gov/verobeach/BirdsPDFs/EvergladesnailkiteFactSheet.pdf
2. Dunning, J.B. 1984. Body weights of 686 species of North American Birds. Western Bird Banding Association. Monograph number 1. May 1984
3. FESTF. 2012. Coincidence of ESA-listed species with federal lands and proximity to outer boundary. FIFRA Endangered Species Task Force. Data submitted to EPA March 2012.

**Species (common name): *Setophaga kirtlandii* (formerly Dendroica kirtlandii) (Kirtland’s Warbler)**

Listed status: Endangered (1)

Designated critical habitat? No (1)

Primary Constituent Elements: Not applicable

Spatial data in recovery plan? Yes

Population size (most current estimate): 400 (2, p. 1)

Body weight (in g):

Adult average: 13.8±0.31 (4, p. 22)

Adult range: 12.3-16.0 (4, p. 22)

Dates of Breeding Period: May-August (2, p. 9)

Locations known to occur:

Florida (Collier, Martin, Miami-Dade, Palm Beach, St. Lucie Counties), Michigan (Alcona, Alger, Baraga, Chippewa, Clare, Crawford, Delta, Grand Traverse, Iosco, Kalkaska, Luce, Marquette, Montomorency, Ogemaw, Oscoda, Ostego, Presque Isle, Roscommon, Scoolcraft Counties), South Carolina (Beaufort, Charleston, Colleton, Georgetown, Horry, Jasper Counties), Wisconsin (Adams, Douglas, Jackson, Marinette, Vilas, Washburn Counties) (1)

Federal lands or Indian reservations species is known to occur: (5)

|  |  |  |
| --- | --- | --- |
| Federal Land Name | Owner | State(s) |
| Winnebago Indian Reservation | BIA (Bureau of Indian Affairs) | WI |
| Wurtsmith Air Force Base (Closed) | Air Force | MI |
| Camp Grayling Military Reservation | Army | MI |
| Hiawatha National Forest | FS | MI |
| Huron National Forest | FS | MI |
| Manistee National Forest | FS | MI |
| Ottawa National Forest | FS | MI |
| Kirtland's Warbler National Wildlife Refuge | FWS | MI |
| Huron National Wilderness Purchase Unit - Huron National Forest | FS | MI |

Migratory: yes (2, p. 1)

Diet: insects, blueberries (3)

Relevant EFED model(s): T-REX

Habitat: Forests (2, p. 8)

Habitat size (home range): None indicated

Elevation restriction: None indicated

Obligate relationships: Nesting habitat is only within jack pine forests.

Comments:

Population estimate is from 1971 (2, p. 1)

During breeding, Kirtland’s warblers are located in Michigan. Its wintering grounds are located in the Bahamas, where it spends 8 months of the year (September-April). (2)

In migration, the bird travels a fairly direct route between its nesting and wintering ranges, entering and leaving the continent at the coast of North and South Carolina (2, p. 5).

With one or few exceptions, all nests have been found on Grayling sand soil (2, p. 7).

For nesting, jack pine and low, sparse ground cover is required; Jack pine stands less than 80 acres in size are seldom occupied (2, p. 7).

Most of the wintering records are from the scrub habitats of the Bahamas (2, p. 10).

4,000 to 5,000 acres are suitable for breeding birds (2, p. 12).

Name of data extractor and date: Jean Holmes 4/30/12

QC reviewer (date): Kris Garber, 5/22/12

Sources:

1. Species Specific Profile on FWS website: <http://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B03I>
2. [Kirtland's Warbler Recovery Plan, Updated](http://ecos.fws.gov/docs/recovery_plan/850930.pdf), 1985
3. Michigan Government Department of Natural Resources: <http://www.michigan.gov/dnr/0,1607,7-153-10370_12145_12202-32591--,00.html>
4. Dunning, J.B. 1984. Body weights of 686 species of North American Birds. Western Bird Banding Association. Monograph number 1. May 1984.
5. FESTF. 2012. Coincidence of ESA-listed species with federal lands and proximity to outer boundary. FIFRA Endangered Species Task Force. Data submitted to EPA March 2012.

**Species (common name): *Somateria fischeri* (Spectacled Eider)**

Listed status: Threatened (3)

Designated critical habitat? Yes (3)

Primary Constituent Elements: Primary constituent elements for Units 1 and 2 (the Central Y–K Delta Unit and South Y–K Delta Unit, respectively) include all portions of the vegetated intertidal zone, and all open water inclusions within that zone. The intertidal zone includes all lands inundated by seawater often enough to affect plant growth, habit, or community composition. Plant communities within this zone include, but are not limited to: low wet sedge tundra; grass marsh; dwarf shrub/graminoid (consisting of grasses and sedges) meadow; high and intermediate graminoid meadow; mixed high graminoid meadow/dwarf shrub uplands.

Primary constituent elements for Units 3 and 4 (the Norton Sound Unit and the Ledyard Bay Unit, respectively) include all marine waters greater than 5 m (16.4 ft) and less than or equal to 25 m (82.0 ft) in depth at mean lower low water (MLLW), along with associated marine aquatic flora and fauna in the water column, and the underlying marine benthic community.

Primary constituent elements for Unit 5 (the Wintering Unit) include all marine waters less than or equal to 75 m (246.1 ft) in depth at MLLW, along with associated marine aquatic flora and fauna in the water column, and the underlying marine benthic community. (4, p. 9151)

Spatial data in recovery plan? Yes (1)

Population size (most current estimate): >140,000 birds (1 p. 2).

Body weight (in g):

Average female: 1304 ±170 (2, p.5)

Average male: 1432 ±117 (2, p.5)

Female range: 1075-1675 (2, p.5)

Male range: 1231-1700 (2, p.5)

Dates of Breeding Period:May-June; hatching June and July (1 p. 20).

Locations known to occur: Alaska

Federal lands or Indian reservations species is known to occur: None (5)

Migratory: Yes (1, p. 12)

Diet: mollusks, amphipods, crabs, fly larvae, aquatic plant seeds (*Potamogeton and Ranunculus spp*.), upland shrubs (*Empetrum nigrum*) (1, pg 23).

Relevant EFED model(s): KABAM, T-REX

Habitat: Coastal marshes, ocean (1 p. 24).

Habitat size (home range): None indicated

Elevation restriction: None indicated.

Obligate relationships: None noted in available USFWS documentation. Reviewer believes that there are no obvious obligate relationships related to diet or habitat.

Comments: Body weight data from breeding populations located in Alaska (2, p. 5).

Breed in Alaska and in Russia (1). They also spend time during the non-breeding season in these areas (1, p. 17). Wintering areas are in the Bearing Sea, Aleutian Islands and Gulf of Alaska (1, p. 12).

Name of data extractor and date: Brian Anderson, 1/17/12

QC reviewer (date): Jean Holmes, 3/25/2012

Sources:

1. Species specific recovery plan available on FWS website.

<http://ecos.fws.gov/docs/recovery_plan/960812.pdf>

1. Dunning, J.B. 1984. Body weights of 686 species of North American Birds. Western Bird Banding Association. Monograph number 1. May 1984.
2. Species profile accessed on USFW website. <http://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B08Z>
3. Federal Register /Vol. 66, No. 25 Endangered and Threatened Wildlife and Plants; Final Determination of Critical Habitat for the Spectacled Eider <http://ecos.fws.gov/docs/federal_register/fr3706.pdf>
4. FESTF. 2012. Coincidence of ESA-listed species with federal lands and proximity to outer boundary. FIFRA Endangered Species Task Force. Data submitted to EPA March 2012.

**Species (common name): *Sterna antillarum* (Least Tern)**

Listed status: Endangered (1, p. ii)

Designated critical habitat? No (3)

Primary Constituent Elements: Not applicable

Spatial data in recovery plan? Yes (1, p. 11)

Population size (most current estimate): 5,000 (1 p. ii).

Body weight (in g):

Adult average: 43.1±2.12 (2, p. 11)

Adult range: 39.0-47.6 (2, p. 11)

Breeding Period: 4-5 months. Starting April-early June (1 p. 12).

Locations known to occur: States:

AR (Arkansas, Chicot, Conway, Crawford, Crittenden, Cross, Desha, Faulkner, Franklin, Hempstead, Jefferson, Johnson, Lafayette, Lee, Lincoln, Little River, Logan, Miller, Mississippi, Perry, Phillips, Pope, Pulaski, Sebastian, Yell Counties),

CO (Adams, Arapahoe, Brent, Boulder, Broomfield, Clear Creek, Crowley, Denver, Douglas, Elbert, El Paso, Gilpin, Jackson, Jefferson, Kiowa, Larimer, Lincoln, Logan, Morgan, Otero, Park, Prowers, Sedgwick, Teller, Washington, Weld Counties),

IL (Alexander, Jackson, Madison, Massac, Monroe, Pope, Randolph, St. Clair, Union, Wabash Counties),

IN (Gibson, Spencer Counties),

IA (Polk, Pottawattamie, Woodbury Counties),

KS (Barton, Clark, Cowley, Meade, Morton, Phillips, Pottawatomie, Reno, Rice, Riley, Sedgwick, Seward, Shawnee, Stafford, Stevens, Sumner, Wabaunsee Counties),

KY (Ballard, Carlisle, Fulton, Hancock, Hickman, Livingston, Marashall, McCracken, Union Counties),

LA (Bossier, Caddo, Concordia, East Carroll, Grant, Madison, Natchitoches, Red River, Tensas Counties),

MS (Adams, Bolivar, Claiborne, Coahoma, DeSoto, Issaquena, Jefferson, Tunica, Warren, Washington, Wilkinson Counties),

MO (Cape Girardeau, Chariton, Mississippi, New Madrid, Pemiscot, Perry, Scott, St. Charles Counties),

MT (Custer, Dawson, Garfield, McCone, Prairie, Richland, Roosevelt, Rosebud, Valley, Wibaux Counties),

NE (Boyd, Brown, Buffalo, Butler, Cass, Cedar, Colfax, Cuming, Custer, Dawson, Dixon, Dodge, Douglas, Gosper, Hall, Hamilton, Holt, Howard, Kearney, Keith, Keya Paha, Knox, Lincoln, Madison, Merrick, Nance, Phelps, Platte, Polk, Rock, Sarpy, Saunders, Sherman, Stanton, Valley Counties),

NM (Catron, Chaves, Curry, DeBaca, Dona Ana, Eddy, Otero, quay, Rio Arriba, Socorro Counties),

ND (Burleigh, Dunn, Emmons, McKenzie, McLean, Mercer, Morton, Mountrail, Oliver, Sioux, Williams Counties),

OK (Alfalfa, Beaver, Blaine, Bryan, Caddo, Canadian, Choctaw, Cleveland, Cotton, Creek, Custer, Dewey, Ellis, Grady, Harmon, Harper, Haskell, Hughes, Jackson, Jefferson, Kay, Kingfisher, Le Flore, Logan, Love, Major, Marshall, McClain, McCurtain, McIntosh, Muskogee, Noble, Osage, Pawnee, Payne, Pittsburg, Pontotoc, Pottawatomie, Roger Mills, Seminole, Sequoyah, Tillman, Tulsa, Wagoner, Woods, Woodward Counties),

SD (bon Homme, Brule, Buffalo, Campbell, Charles Mix, Clay, Corson, Dewey, Gregory, Haakon, Hughes, Hyde, Lyman, Meade, Pennington, Potter, Stanley, Sully, Union, Walworth, Yankton, Ziebach Counties),

TN (Dyer, Lake, Lauderdale, Shelby, Tipton Counties),

TX (Bowie, Briscoe, Childress, Clay, Collingsworth, Cooke, Dallas, Delta, Denton, Donley, El Paso, Fannin, Freestone, Gray, Grayson, Gregg, Hall, Hardeman, Hemphill, Hopkins, Hutchinson, Jeff Davis, Kaufman, Lamar, Leon, Limestone, Milam, Montague, Rains, Randall, Red River, Roberts, Starr, Tarrant, Throckmorton, Tom Green, Val Verde, Webb, Wheeler, Wichita, Wilbarger, Wood, Zapata Counties) (1 p. 1) (3)

Federal lands or Indian reservations species is known to occur: (4)

|  |  |  |
| --- | --- | --- |
| Federal Land Name | Owner | State(s) |
| Fort Berthold Indian Reservation | BIA (Bureau of Indian Affairs) | ND |
| Fort Peck Indian Reservation | BIA (Bureau of Indian Affairs) | MT |
| Osage Indian Reservation | BIA (Bureau of Indian Affairs) | OK |
| Cheyenne River Indian Reservation | BIA (Bureau of Indian Affairs) | SD |
| Crow Creek Indian Reservation | BIA (Bureau of Indian Affairs) | SD |
| Lower Brule Indian Reservation | BIA (Bureau of Indian Affairs) | SD |
| Standing Rock Indian Reservation | BIA (Bureau of Indian Affairs) | ND, SD |
| Santee Sioux Indian Reservation | BIA (Bureau of Indian Affairs) | NE |
| Yankton Indian Reservation | BIA (Bureau of Indian Affairs) | SD |
| Tinker Air Force Base | Air Force | OK |
| Copan Lake | Army Corps of Engineers | KS, OK |
| Dardanelle Lake | Army Corps of Engineers | AR |
| Eufaula Lake | Army Corps of Engineers | OK |
| Fort Peck Lake | Army Corps of Engineers | MT |
| Hulah Lake - Open Water | Army Corps of Engineers | OK |
| Keystone Lake | Army Corps of Engineers | OK |
| Lake Francis Case | Army Corps of Engineers | SD |
| Lake Francis Case, Yankton Indian Reservation | Army Corps of Engineers, BIA (Bureau of Indian Affairs) | SD |
| Lake Oahe | Army Corps of Engineers | ND, SD |
| Lake Oahe, Standing Rock Indian Reservation | Army Corps of Engineers, BIA (Bureau of Indian Affairs) | ND, SD |
| Lake Sakakawea | Army Corps of Engineers | ND |
| Lake Sakakawea, Fort Berthold Indian Reservation | Army Corps of Engineers, BIA (Bureau of Indian Affairs) | ND |
| Lake Sharpe | Army Corps of Engineers | SD |
| Lake Sharpe, Crow Creek Indian Reservation | Army Corps of Engineers, BIA (Bureau of Indian Affairs) | SD |
| Lewis And Clark Lake | Army Corps of Engineers | NE, SD |
| O. C. Fisher Lake | Army Corps of Engineers | TX |
| Optima Lake | Army Corps of Engineers | OK |
| Ozark Lake | Army Corps of Engineers | AR |
| Perry Lake | Army Corps of Engineers | KS |
| Robert S. Kerr Lake | Army Corps of Engineers | OK |
| Robert S. Kerr Lake, Sequoyah National Wildlife Refuge | Army Corps of Engineers, FWS | OK |
| Fort Riley Military Reservation | Army | KS |
| Cheney Reservoir | BOR | KS |
| Lake Mead | BOR | AZ, NV |
| Lake Mead | BOR | NV |
| Lake Thunderbird | BOR | OK |
| Gunnison Gorge National Conservation Area | BLM | CO |
| Little Missouri National Grassland | FS | ND |
| Lake Mead National Recreation Area | NPS | AZ, NV |
| Missouri National Recreational River | NPS | NE, SD |
| Bitter Lake National Wildlife Refuge | FWS | NM |
| Charles M. Russell National Wildlife Refuge | FWS | MT |
| DeSoto National Wildlife Refuge | FWS | IA, NE |
| Hagerman National Wildlife Refuge | FWS | TX |
| Karl E. Mundt National Wildlife Refuge | FWS | SD |
| Kirwin National Wildlife Refuge | FWS | KS |
| Lacreek National Wildlife Refuge | FWS | SD |
| Long Lake National Wildlife Refuge | FWS | ND |
| Quivira National Wildlife Refuge | FWS | KS |
| Salt Plains National Wildlife Refuge | FWS | OK |
| Sequoyah National Wildlife Refuge | FWS | OK |
| Swan Lake National Wildlife Refuge | FWS | MO |
| Public Domain Land | BLM | AZ, CA, NV, UT |
| Public Domain Land | BLM | CO |
| Public Domain Land | BLM | MT |
| Public Domain Land | BLM | NM |
| Public Domain Land | BLM | NV |
| Public Domain Land | BLM | SD |
| Terry Badlands Wilderness Study Area - Public Domain Land | BLM | MT |

Note: This list includes land for the subspecies of the Least tern, the Interior Least Tern (*Sternula antillarum athalassos*).

Migratory: Yes (1, p. 34)

Diet: fish (1 p. 20).

Relevant EFED model(s): KABAM

Habitat:

Coastal and rivers. Riverine sandbar habitat, dike field sandbar islands, sand and gravel pits, and lake and reservoir shorelines (1, p. ii).

Home Range: During breeding season limited to the reach of the river near the sand bar nesting site. Nest spacing ranges from a few meters to hundreds of meters (1 p. 12, 14). At Salt Plains National Wildlife refuge home range was variable, ranging from 11-1,015 ha (1 p. 14).

Elevation restriction: None indicated

Obligate relationships: None noted in available USFWS documentation. Reviewer believes that there are no obvious obligate relationships related to diet or habitat.

Comments: More information is needed to understand the migratory routes of this species (1, p. 34)

Interior least terns spend up to 7 months at wintering areas. These areas are located in Central and South America (1, p. 5) It breeds in the US (1, p. 3)

Name of data extractor and date: Valerie Woodard February 9, 2011

QC reviewer (date): Jean Holmes, 3/23/2012

Sources:

1. Species specific recovery plan available on FWS website. <http://ecos.fws.gov/docs/recovery_plan/900919a.pdf>
2. Dunning, J.B. 1984. Body weights of 686 species of North American Birds. Western Bird Banding Association. Monograph number 1. May 1984.
3. Species Profile FWS website: <http://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B07N>
4. FESTF. 2012. Coincidence of ESA-listed species with federal lands and proximity to outer boundary. FIFRA Endangered Species Task Force. Data submitted to EPA March 2012.

**Species (common name): *Sterna antillarum browni* (California least Tern)**

Listed status: Endangered (1)

Designated critical habitat? No (4)

Primary Constituent Elements: Not applicable

Spatial data in recovery plan? Yes (3, p. 8)

Population size (most current estimate): 6,354 (breeding pair estimates in 2004) (3 p. 12).

Body weight (in g):

Adult average: 43.1±2.12 (2, p. 11)

Adult range: 39.0-47.6 (2, p. 11)

Breeding Period: March-November (Averages April-August) (1 p. 3).

Locations known to occur: Santa Barbara County CA to San Diego county CA; Morro Bay and San Obispo counties, CA (1 p.; Pacific coast of CA from San Francisco southward to Baja CA (3 p. 5.

|  |  |  |
| --- | --- | --- |
| Federal Land Name | Owner | State(s) |
| Vandenberg Air Force Base | Air Force | CA |
| Camp Pendleton Marine Corps Base | Marine Corps | CA |
| California Coastal National Monument | BLM | CA |
| Don Edwards San Francisco Bay National Wildlife Refuge | FWS | CA |
| Guadalupe-Nipomo Dunes National Wildlife Refuge | FWS | CA |
| San Diego Bay National Wildlife Refuge | FWS | CA |
| San Diego National Wildlife Refuge | FWS | CA |
| Seal Beach National Wildlife Refuge | FWS | CA |
| Tijuana Slough National Wildlife Refuge | FWS | CA |
| Don Edwards San Francisco Bay National Wildlife Refuge - Open Water | FWS | CA |
| San Diego National Wildlife Refuge - Open Water | FWS | CA |
| Seal Beach National Wildlife Refuge - Open Water | FWS | CA |
| Alameda Naval Air Station (Closed) | Navy | CA |
| Coronado Naval Amphibious Base | Navy | CA |
| Long Beach Naval Station (Closed) | Navy | CA |
| North Island Naval Air Station | Navy | CA |
| Point Mugu Pacific Missile Test Center | Navy | CA |
| San Diego Naval Submarine Base | Navy | CA |

Federal lands or Indian reservations species is known to occur: (5)

Migratory: Yes (fall migration last week of July – first week of Aug.) ( 3 p. 5. Migration is assumed to be along the west coast of Baja California to the west coast of Mexico. (1 p. 17).

Diet: fish (1 p. 18)

Relevant EFED model(s): KABAM

Habitat: - Coastal lagoons and estuaries (freshwater marshes, lakes, lagoons, and estuary areas (1 p. 9);

-man-made habitats such as airports and land fields (1 p. 8);

-Beaches and estuaries (3 p. 6).

Home Range: May travel up 16.1 km (10 miles); usually stay within 0.4 km (1/4 miles) of nesting site (1 p. 7). The distance between clusters is 50-300 km (30-180 miles) (3 p. 9. Colonies where feeding activities have been studied, the forage between 3.2 km (2 miles) of breeding area (3 p. 14).

Elevation restriction: none indicated

Obligate relationships: None noted in available USFWS documentation. Reviewer believes that there are no obvious obligate relationships related to diet or habitat.

Comments:

There are forty known nesting sites in California. Thirty of those 40 sites have more than 20 breeding pairs. The 5 most populist nest sites host 71% of the entire population (Camp Pendleton, Los Angeles harbor, Naval Base Coronado, Batiquitos Lagoon, and Point Mugu (3 p. 3).

Body weight data correspond to *Sterna antillarum* individuals from Kansas (2, p. 11).

Name of data extractor and date: Valerie Woodard February 9, 2012

QC reviewer (date): Jean Holmes, 3/23/2012

Sources:

1. Species specific recovery plan available on FWS website.

<http://ecos.fws.gov/docs/recovery_plan/850927_w%20signature.pdf>

1. Dunning, J.B. 1984. Body weights of 686 species of North American Birds. Western Bird Banding Association. Monograph number 1. May 1984.
2. FWS website: California Least Tern (*Sterna antillarum browni)* 5-Year Review and Evaluation: <http://ecos.fws.gov/docs/five_year_review/doc775.pdf>
3. Species Profile FWS website: <http://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B03X>
4. FESTF. 2012. Coincidence of ESA-listed species with federal lands and proximity to outer boundary. FIFRA Endangered Species Task Force. Data submitted to EPA March 2012.

**Species (common name): *Sterna douglalli dougallii* (Roseate tern), Northeast population**

Listed status: Endangered (2, p. 4)

Designated critical habitat? No (3)

Primary Constituent Elements: Not applicable

Spatial data in recovery plan? Yes (2, p. 12)

Population size (most current estimate): 2009 = 3,350 seasonal pairs (2 p. 15, 17).

Body weight (in g):

Average adult: 110 (4, p. 11)

Breeding Period: May-July (1 p. 4).

Locations known to occur: States: [Connecticut](http://ecos.fws.gov/speciesProfile/profile/countiesByState.action?entityId=135&state=Connecticut) , [Maine](http://ecos.fws.gov/speciesProfile/profile/countiesByState.action?entityId=135&state=Maine) , [Massachusetts](http://ecos.fws.gov/speciesProfile/profile/countiesByState.action?entityId=135&state=Massachusetts) , [New Hampshire](http://ecos.fws.gov/speciesProfile/profile/countiesByState.action?entityId=135&state=New%20Hampshire) , [New Jersey](http://ecos.fws.gov/speciesProfile/profile/countiesByState.action?entityId=135&state=New%20Jersey) , [New York](http://ecos.fws.gov/speciesProfile/profile/countiesByState.action?entityId=135&state=New%20York) , [North Carolina](http://ecos.fws.gov/speciesProfile/profile/countiesByState.action?entityId=135&state=North%20Carolina) , [Rhode Island](http://ecos.fws.gov/speciesProfile/profile/countiesByState.action?entityId=135&state=Rhode%20Island) , [Virginia](http://ecos.fws.gov/speciesProfile/profile/countiesByState.action?entityId=135&state=Virginia): (2 p.s 4, 15-17, 38)

Federal lands or Indian reservations species is known to occur: (5)

|  |  |  |
| --- | --- | --- |
| Federal Land Name | Owner | State(s) |
| Gateway National Recreation Area | NPS | NY |
| Cape Cod National Seashore | NPS | MA |
| Cape Cod National Seashore - Open Water | NPS | MA |
| Fire Island National Seashore - Open Water | NPS | NY |
| Monomoy National Wildlife Refuge | FWS | MA |
| Parker River National Wildlife Refuge | FWS | MA |
| Monomoy National Wildlife Refuge - Open Water | FWS | MA |
| Nomans Land Island National Wildlife Refuge - Open Water | FWS | MA |
| Monomoy Wilderness - Monomoy National Wildlife Refuge | FWS | MA |

Migratory: Yes (2 p. 105).

Diet: marine fish (1 p. 6).

Relevant EFED model(s): KABAM

Habitat: Rocky offshore islands with sparse vegetation; although Northeastern Rosweate tern nest under vegetation or some other shelter (1 p. 3).

Home Range: During the breeding season, roseate terns forage over shallow coastal waters, sometimes near the colony and at other times at distances of over 20 miles (32 km) (Heinemann 1992) (2 p. 40).

Elevation restriction: none indicated.

Obligate relationships: None noted in available USFWS documentation. Reviewer believes that there are no obvious obligate relationships related to diet or habitat.

Comments: Northeast and Caribbean populations of the roseate tern are distinct population segments (DPS); Northeast population was listed as endangered and the Caribbean population was listed as threatened (2 p. 4).

Northeast DPS breeds in in North East states of US. Based on band recoveries (Nisbet 1984, Hays *et al.* 1997), northeastern roseate terns are thought to migrate through the eastern Caribbean and along the north coast of South America, and to winter mainly on the east coast of Brazil between 10º and 18º S (Gochfeld *et al.* 1998) (2 p. 48). Small flocks may remain near some Caribbean islands (2 p. 105).

This population is slightly heavier than the the Caribbean Roseate tern population, which is 100±2 g (1)

Name of data extractor and date: Valerie Woodard February 2, 2012

QC reviewer (date): Jean Holmes, March 30, 2012

Sources:

1. Species specific recovery plan available on FWS website.

<http://ecos.fws.gov/docs/recovery_plan/930924_v2.pdf>

1. USFWS Roseate Stern Five Year Review\_2010

<http://ecos.fws.gov/docs/five_year_review/doc3588.pdf>

1. USFWS Critical Habitat List:

<http://ecos.fws.gov/tess_public/CriticalHabitat.do?nmfs=1>

1. Dunning, J.B. 1984. Body weights of 686 species of North American Birds. Western Bird Banding Association. Monograph number 1. May 1984.
2. FESTF. 2012. Coincidence of ESA-listed species with federal lands and proximity to outer boundary. FIFRA Endangered Species Task Force. Data submitted to EPA March 2012.

**Species (common name): *Sterna douglalli dougallii* (Roseate tern)*,* Caribbean population**

Listed status: Threatened (2, p. 4)

Designated critical habitat? No (3)

Primary Constituent Elements: Not applicable

Spatial data in recovery plan? Yes (2, p. 70, 74)

Population size (most current estimate: Florida= 261 pair; Puerto Rico = 1,400 pair; Virgin Islands = 2,500 pair (2 p. 72, 74, 75).

Body weight (in g): 100±2 (1, p. 2)

Breeding Period: May-July (1 p. 4).

Locations known to occur: States: Florida, North Carolina, South Carolina; Puerto Rico and the Virgin Islands:(1) The Caribbean roseate tern population appears to constitute cells of a metapopulation (Bradley and Norton 2009) that include Bermuda; the **Florida Keys**; Turks and Caicos Islands; Greater Antilles (Cuba, Hispaniola [Dominican Republic and Haiti], Jamaica, and **Puerto Rico**); **United States** and British **Virgin Islands**; Lesser Antilles (Anguilla, Antigua, Barbuda, Guadeloupe Archipelago, Martinique, St. Martin, St. Bartholomew, St. Kitts and Nevis, St. Lucia, St. Vincent, Grenadines and Grenada); Trinidad and Tobago; and islands in the southern Caribbean (Aruba, Bonaire, Curaçao, and formerly islands off Venezuela) (Bradleyand Norton 2009). The continental United States (mainland Florida, Georgia, South Carolina, and North Carolina) are not considered within the Caribbean region, (2 p. 69.

Federal lands or Indian reservations species is known to occur: (4)

|  |  |  |
| --- | --- | --- |
| Federal Land Name | Owner | State(s) |
| Great White Heron National Wildlife Refuge | FWS | FL |
| National Key Deer Refuge | FWS | FL |
| Great White Heron National Wildlife Refuge - Open Water | FWS | FL |
| Ten Thousand Islands National Wildlife Refuge - Open Water | FWS | FL |
| Marjory Stoneman Douglas Wilderness - Everglades National Park - Open Water | NPS | FL |

Migratory: Yes (2 p. 105).

Diet: marine fish (1 p. 6).

Relevant EFED model(s): KABAM

Habitat: Rocky offshore islands with sparse vegetation; near vegetation or jagged limestone rocks, on open sandy beaches, among coral rubble (1 p. 3).

Home Range: During the breeding season, roseate terns forage over shallow coastal waters, sometimes near the colony and at other times at distances of over 20 miles (32

km) (Heinemann 1992) (2 p. 40).

Elevation restriction: Not indicated.

Obligate relationships: None noted in available USFWS documentation. Reviewer believes that there are no obvious obligate relationships related to diet or habitat.

Comments:

Northeast and Caribbean populations of the roseate tern are distinct population segments (DPS); Northeast population was listed as endangered and the Caribbean population was listed as threatened (2 p. 4).

The migratory pathway of Caribbean birds is not known, but the route is almost certain to be 2,000 to 4,000 km (1,243 to 2,485 mi) shorter than the route taken by the northeastern (North America) population (Shealer *et al.* 2005a) (2 p. 105). They appear to spend their winter in the Caribbean and in South America (1, p. 7-8).

Caribbean birds feed on a completely different range of fish from those eaten by northeastern birds (Gochfeld *et al.* 1998) and appear to be more dependent on feeding on predatory fish (Shealer 1995) (2 p. 5).

Name of data extractor and date: Valerie Woodard February 29, 2012

QC reviewer (date): Jean Holmes, March 30, 2012

Kris Garber, 5/24/12

Sources:

1. Species specific recovery plan available on FWS website.

<http://ecos.fws.gov/docs/recovery_plan/930924_v2.pdf>

1. USFWS Roseate Stern Five Year Review\_2010

[http://ecos.fws.gov/docs/five\_year\_review/docs3588.pdf](http://ecos.fws.gov/docs/five_year_review/doc3588.pdf)

1. USFWS Critical Habitat List:

<http://ecos.fws.gov/tess_public/CriticalHabitat.do?nmfs=1>

1. FESTF. 2012. Coincidence of ESA-listed species with federal lands and proximity to outer boundary. FIFRA Endangered Species Task Force. Data submitted to EPA March 2012.

**Species (common name): *Srtix occidentalis caurina* (Northern spotted owl)**

Listed status: Threatened (1)

Designated critical habitat? Yes

Primary Constituent Elements: The primary constituent elements specific to the northern spotted owl are as follows; note that PCE 1 must occur in concert with PCE 2, 3, or 4:

(1) Forest types that may be in early-, mid-, or late-seral stages and that support the northern spotted owl across its geographical range; these forest types are primarily:

(a) Sitka spruce,

(b) Western hemlock,

(c) Mixed conifer and mixed evergreen,

(d) Grand fir,

(e) Pacific silver fir,

(f) Douglas-fir,

(g) White fir,

(h) Shasta red fir,

(i) Redwood/Douglas-fir (in coastal California and southwestern Oregon), and

(j) The moist end of the ponderosa pine coniferous forests zones at elevations up to approximately 3,000 ft (900 m) near the northern edge of the range and up to approximately 6,000 ft (1,800 m) at the southern edge.

(2) Habitat that provides for nesting and roosting. In many cases the same habitat also provides for foraging (PCE (3)). Nesting and roosting habitat provides structural features for nesting, protection from adverse weather conditions, and cover to reduce predation risks for adults and young. This PCE is found throughout the geographical range of the northern spotted owl, because stand structures at nest sites tend to vary little across the northern spotted owl’s range. These habitats must provide:

(a) Sufficient foraging habitat to meet the home range needs of territorial pairs of northern spotted owls throughout the year.

(b) Stands for nesting and roosting that are generally characterized by:

(i) Moderate to high canopy cover (60 to over 80 percent);

(ii) Multilayered, multispecies canopies with large (20–30 in (51–76 cm) or greater dbh) overstory trees;

(iii) High basal area (greater than 240 ft2/ac (55 m2/ha));

(iv) High diversity of different diameters of trees;

(v) High incidence of large live trees with various deformities (e.g., large cavities, broken tops, mistletoe infections, and other evidence of decadence);

(vi) Large snags and large accumulations of fallen trees and other woody debris on the ground; and

(vii) Sufficient open space below the canopy for northern spotted owls to fly.

(3) Habitat that provides for foraging,which varies widely across the northern spotted owl’s range, in accordance with ecological conditions and disturbance regimes that influence vegetation structure and prey species distributions. Across most of the owl’s range, nesting and roosting habitat is also foraging habitat, but in some regions northern spotted owls may additionally use other habitat types for foraging as well. The foraging habitat PCEs for the four ecological zones within the geographical range of the northern spotted owl are generally the following:

(a) West Cascades/Coast Ranges of Oregon and Washington

(i) Stands of nesting and roosting habitat; additionally, owls may use younger forests with some structural characteristics (legacy features) of old forests, hardwood forest patches, and edges between old forest and hardwoods;

(ii) Moderate to high canopy cover (60 to over 80 percent);

(iii) A diversity of tree diameters and heights;

(iv) Increasing density of trees greater than or equal to 31 in (80 cm) dbh increases foraging habitat quality (especially above 12 trees per ac (30 trees per ha));

(v) Increasing density of trees 20 to 31 in (51 to 80 cm) dbh increases foraging habitat quality (especially above 24 trees per ac (60 trees per ha));

(vi) Increasing snag basal area, snag volume (the product of snag diameter, height, estimated top diameter, and including a taper function (North *et al.*1999, p. 523)), and density of snags greater than 20 in (50 cm) dbh all contribute to increasing foraging habitat quality, especially above 4 snags per ac (10 snags per ha);

(vii) Large accumulations of fallen trees and other woody debris on the ground; and

(viii) Sufficient open space below the canopy for northern spotted owls to fly.

(b) East Cascades

(i) Stands of nesting and roosting habitat;

(ii) Stands composed of Douglas-fir and white fir/Douglas-fir mix;

(iii) Mean tree size greater than 16.5 in (42 cm) quadratic mean diameter;

(iv) Increasing density of large trees (greater than 26 in (66 cm)) and increasing basal area (the total area covered by trees measured at breast height) increases foraging habitat quality;

(v) Large accumulations of fallen trees and other woody debris on the ground; and

(vi) Sufficient open space below the canopy for northern spotted owls to fly.

(c) Klamath and Northern California

Interior Coast Ranges

(i) Stands of nesting and roosting habitat; in addition, other forest types with mature and old-forest characteristics;

(ii) Presence of the conifer species, incense-cedar, sugar pine, Douglas-fir, and hardwood species such as bigleaf maple, black oak, live oaks, and madrone, as well as shrubs;

(iii) Forest patches within riparian zones of low-order streams and edges between conifer and hardwood forest stands;

(iv) Brushy openings and dense young stands or low-density forest patches within a mosaic of mature and older forest habitat;

(v) High canopy cover (87 percent at frequently used sites);

(vi) Multiple canopy layers;

(vii) Mean stand diameter greater than 21 in (52.5 cm);

(viii) Increasing mean stand diameter and densities of trees greater than 26 in (66 cm) increases foraging habitat quality;

(ix) Large accumulations of fallen trees and other woody debris on the ground; and

(x) Sufficient open space below the canopy for northern spotted owls to fly.

(d) Redwood Coast

(i) Nesting and roosting habitat; in addition, stands composed of hardwood tree species, particularly tanoak;

(ii) Early-seral habitats 6 to 20 years old with dense shrub and hardwood cover and abundant woody debris; these habitats produce prey, and must occur in conjunction with nesting, roosting, or foraging habitat;

(iii) Increasing density of small-tomedium sized trees (10 to 22 in (25 to, 56 cm)) increases foraging habitat quality;

(iv) Trees greater than 26 in (66 cm) in diameter or greater than 41 years of age; and

(v) Sufficient open space below the canopy for northern spotted owls to fly.

(4) Habitat to support the transience and colonization phases of dispersal, which in all cases would optimally be composed of nesting, roosting, or foraging habitat (PCEs (2) or (3)), but which may also be composed of other forest types that occur between larger blocks of nesting, roosting, and foraging habitat. In cases where nesting, roosting, or foraging habitats are insufficient to provide for dispersing or nonbreeding owls, the specific dispersal habitat PCEs for the northern spotted owl may be provided by the following:

(a) Habitat supporting the transience phase of dispersal, which includes:

(i) Stands with adequate tree size and canopy cover to provide protection from avian predators and minimal foraging opportunities; in general this may include, but is not limited to, trees with at least 11 in (28 cm) dbh and a minimum 40 percent canopy cover; and

(ii) Younger and less diverse forest stands than foraging habitat, such as even-aged, pole-sized stands, if such stands contain some roosting structures and foraging habitat to allow for temporary resting and feeding during the transience phase.

(b) Habitat supporting the colonization phase of dispersal, which is generally equivalent to nesting, roosting, and foraging habitat as described in PCEs (2) and (3), but may be smaller in area than that needed to support nesting pairs. (3, p. 71906, 71907).

Spatial data in recovery plan? No

Population size (most current estimate): no reliable estimate (1 p. A-4).

Body weight (in g):

Adult average: 580 (1, p. A-1)

Adult range: 430 - 690 (1, p. A-1)

Male average: 582 (2, p. 13)

Male range: 518 – 694 (2, p. 13)

Female average: 637 (2, p. 13)

Female range: 548-760 (2, p. 13)

Dates of Breeding Period:February to June (1 p. A-7).

Locations known to occur: Eastern Washington Cascades, Olympic

Peninsula, Western Washington Cascades, Western Washington

Lowlands provinces in **Washington,** Oregon Coast Range, Willamette Valley,

Western Oregon Cascades, Eastern Oregon Cascades, Oregon Klamath provinces in **Oregon**, California Coast, California Klamath, and California Cascades provinces in **California**. (1, p. A-2).

Federal lands or Indian reservations species is known to occur: (3 or 4)

|  |  |  |
| --- | --- | --- |
| Federal Land Name | Owner | State(s) |
| Grand Ronde Indian Reservation | BIA (Bureau of Indian Affairs) | OR |
| Warm Springs Indian Reservation | BIA (Bureau of Indian Affairs) | OR |
| Cougar Reservoir | Army Corps of Engineers | OR |
| Fall Creek Reservoir | Army Corps of Engineers | OR |
| Hills Creek Lake | Army Corps of Engineers | OR |
| Deschutes National Forest | FS | OR |
| Klamath National Forest | FS | CA, OR |
| Mount Hood National Forest | FS | OR |
| Rogue River National Forest | FS | CA, OR |
| Rogue River National Forest | FS | OR |
| Siskiyou National Forest | FS | CA, OR |
| Siskiyou National Forest | FS | OR |
| Siuslaw National Forest | FS | OR |
| Umpqua National Forest | FS | OR |
| Willamette National Forest | FS | OR |
| Winema National Forest | FS | OR |
| Cascade-Siskiyou National Monument | BLM | OR |
| Oregon Caves National Monument | NPS | OR |
| Crater Lake National Park | NPS | OR |
| Smith River National Recreation Area - Six Rivers National Forest | FS | CA |
| Columbia River Gorge National Scenic Area - Mount Hood National Forest | FS | OR |
| Upper Klamath National Wildlife Refuge | FWS | OR |
| Public Domain Land | BLM | CA, OR |
| Public Domain Land | BLM | OR |
| Table Rock Wilderness | BLM | OR |
| Wild Rogue Wilderness | BLM | OR |
| Badger Creek Wilderness - Mount Hood National Forest | FS | OR |
| Boulder Creek Wilderness - Umpqua National Forest | FS | OR |
| Bull of the Woods Wilderness - Mount Hood National Forest | FS | OR |
| Cummins Creek Wilderness - Siuslaw National Forest | FS | OR |
| Diamond Peak Wilderness - Deschutes National Forest | FS | OR |
| Diamond Peak Wilderness - Willamette National Forest | FS | OR |
| Drift Creek Wilderness - Siuslaw National Forest | FS | OR |
| Grassy Knob Wilderness - Siskiyou National Forest | FS | OR |
| Kalmiopsis Wilderness - Siskiyou National Forest | FS | OR |
| Mark O. Hatfield Wilderness - Mount Hood National Forest | FS | OR |
| Menagerie Wilderness - Willamette National Forest | FS | OR |
| Middle Santiam Wilderness - Willamette National Forest | FS | OR |
| Mount Hood Wilderness - Mount Hood National Forest | FS | OR |
| Mount Jefferson Wilderness - Deschutes National Forest | FS | OR |
| Mount Jefferson Wilderness - Willamette National Forest | FS | OR |
| Mount Washington Wilderness - Willamette National Forest | FS | OR |
| Mountain Lakes Wilderness - Winema National Forest | FS | OR |
| Opal Creek Wilderness - Willamette National Forest | FS | OR |
| Red Buttes Wilderness -Siskiyou National Forest | FS | OR |
| Rock Creek Wilderness - Siuslaw National Forest | FS | OR |
| Rogue-Umpqua Divide Wilderness - Rogue River National Forest | FS | OR |
| Rogue-Umpqua Divide Wilderness - Umpqua National Forest | FS | OR |
| Salmon-Huckleberry Wilderness - Mount Hood National Forest | FS | OR |
| Sky Lakes Wilderness - Rogue River National Forest | FS | OR |
| Sky Lakes Wilderness - Winema National Forest | FS | OR |
| Three Sisters Wilderness - Deschutes National Forest | FS | OR |
| Three Sisters Wilderness - Willamette National Forest | FS | OR |
| Waldo Lake Wilderness - Willamette National Forest | FS | OR |
| Wild Rogue Wilderness -Siskiyou National Forest | FS | OR |

Diet: Flying squirrels and dusky footed wood rats are most predominant diet; other dietary items include mice, voles, gophers, rabbits, rats, birds, insects, although these represent a small proportion of diet (1 p. A-9).

Relevant EFED model(s): T-REX

Habitat: Forest (1 p. vi, A-9).

Habitat size (home range):3,000 to 14,000 acres (1 p. A-7).

Migratory: No

Elevation restriction: None listed

Obligate relationships: None noted in available USFWS documentation. Reviewer believes that there are no obvious obligate relationships related to diet or habitat.

Comments: Body weight data correspond to *Strix occidentalis* individuals (2, p. 13).

Name of data extractor and date: Brian Anderson, 1/23/12

QC reviewer (date): Jean Holmes, 3/9/2012

Sources:

1. Species specific recovery plan available on FWS website.

<http://ecos.fws.gov/docs/recovery_plan/RevisedNSORecPlan2011_1.pdf>

1. Dunning, J.B. 1984. Body weights of 686 species of North American Birds. Western Bird Banding Association. Monograph number 1. May 1984.
2. Federal Register /Vol. 77, No. 233 Endangered and Threatened Wildlife and Plants; Designation of Revised Critical Habitat for the Northern Spotted Owl <http://www.gpo.gov/fdsys/pkg/FR-2012-12-04/pdf/2012-28714.pdf>
3. FESTF. 2012. Coincidence of ESA-listed species with federal lands and proximity to outer boundary. FIFRA Endangered Species Task Force. Data submitted to EPA March 2012.

**Species (common name): *Srtix occidentalis lucida* (Mexican Spotted Owl)**

Listed status: Threatened (3)

Designated critical habitat? Yes (3)

Primary Constituent Elements: Related to forest structure;

(1) a range of tree species, including mixed conifer, pine-oak, and riparian forest types, omposed of different tree sizes reflecting different ages of trees, 30 percent to 45 percent of which are large trees with a trunk diameter of 12 inches (0.3 meters) or more when measured at 4.5 feet (1.4 meters) from the ground;

(2) a shade canopy created by the tree branches covering 40 percent or more of the ground; and

(3) large dead trees (snags) with a trunk diameter of at least 12 inches (0.3 meters) when measured at 4.5 feet (1.4 meters) from the ground.

B. Primary constituent elements related to maintenance of adequate prey species:

(1) High volumes of fallen trees and other woody debris;

(2) A wide range of tree and plant species, including hardwoods; and

(3) Adequate levels of residual plant cover to maintain fruits, seeds, and allow plant regeneration. The forest habitat attributes listed above usually are present with increasing forest age, but their occurrence may vary by location, past forest management practices or natural disturbance events, forest type, productivity, and plant succession. These characteristics may also be observed in younger stands, especially when the stands contain remnant large trees or patches of large trees from earlier stands. Certain forest management practices may also enhance tree growth and mature stand characteristics where the older, larger trees are allowed to persist. Steep-walled rocky canyonlands are typically within the Colorado Plateau RU, but also occur in other RUs. Canyon habitat is used by owls for nesting, roosting, and foraging and includes landscapes dominated by verticalwalled rocky cliffs within complex watersheds, including many tributary side canyons. These areas typically include parallel-walled canyons up to 1.2 mi (2 kilometers (km)) in width (from rim to rim), with canyon reaches often 1.2 mi (2 km) or greater, and cool north-facing aspects. Rock walls must include caves, ledges, and fracture zones that provide protected nest and roost sites. Breeding sites are located below canyon rims; however, it is known that owls use areas outside of the canyons (*i.e.*, rims and mesa tops). Owls nest and roost primarily on cliff faces using protected caves and ledges, and forage in canyon bottoms, on cliff faces and benches, and along canyon rims and adjacent lands. Although it is difficult to rely upon vegetation alone to identify canyon habitat, these areas frequently contain small clumps or stringers of mixed-conifer, ponderosa pine, pine-oak, pinyon-juniper, and/or riparian vegetation.

C. Primary constituent elements related to canyon habitat include one or more of the following:

(1) presence of water (often providing cooler and often higher humidity than the surrounding areas);

(2) clumps or stringers of mixedconifer, pine-oak, pinyon-juniper, and/or riparian vegetation;

(3) canyon wall containing crevices, ledges, or caves; and

(4) high percent of ground litter and woody debris. (4, p. 53211)

Spatial data in recovery plan? Yes (1)

Population size (most current estimate): 1301 (1 p. 38)

Body weight (in g):

Male average: 582 (2, p. 13)

Male range: 518 – 694 (2, p. 13)

Female average: 637 (2, p. 13)

Female range: 548-760 (2, p. 13)

Dates of Breeding Period: March through mid June (1 p. 36).

Locations known to occur: AZ, CO, NM, TX, UT (see attached for list of counties). Mainly found in National Forests (3)

Federal lands or Indian reservations species is known to occur: (5)

|  |  |  |
| --- | --- | --- |
| Federal Land Name | Owner | State(s) |
| Fort Apache Indian Reservation | BIA (Bureau of Indian Affairs) | AZ |
| Jemez Indian Reservation | BIA (Bureau of Indian Affairs) | NM |
| Mescalero Apache Indian Reservation | BIA (Bureau of Indian Affairs) | NM |
| Navajo Indian Reservation | BIA (Bureau of Indian Affairs) | AZ, NM, UT |
| Picuris Indian Reservation | BIA (Bureau of Indian Affairs) | NM |
| Ramah Navajo Indian Reservation | BIA (Bureau of Indian Affairs) | NM |
| San Carlos Indian Reservation | BIA (Bureau of Indian Affairs) | AZ |
| San Ildefonso Indian Reservation | BIA (Bureau of Indian Affairs) | NM |
| Sandia Indian Reservation | BIA (Bureau of Indian Affairs) | NM |
| Santa Clara Indian Reservation | BIA (Bureau of Indian Affairs) | NM |
| Southern Ute Indian Reservation | BIA (Bureau of Indian Affairs) | CO |
| Ute Mountain Indian Reservation | BIA (Bureau of Indian Affairs) | CO, NM |
| Zuni Indian Reservation | BIA (Bureau of Indian Affairs) | NM |
| Fort Carson Military Reservation | Army | CO |
| Fort Huachuca | Army | AZ |
| Fort Wingate Depot Activity (Closed) | Army | NM |
| White Sands Missile Range | Army | NM |
| Navajo Army Depot (Closed), Coconino National Forest | Army, FS | AZ |
| Navajo Army Depot (Closed), Kaibab National Forest | Army, FS | AZ |
| Lake Powell | BOR | AZ, UT |
| McPhee Reservoir | BOR | CO |
| Navajo Reservoir | BOR | NM |
| Los Alamos National Laboratory | DOE (Dept. Energy) | NM |
| Los Alamos National Laboratory, Santa Fe National Forest | DOE (Dept. Energy), FS | NM |
| Los Alamos National Laboratory, Santa Fe National Forest, San Ildefonso Indian Reservation | DOE (Dept. Energy), FS, BIA (Bureau of Indian Affairs) | NM |
| Apache National Forest | FS | AZ, NM |
| Carson National Forest | FS | NM |
| Cibola National Forest | FS | NM |
| Coconino National Forest | FS | AZ |
| Coronado National Forest | FS | AZ |
| Coronado National Forest | FS | AZ, NM |
| Dixie National Forest | FS | UT |
| Fishlake National Forest | FS | UT |
| Gila National Forest | FS | NM |
| Kaibab National Forest | FS | AZ |
| Lincoln National Forest | FS | NM |
| Manti-La Sal National Forest | FS | UT |
| Pike National Forest | FS | CO |
| Prescott National Forest | FS | AZ |
| San Isabel National Forest | FS | CO |
| Santa Fe National Forest | FS | NM |
| Sitgreaves National Forest | FS | AZ |
| Tonto National Forest | FS | AZ |
| Coronado National Memorial | NPS | AZ |
| Bandelier National Monument | NPS | NM |
| Canyon de Chelly National Monument | NPS | AZ |
| Cedar Breaks National Monument | NPS | UT |
| Canyonlands National Park | NPS | UT |
| Capitol Reef National Park | NPS | UT |
| Gila Cliff Dwellings National Monument | NPS | NM |
| Navajo National Monument | NPS | AZ |
| Walnut Canyon National Monument | NPS | AZ |
| Carlsbad Caverns National Park | NPS | NM |
| Grand Canyon National Park | NPS | AZ |
| Guadalupe Mountains National Park | NPS | TX |
| Mesa Verde National Park | NPS | CO |
| Zion National Park | NPS | UT |
| Glen Canyon National Recreation Area | NPS | AZ, UT |
| Jemez National Recreation Area | FS | NM |
| Naval Observation Station | Navy | AZ |
| Public Domain Land | BLM | AZ |
| Public Domain Land | BLM | AZ, NM |
| Public Domain Land | BLM | CO |
| Public Domain Land | BLM | CO, UT, WY |
| Public Domain Land | BLM | NM |
| Public Domain Land | BLM | AZ, CA, NV, UT |
| Public Domain Land | BLM | CO, UT, WY |
| Public Domain Land | BLM | UT |
| Paria Canyon-Vermilion Cliffs Wilderness | BLM | AZ, UT |
| Aravaipa Canyon Wilderness - Public Domain Land | BLM | AZ |
| Canaan Mountain Wilderness Study Area | BLM | UT |
| Cheese Box Canyon Wilderness Study Area | BLM | UT |
| Desolation Canyon Wilderness Study Area | BLM | UT |
| Dirty Devil Wilderness Study Area | BLM | UT |
| Escalante National Monument | BLM | UT |
| Death Ridge Wilderness Study Area - Escalante National Monument | BLM | UT |
| Paria-Hackberry Wilderness Study Area - Escalante National Monument | BLM | UT |
| Fiddler Butte Wilderness Study Area | BLM | UT |
| Middle Point Wilderness Study Area | BLM | UT |
| Orderville Canyon Wilderness Study Area | BLM | UT |
| Spring Creek Canyon Wilderness Study Area | BLM | UT |
| The Watchman Wilderness Study Area | BLM | UT |
| Aldo Leopold Wilderness - Gila National Forest | FS | NM |
| Apache Kid Wilderness - Cibola National Forest | FS | NM |
| Bear Wallow Wilderness - Apache National Forest | FS | AZ |
| Box-Death Hollow Wilderness - Dixie National Forest | FS | UT |
| Castle Creek Wilderness - Prescott National Forest | FS | AZ |
| Chama River Canyon Wilderness - Santa Fe National Forest | FS | NM |
| Chiricahua National Monument Wilderness - Coronado National Forest | FS | AZ |
| Dark Canyon Wilderness - Manti-La Sal National Forest | FS | UT |
| Dome Wilderness - Santa Fe National Forest | FS | NM |
| Fossil Springs Wilderness - Coconino National Forest | FS | AZ |
| Four Peaks Wilderness - Tonto National Forest | FS | AZ |
| Galiuro Wilderness - Coronado National Forest | FS | AZ |
| Gila Wilderness - Gila National Forest | FS | NM |
| Kachina Peaks Wilderness - Coconino National Forest | FS | AZ |
| Kendrick Mountain Wilderness - Coconino National Forest | FS | AZ |
| Kendrick Mountain Wilderness - Kaibab National Forest | FS | AZ |
| Latir Peak Wilderness - Carson National Forest | FS | NM |
| Manzano Mountain Wilderness - Cibola National Forest | FS | NM |
| Mazatzal Wilderness - Tonto National Forest | FS | AZ |
| Miller Peak Wilderness - Coronado National Forest | FS | AZ |
| Mount Wrightson Wilderness - Coronado National Forest | FS | AZ |
| Pajarita Wilderness - Coronado National Forest | FS | AZ |
| Pecos Wilderness - Santa Fe National Forest | FS | NM |
| Pusch Ridge Wilderness - Coronado National Forest | FS | AZ |
| Red Rock-Secret Mountain Wilderness - Coconino National Forest | FS | AZ |
| San Pedro Parks Wilderness - Santa Fe National Forest | FS | NM |
| Sandia Mountain Wilderness - Cibola National Forest | FS | NM |
| Sierra Ancha Wilderness - Tonto National Forest | FS | AZ |
| Superstition Wilderness - Tonto National Forest | FS | AZ |
| Sycamore Canyon Wilderness - Coconino National Forest | FS | AZ |
| Sycamore Canyon Wilderness - Kaibab National Forest | FS | AZ |
| West Clear Creek Wilderness - Coconino National Forest | FS | AZ |
| White Mountain Wilderness - Lincoln National Forest | FS | NM |
| Withington Wilderness - Cibola National Forest | FS | NM |
| Bandelier Wilderness - Bandelier National Monument | NPS | NM |
| Chiricahua National Monument Wilderness - Chiricahua National Monument | NPS | AZ |
| Carlsbad Caverns Wilderness - Carlsbad Caverns National Park | NPS | NM |
| Guadalupe Mountains Wilderness - Guadalupe Mountains National Park | NPS | TX |
| Saguaro Wilderness - Saguaro National Park | NPS | AZ |
| Beaver Creek Wilderness Study Area - Public Domain Land | BLM | CO |
| Menefee Mountain Wilderness Study Area - Public Domain Land | BLM | CO |
| Weber Mountain Wilderness Study Area - Public Domain Land | BLM | CO |
| Mount Graham Wilderness Study Area - Coronado National Forest | FS | AZ |
| Grand Canyon National Park Wilderness Study Area - Grand Canyon National Park | NPS | AZ |

Note: List also includes land listed for the Spotted Owl (*Strix occidentalis*), as the Mexican spotted owl’s territory overlaps in Utah.

Migratory: Yes (1 p. 33).

Diet: Carnivore, small and medium rodents such as wood rats, mice, and voles; may also consume bats, birds, reptiles, arthropods (1 p. 36).

Relevant EFED model(s): T-REX

Habitat: Forest and canyonlands in SW U.S. (1 p. 7).

Habitat size (home range):>600 acres (1 p. 33).

Elevation restriction: None listed

Obligate relationships: None noted in available USFWS documentation. Reviewer believes that there are no obvious obligate relationships related to diet or habitat.

Comments: Body weight data correspond to *Strix occidentalis* individuals (2, p. 13).

Mexican spotted owls remain on or near their breeding territory and some migrate during the winter (1, p. 33)

Name of data extractor and date: Brian Anderson, 1/23/12

QC reviewer (date): Jean Holmes, 3/5/2012

Sources:

1. Species specific recovery plan available on FWS website.

<http://ecos.fws.gov/docs/recovery_plan/FR00000557-%20BP031995%20Draft%20MSO%20Recovery%20Plan%20First%20Revision.pdf>

1. Dunning, J.B. 1984. Body weights of 686 species of North American Birds. Western Bird Banding Association. Monograph number 1. May 1984.
2. Species Profile FWS web site: <http://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B074>
3. Federal Register /Vol. 69, No. 168 Endangered and Threatened Wildlife and Plants; Final Designation of Critical Habitat for the Mexican Spotted Owl; Final Rule <http://ecos.fws.gov/docs/federal_register/fr4341.pdf>
4. FESTF. 2012. Coincidence of ESA-listed species with federal lands and proximity to outer boundary. FIFRA Endangered Species Task Force. Data submitted to EPA March 2012.

**Species (common name):** *Synthliboramphus hypoleucus* (Xantus's Murrelet)

Listed status: Candidate (1)

Designated critical habitat? No (1)

Primary Constituent Elements: Not applicable

Spatial data in recovery plan? Not available

Population size (most current estimate): 39,700 (based on at-sea surveys in 1975-2003) (3)

Body weight (in g): 148-187 (3)

Dates of Breeding Period:March – July (3)

Locations known to occur: Oregon and California (Los Angeles, Santa Barbara, and Ventura Counties) (2)

Federal lands or Indian reservations species is known to occur: (4)

|  |  |  |
| --- | --- | --- |
| Federal Land Name | Owner | State(s) |
| Channel Islands National Park | NPS | CA |
| Channel Islands National Park, Open Water | NPS | CA |
| San Clemente Island Naval Reservation | DOD | CA |

Migratory: Yes (3)

Diet: saltwater zooplankton, small schooling fish (3)

Relevant EFED model(s): KABAM

Habitat: ocean, nest on shore (3)

Habitat size (home range):Not available

Elevation restriction: Not available

Obligate relationships: None noted in available USFWS documentation. Reviewer believes that there are no obvious obligate relationships related to diet or habitat.

Comments:

Nesting is asynchronous; peak breeding period varies by year (3)

Individuals forage many miles (documented cases are as far as 70 km) from the nest.

Name of data extractor and date: Kris Garber (4/29/15)

QC reviewer (date): Elyssa Arnold (5/6/15)

Sources:

1. Master list from FWS
2. <http://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B098>
3. <http://ecos.fws.gov/docs/candidate/assessments/2012/r8/B098_V01.pdf>

FESTF. 2012. Coincidence of ESA-listed species with federal lands and proximity to outer boundary. FIFRA Endangered Species Task Force. Data submitted to EPA March 2012.

**Species (common name): *Telespyza cantans* (Laysan Finch)**

Listed status: Endangered (4)

Designated critical habitat? No (4)

Primary Constituent Elements: Not Applicable

Spatial data in recovery plan? No

Population size (most current estimate): 17,780 +/- 2819 (Laysan Island) 329 (Pearl and Hermes Reef) (2 p. 9).

Body weight (in g):

Average: 21 (estimated) (3)

Range: 19-25.5 (estimated) (3)

Dates of Breeding Period: February – August (1, p. 15)

Locations known to occur: Laysan Island (a coral sand island NW of Hawaii) (1 p. 14).

Federal lands or Indian reservations species is known to occur: None (5)

Migratory: No

Diet: seeds, shoots of bushes, grasses, flowers, eggs of birds, dead sea birds, emerging fly larvae, other invertebrates (1 p. 14).

Relevant EFED model(s): T-REX

Habitat: Island

Habitat size (home range): not indicated.

Elevation restriction: none indicated.

Obligate relationships: None noted in available USFWS documentation. Reviewer believes that there are no obvious obligate relationships related to diet or habitat.

Comments:

No body weight data were located for this species. This species is 6-6.5 inches long (4), which indicates that this species is similar in size to the House finch (*Carpodacus mexicanus*), which is in the same family. Body weight data for the house finch*,* were used to approximate the body weight of this listed species.

Endemic to the island of Laysan in the Northwestern Hawaiian Islands, where it is the only remaining passerine species (2 p. 7).

The Laysan finch currently exists in two populations in the Northwestern Hawaiian Islands: the natural population on Laysan Island and the translocation-founded population at Pearl and Hermes Reef (2 p. 9).

Egg laying occurs from February to June and fledging occurs by late July and early August (1 p. 15).

Although this species is considered terrestrial, indirect effects to aquatic habitats will also be considered because they have been observed drinking from a spring and a saline lagoon (1).

Name of data extractor and date: Brian Anderson, 1/11/12

QC reviewer (date): Jean Holmes, 4/27/12, modified by K. Garber (5/22/15)

Sources:

1. Species specific recovery plan available on FWS website.

<http://ecos.fws.gov/docs/recovery_plan/841004.pdf>

1. Laysan finch (honeycreeper). 5-year review: Summary and Evaluation. 2008.

<http://ecos.fws.gov/docs/five_year_review/doc1765.pdf>

1. Dunning, J.B. 1984. Body weights of 686 species of North American Birds. Western Bird Banding Association. Monograph number 1. May 1984.
2. Species Profile FWS website: http://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B009
3. FESTF. 2012. Coincidence of ESA-listed species with federal lands and proximity to outer boundary. FIFRA Endangered Species Task Force. Data submitted to EPA March 2012.

**Species (common name): *Telespyza ultima* (Nihoa finch)**

Listed status: Endangered (4)

Designated critical habitat? No (4)

Primary Constituent Elements: Not Applicable

Spatial data in recovery plan? No

Population size (most current estimate): 2807 +/- 744 (2 p. 7).

Body weight (in g):

Average: 21 (estimated) (3)

Range: 19-25.5 (estimated) (3)

Dates of Breeding Period: February – August (1, p. 20)

Locations known to occur: Hawaii, Nihoa Island (2 p. 7).

Federal lands or Indian reservations species is known to occur: None (5)

Migratory: No

Diet: Omnivorous. Seeds, flower heads, invertebrates, bird eggs (1 p. 20).

Relevant EFED model(s): T-REX

Habitat: Island; distributed throughout Nihoa Island, which is a 156 acre area with steep slopes, rocky outcroppings, valleys, and cliffs. Finches prefer rocky outcroppings and open, vegetated habitat (1 p. 18).

Habitat size (home range):Not listed, but Nihoa island is 156 acres.(1 p. 18)

Elevation restriction: None listed

Obligate relationships: None noted in available USFWS documentation. Reviewer believes that there are no obvious obligate relationships related to diet or habitat.

Comments:

No body weight data were located for this species. This species is 6 inches long (4), which indicates that this species is similar in size to the House finch (*Carpodacus mexicanus*), which is in the same family. Body weight data for the house finch*,* were used to approximate the body weight of this listed species.

All nests appear to be built in holes of cliff outcroppings at elevations of 100- 850 feet (1 p. 20).

Egg laying – early Feb through July. Eggs hatch after 15 days (1 p. 20).

Although this species is considered terrestrial, indirect effects to aquatic habitats will also be considered because they have been observed congregating around seeps and ponds lagoon (1).

Name of data extractor and date: Brian Anderson, 1/20/2012

QC reviewer (date): Jean Holmes, 3/5/2012, modified by K. Garber (5/22/15)

Sources:

1. Species specific recovery plan available on FWS website.

<http://ecos.fws.gov/docs/recovery_plan/841004.pdf>

1. [Nihoa Finch (Telespiza ultima), 5-Year Review Summary and Evaluation](http://ecos.fws.gov/docs/five_year_review/doc3873.pdf), FWS

website: http://ecos.fws.gov/docs/five\_year\_review/doc3873.pdf

1. Dunning, J.B. 1984. Body weights of 686 species of North American Birds. Western Bird Banding Association. Monograph number 1. May 1984.
2. Species Profile FWS website: http://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B00A
3. FESTF. 2012. Coincidence of ESA-listed species with federal lands and proximity to outer boundary. FIFRA Endangered Species Task Force. Data submitted to EPA March 2012.

**Species (common name): *Tympanuchus cupido attwateri* (Attwater’s prairie chicken)**

Listed status: Endangered (2)

Designated critical habitat? No (2)

Primary Constituent Elements: Not Applicable

Spatial data in recovery plan? Yes (1, p. 2, 9, 10)

Population size (most current estimate): 90 (1 p. 1)

Body weight (in g): 737 - 1033 (1, p. 3)

Average female: 772 (3, p. 7)

Average male: 999 (3, p. 7)

Max weight female: 906 (3, p. 7)

Max weight male: 1362 (3, p. 7)

Dates of Breeding Period:Early March to late May (1 p. 16)

Migratory: No

Locations known to occur: Aransas, Austin, Colorado, Galveston, Goliad, Refugio, and Victoria counties in TX (2)

Federal lands or Indian reservations species is known to occur: None (4)

Diet: greens (leaves, flowers, buds from broadleaf plants and grasses), arthropods (grasshoppers and beetles) (1 p. 21).

Relevant EFED model(s): T-REX

Habitat: Grasslands and open space, woodland, brushland, fallow land, cultivated land (1 p. 11)

Habitat size (home range):456 to 1800 acres (1 p. 24)

Elevation restriction: None listed

Obligate relationships: None noted in available USFWS documentation. Reviewer believes that there are no obvious obligate relationships related to diet or habitat.

Comments:

Food for adult prairie chicken is about 85 % vegetable matter and 15% animal. With young birds the ratio of vegetable to animal is approximately reversed. Greens are lowest in the diet in November and December, seeds are taken in the smallest proportions in January, February and March; and insects are less frequently captured in November, December, and January. (1 p. 16)

Preferred plant food includes ruellia (*Ruellia spp.*), ragweed (*Ambrosia psilostachya*), blackberry (*Rubsu spp.*), doveweed (*Croton capitatus*), and sensitive briar (*Schrankia spp.*). Diet also includes cultivated crops (corn, peanuts, rice) (1, p. 21)

Body weight data from source 3 are from *Tympanuchus cupido*.

Name of data extractor and date: Brian Anderson, 1/23/12

QC reviewer (date): Jean Holmes, 2/25/2012

Sources:

1. Species specific recovery plan available on FWS website.

<http://ecos.fws.gov/docs/recovery_plan/100426.pdf>

1. Species Profile available on FWS website.

<http://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B00O#recovery>

1. Dunning, J.B. 1984. Body weights of 686 species of North American Birds. Western Bird Banding Association. Monograph number 1. May 1984.
2. FESTF. 2012. Coincidence of ESA-listed species with federal lands and proximity to outer boundary. FIFRA Endangered Species Task Force. Data submitted to EPA March 2012.

**Species (common name):** *Tympanuchus pallidicinctus* (Lesser prairie chicken)

Listed status: Threatened (1)

Designated critical habitat? No (1)

Primary Constituent Elements: Not applicable

Spatial data in recovery plan? Not available

Population size (most current estimate): Not available

Body weight (in g):

Average values (2)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Male (n) | |  | Female (n) | |
|  | Yearling | Adult |  | Yearling | Adult |
| **Colorado** | | | | | |
| KMG (Baca County) | 724 (30) | 762 (46) |  | 712 (46) | 730 (28) |
| CAH (Prowers County) | 737 (3) | 764 (9) |  |  |  |
| **New Mexico** | | | | | |
| Candelaria 1979 |  | 734 (9) |  |  | 679 (31) |
| Merchant 1982 |  | 684 (19) |  |  |  |
| Patten et al. 2005 |  | 721 (37) |  |  | 726 (27) |
| **Texas** | | | | | |
| Haukos 1988 | 806 (105) | 813 (66) |  | 728 (44) | 772 (11) |
| Olawsky 1987 |  | 743 (37) |  |  | 628 (18) |
| Sell 1979 | 748 (10) | 750 (11) |  | 707 (9) | 740 (10) |
| **Kansas (Hagen et al. 2004b)** | | | | | |
| Finney County | 790 (210) | 807 (294) |  | 710 (95) | 749 (108) |
| Comanche County | 729 (5) | 752 (9) |  |  |  |
| Kearny County | 785 (3) | 797 (26) |  |  |  |
| **Oklahoma** | | | | | |
| Patten et al. 2005 |  | 721 (37) |  |  | 721 (37) |

Dates of Breeding Period:April – July (2)

Locations known to occur:

Colorado: Baca, Bent, Cheyenne, Crowley, Kiowa, Lincoln, Prowers

Kansas: Barber, Baron, Clark, Comanche, Edwards, Ellis, Finney, Ford, Gove, Grant, Gray, Greeley, Hamilton, Haskell, Hodgeman, Kearny, Kiowa, Lane, Logan, Meade, Morton, Ness, Pawnee, Pratt, Rush, Scott, Seward, Sherman, Stafford, Stanton, Stevens, Trego, Wallace, Wichita

New Mexico: Chaves, Curry, DeBaca, Eddy, Guadalupe, Harding, Lea, Quay, Roosevelt, Union

Oklahoma: Alfalfa, Beaver, Cimarron, Dewey, Ellis, Harper, Roger Mills, Texas, Woods, Woodward

Texas: Andrews, Bailey, Carson, Castro, Cochran, Collingsworth, Deaf Smith, Donley, Gaines, Gray, Hemphill, Hockley, Lamb, Lipscomb, Moore, Ochiltree, Oldham, Parmer, Randall, Roberts, Swisher, Terry, Wheeler, Yoakum (3)

Federal lands or Indian reservations species is known to occur: (4)

|  |  |  |
| --- | --- | --- |
| Federal Land Name | Owner | State(s) |
| Fort Supply Lake | DOD | OK |
| Black Kettle National Grassland | FS | OK |
| Cimarron National Grassland | FS | KS |
| Comanche National Grassland | FS | CO |
| Public Domain Land BLM | BLM | NM |
| Salt Creek Wilderness, Bitter Lake National Wildlife Refuge | FWS | NM |

Migratory: No (2)

Diet:

Adults: Insects, seeds, leaves, buds (2)

Juveniles (<10 wks): insects (2)

Relevant EFED model(s): T-REX

Habitat: shrub-mixed grass habitat associated with sandy soil (2)

Mixed grass prairie and conservation reserve program land (2)

Habitat size (home range):8.5 – 1,945 ha (21 – 4,800 acres), varies by sex and season (2)

Elevation restriction: None

Obligate relationships: None noted in available USFWS documentation. Reviewer believes that there are no obvious obligate relationships related to diet or habitat.

Comments:

Diet includes cultivated grain (2)

Spring and Summer diet: 55% insects (grasshoppers, treehoppers), 23% leaves and flowers, 22% seeds (oak acorns). Fall and winter diet: 15% insects, 39% vegetation, 43% seeds. (2)

Name of data extractor and date: Kris Garber (4/27/15)

QC reviewer (date): Elyssa Arnold (5/6/15)

Sources:

1. Master list from FWS
2. Hagen, Christian A. and Kenneth M. Giesen. 2005. Lesser Prairie-Chicken (Tympanuchus pallidicinctus), The Birds of North America Online (A. Poole, Ed.). Ithaca: Cornell Lab of Ornithology; Retrieved from the Birds of North America Online: <http://bna.birds.cornell.edu/bna/species/364>

[doi:10.2173/bna.364](http://dx.doi.org/10.2173/bna.364)

1. <http://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B0AZ>
2. FESTF. 2012. Coincidence of ESA-listed species with federal lands and proximity to outer boundary. FIFRA Endangered Species Task Force. Data submitted to EPA March 2012.

**Species (common name): *Vermivora bachmanii* (Bachman’s Warbler)**

Listed status: Endangered (1)

Designated critical habitat? No (3)

Primary Constituent Elements: Not Applicable

Spatial data in recovery plan? Yes (1)

Population size (most current estimate): None seen since 1962. (1 p. 3)

Body weight (in g): 5.1-18.4 (estimated from similar species)

Breeding Period: March-June (1, p.3).

Locations known to occur: Miami-Dade, Monroe counties in **Florida**, Charleston County in **South Carolina** (4)

Federal lands or Indian reservations species is known to occur: (6)

* Francis Marion National Forest (FS)
* Wapanocca National Wildlife Refuge (FWS)
* Little Wambaw Swamp Wilderness - Francis Marion National Forest (FS)

Migratory: Yes (7)

Diet: insects (based on diet of Golden-Cheeked Warbler) (5 p. 16).

Relevant EFED model(s): T-REX

Habitat: Breeds in palustrine forested wetlands; seen near longleaf pine forest near brackish marsh. (1) 3

Home Range: None indicated

Elevation restriction: None indicated

Obligate relationships: None noted in available USFWS documentation. Reviewer believes that there are no obvious obligate relationships related to diet or habitat.

Comments:

No body weight data located for this species. Surrogate species from the same genus used to define range of body weights. *Vermivora pinus*: 7.2-11.0; *V. chyrsoptera*: 7.2-11.8; *V. peregrine*: 7.3-18.4; *V. celata*: 7.3-11.6; *V. ruficapilla*: 6.7-13.9; *V. virginiae*: 7.0-9.0; *V. crissalis*: 8-11.5; *V. luciae*: 5.1-7.9; 2, p. 21)

Last documented observation in the US in 1962. Breeding season search from 1975-1979, none found (1 p. 2).

Breed in the southeastern US. Migrate south in late winter and returns to breeding habitats in early spring (7).

Name of data extractor and date: Valerie Woodard February 28, 2012

QC reviewer (date): Jean Holmes, March 2, 2012

Sources:

1. Five Year Review: <http://ecos.fws.gov/docs/five_year_review/doc1037.pdf>
2. Dunning, J.B. 1984. Body weights of 686 species of North American Birds. Western Bird Banding Association. Monograph number 1. May 1984.
3. USFWS Crit Hab List:

<http://ecos.fws.gov/tess_public/CriticalHabitat.do?nmfs=1>

1. Species Profile FWS website: <http://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B03G>
2. Species Profile for Golden-Cheeked Warbler <http://ecos.fws.gov/docs/recovery_plan/920930f.pdf>
3. FESTF. 2012. Coincidence of ESA-listed species with federal lands and proximity to outer boundary. FIFRA Endangered Species Task Force. Data submitted to EPA March 2012.
4. USFWS species description: http://www.fws.gov/verobeach/MSRPPDFs/Bachmanswarbler.pdf

**Species (common name): *Vireo atricapilla* (Black-capped Vireo)**

Listed status: Endangered (1, p. iv)

Designated critical habitat? No (3)

Primary Constituent Elements: Not Applicable

Spatial data in recovery plan? Yes (1, p. 4-6)

Population size (most current estimate): Unknown; the known U.S. population was 5,996 males (Wilkins et al 2006), (2 p. 10)

Body weight (in g): 9-10 (1, p. 2)

Breeding Period: March-August (1 p.17)

|  |  |  |
| --- | --- | --- |
| Federal Land Name | Owner | State(s) |
| Camp Bullis | Army | TX |
| Fort Hood | Army | TX |
| Fort Sill Military Reservation | Army | OK |
| Lake Travis | BOR | TX |
| Big Bend National Park | NPS | TX |
| Balcones Canyonlands National Wildlife Refuge | FWS | TX |
| Wichita Mountains National Wildlife Refuge | FWS | OK |
| Wichita Mountains Wilderness - Wichita Mountains National Wildlife Refuge | FWS | OK |

Migratory: Yes, (2 p. 7)

Locations known to occur: Blaine, Caddo, Canadian, Cleveland, Comanche, Cotton, Kiowa, Tillman counties in **OK,** Bandera, Bell, Bexar, Blanco, Bosque, Brewster, Brown Burnet, Callahan, Coke, Coleman, Comal, Comanche, Concho, Cooke, Coryell, Crockett, Dallas, Eastland, Edwards, Erath, Gillespie, Hamilton, Hays, Hill, Hood, Irion, Jack, Jeff Davis, Johnson, Kendall, Kerr, Kimble, Kinney, Lampasas, Llano, Mason, McCulloch, McLennan, Medina, Menard, Midland, Mills, Montague, Nolan, Palo Pinto, Parker, Pecos, Reagan, Real, Runnels, San Saba, Schleicher, Shackelford, Somervell, Stephens, Sterling, Sutton, Taylor, Terrell, Tom Green, Travis, Upton, Uvalde, Val Verde, Williamson, Wise counties in **TX**. (3)

Federal lands or Indian reservations species is known to occur: (4)

Diet: insects (2, p. 7)

Relevant EFED model(s): T-REX

Habitat: Forest grassland ecotone: (1 p. 20); deciduous/evergreen shrubland. (1 p. iv)

Home Range (habitat size): 1-10 A

Black-capped vireos arrive in Texas from mid-March to mid-April, while those in Oklahoma arrive approximately 10 days later. They nest from Oklahoma south through central Texas to the Edwards Plateau, then south to the northern portion of Mexico (2 p. 7)

Breeding colonies have been documented in 49 TX counties, 5 OK counties and three Mexican states. Known to migrate to wintering habitats located along a narrow range stretching from approximately 16 to 27 degrees North latitude along the mountainous Pacific coast of Mexico (Figure 1). Recent observations suggest that most of the birds winter in the northern two-thirds of this area (2 p. 8)

Elevation restriction: not mentioned

Obligate relationships: None noted in available USFWS documentation. Reviewer believes that there are no obvious obligate relationships related to diet or habitat.

Comments:

In OK located in three focal areas in West Central OK Pg 2, figure 3

About 75 percent of the known population in the breeding range is found on four well-surveyed areas– Fort Hood Military Reservation (Texas), Kerr Wildlife Management Area (Texas), Wichita Mountains Wildlife Refuge (Oklahoma), and Fort Sill Military Reservation (Oklahoma). Together, these facilities cover approximately 400,000 acres (161,877 ha) – an area representing only 1 percent of the total area of rangeland in the Texas/Oklahoma range of the species. (2 p. 11)

Arrive in Texas from mid March to mid April and Oklahoma 10 days later. They migrate to wintering grounds in Mexico in July and are gone from Texas by mid-September (2, p. 7)

Name of data extractor and date: Valerie Woodard February 28, 2012

QC reviewer (date): Jean Holmes, March 2, 2012

Sources:

1. Species specific 1991 recovery plan available on FWS website.

<http://ecos.fws.gov/docs/recovery_plan/910930h.pdf>

1. USFWS Five Year Review: <http://ecos.fws.gov/docs/five_year_review/doc1073.pdf>
2. Species Profile FWS website: http://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B07T
3. FESTF. 2012. Coincidence of ESA-listed species with federal lands and proximity to outer boundary. FIFRA Endangered Species Task Force. Data submitted to EPA March 2012.

**Species (common name): *Vireo bellii pusillus* (least Bell’sVireo)**

Listed status: Endangered (1, p. iii)

Designated critical habitat? Yes (1, p. iii)

Primary Constituent Elements: Habitat features can be described as riparian woodland vegetation which generally contains both canopy and shrub layers, and includes some associated upland habitats. (4, p. 4846)

Spatial data in recovery plan? Yes (1, p. 5)

Population size (most current estimate): estimated 1,346 pairs (1 p. iii)

Body weight (in g):

Adult average: 8.5±0.55 (2, p. 20)

Adult range: 7.4-9.8 (2, p. 20)

Breeding Period: Mid March through Nov. (1 p. 14)

Locations known to occur: California (Imperial, Inyo, Kern, Los Angeles, Mono, Monterey, Orange, Riverside, San Benito, San Bernardino, San Diego, San Luis Obispo, Santa Barbara, Santa Cruz, Ventura Counties) (1 p. iii, 3).

Federal lands or Indian reservations species is known to occur: (5)

Migratory: Yes

Diet: insects (beetles, grasshoppers, moths, caterpillars) (1 p. 19)

Relevant EFED model(s): T-REX

Habitat:

Woodland including cotton-wood willow forest, Oak wood lands, and mule fat scrub (1 p. iii).

Scrub vegetation (1 p. iii).

Palm groves and hedgerows associated with agricultural fields and residential areas (1 p. iii).

Breed in riparian habitat, typically inhabiting structurally diverse woodlands along watercourses (1 p. 10)

Home Range: 0.5 to 7.5 acres. (1 p. 14)

Elevation restriction: not indicated

Obligate relationships: None noted in available USFWS documentation. Reviewer believes that there are no obvious obligate relationships related to diet or habitat.

Comments:

They obtain prey primarily by foliage gleaning and hovering (1 p. 19).

Body weight data from Vireo bellii located in Arizona (2, p. 20).

This species is a sub-tropical migrant. In a single trip, individuals travel approximately one thousand miles between the breeding and wintering grounds (1, p. 20). They arrive in California from mid march to early April to breed (1, p. 14).

Name of data extractor and date: Valerie Woodard February 28, 2012

QC reviewer (date): Jean Holmes, March 2, 2012

Kris Garber, 5/24/12

Sources:

1. Species specific recovery plan available on FWS website.

<http://ecos.fws.gov/docs/recovery_plan/980506.pdf>

1. Dunning, J.B. 1984. Body weights of 686 species of North American Birds. Western Bird Banding Association. Monograph number 1. May 1984.
2. Species profile for the Least Bell’sVireo (*Vireo bellii pusillus*). Available online at: <http://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B067>. Accessed 5/24/12**.**
3. Federal Register Noticed Vol. 59, No. 22Designation of Critical Habitat for the Least Bell's Vireo
4. FESTF. 2012. Coincidence of ESA-listed species with federal lands and proximity to outer boundary. FIFRA Endangered Species Task Force. Data submitted to EPA March 2012.

**Species (common name): *Zosterops conspicillatus conspicillatus* (Bridled White-eye)**

Listed status: Endangered (1)

Designated critical habitat? Proposed (4)

Primary Constituent Elements: Not Applicable

Spatial data in recovery plan? Yes (1, p. 22)

Population size (most current estimate): **0** (1, p. 23 and 2, p. 7-8)

Body weight (in g): 10 (3)

Dates of Breeding Period: year-round (1, p. 23)

Migratory: No

Locations known to occur: Guam, formerly island wide, last observed in Pajon Basin (1, p. 21, 23)

Federal lands or Indian reservations species is known to occur: None (5)

Diet: primarily insects, small amount of fruit and nectar (1, p. 23)

Relevant EFED model(s): T-REX

Habitat: Limestone forest, Scrub, Grasslands, Foothills, Beach, Wetlands, Woodlands (all available habitats on Guam) (1, p. 23)

Habitat size (home range): Not specified

Elevation restriction: None specified, max elevation on Guam is 405 m (1, p. 4)

Obligate relationships: None noted in available USFWS documentation. Reviewer believes that there are no obvious obligate relationships related to diet or habitat.

Comments: A Guam endemic subspecies (1, p. 1, 21). The 2009 5-year review recommends delisting based on **extinction**. This species was last observed in the wild in 1983. (2, p. 7-8)

Name of data extractor and date: Elyssa Gelmann, 15 February 2012

QC reviewer (date): Jean Holmes, 25 February 2012

Sources:

1. Species specific recovery plan available on FWS website, 1990:

http://ecos.fws.gov/docs/recovery\_plan/900928b.pdf

1. Bridled White-eye 5-Year Review available on FWS website, 2009:

http://ecos.fws.gov/docs/five\_year\_review/doc2528.pdf

1. Wilson Ornithological Society, Wilson Bulletin, Breeding Biology of the Rota bridle White”, Internet location: <http://www.jstor.org/pss/4164697>
2. USFWS. 1991. Proposed Designation of Critical Habitat for the Little Mariana fruit bat, Mariana Fruit Bat, Guam Broadbill, Mariana Crow, Guam Micronesian King fisher, and Guam Bridled White-Eye, 56 FR 2748527493. United States Fish and Wildlife Service.
3. FESTF. 2012. Coincidence of ESA-listed species with federal lands and proximity to outer boundary. FIFRA Endangered Species Task Force. Data submitted to EPA March 2012.

**Species (common name): *Zosterops rotensis* (Rota Bridled White-eye)**

Listed status: Endangered (1)

Designated critical habitat? Yes (3, p. 53589)

Primary Constituent Elements: Forest above 490 ft (150 m) in elevation containing a midstory and canopy layer, high epiphytic plant volume (typically 11 percent or greater), *Elatostema* and *Procris* spp. on the ground, and yoga, oschal, faniok, kafu, and/or ahgao trees as dominant forest components. In addition, the habitat should contain specific forest components for foraging, nesting, or both, as follows:

(1) Yoga, oschal, faniok, pengua, ahgao, amahadyan, avocado, hodda, mapunyao, atoto, sosugi, and/or sumaclada trees, and/or piao, in the canopy or subcanopy for foraging; or

(2) Yoga, oschal, faniok, and/or sosugi trees 10 to 49 ft (3 to 15 m) tall and 1 to 24 in (2 to 60 cm) diameter at breast height for nesting. (4, p. 53594)

Spatial data in recovery plan? Yes

Population size (most current estimate): August 1999 = 1,000 (2 p. 6).

Body weight (in g):

Average males: 9.7 (1, p. 6)

Average females: 9.2 (1 p. 6)

Breeding Period: Observations December –August but may breed year round (1 p. 11).

Locations known to occur: Rota-Northern Mariana Islands, Sabana region (1) iii.

Federal lands or Indian reservations species is known to occur: None (5)

Migratory: No

Diet: insects, fruit, seeds, nectar (1, p. 13).

Relevant EFED model(s): T-REX

Habitat: Forest (2 p. 6).

Home Range: 628 acres (2 p. 6).

Elevation restriction: Above 150 meters (2 p. 6).

Obligate relationships: None noted in available USFWS documentation. Reviewer believes that there are no obvious obligate relationships related to diet or habitat.

Comments: None

Name of data extractor and date: Valerie Woodard December 22, 2011

QC reviewer (date): Jean Holmes, 3/17/2012

Sources:

1. Species specific recovery plan available on FWS website.

[Rota Bridled White-eye (Nosa Luta) Final Recovery Plan](http://ecos.fws.gov/docs/recovery_plan/071019.pdf)

1. Rota White-eye or Nosa Luta 5 Year Review Summary and Evaluation. Species Profile FWS site. <http://ecos.fws.gov/docs/five_year_review/doc3342.pdf>
2. FWS Federal Register Notice: citation 71 FR 53589 53605 located: <http://www.gpo.gov/fdsys/pkg/FR-2006-09-12/pdf/06-7583.pdf#page=1>
3. Federal Register / Vol. 71, No. 176 Endangered and Threatened Wildlife and Plants; Designation of Critical Habitat for the Rota Bridled White-Eye (*Zosterops rotensis*) <http://www.gpo.gov/fdsys/pkg/FR-2006-09-12/pdf/06-7583.pdf#page=1>
4. FESTF. 2012. Coincidence of ESA-listed species with federal lands and proximity to outer boundary. FIFRA Endangered Species Task Force. Data submitted to EPA March 2012.

1. USFWS. 1984. Recovery plan for the golden coqui. United States Fish and Wildlife Service. Available online at: http://ecos.fws.gov/docs/recovery\_plan/840419c.pdf. [↑](#footnote-ref-1)