

**NATURAL RESOURCES CONSERVATION SERVICE
CONSERVATION PRACTICE STANDARD**

UPLAND WILDLIFE HABITAT MANAGEMENT

**(Acre)
Code 645**

DEFINITION

Provide and manage upland habitats and connectivity within the landscape for wildlife.

PURPOSE

Treating upland wildlife habitat concerns identified during the conservation planning process that enable movement, or provide shelter, cover, food in proper amounts, locations and times to sustain wild animals that inhabit uplands during a portion of their life cycle.

CONDITIONS WHERE PRACTICE APPLIES

Land where the decision maker has identified an objective for conserving a wild animal species, guild (associations), suite (group), or ecosystem.

Land within the range of targeted wildlife species and capable of supporting the desired habitat, such as songbirds.

This practice does not apply to preserving natural areas, such as shrub lands, forests, and riparian corridors, where no active management or periodic maintenance is planned.

CRITERIA

General Criteria Applicable to all Purposes

Application of this practice shall remove or reduce limiting factor(s) in their order of significance, as indicated by results of the habitat evaluation.

Application of this practice alone, or in combination with other supporting and facilitating practices, shall result in a conser-

vation system that will enable the planning area to meet or exceed the minimum quality criteria for wildlife habitat established in Section III of the FOTG.

Establish additional criteria for components of this practice including, but not limited to:

- Vegetation establishment for shelter, food and to enable movement.
- Structural measures to provide shelter, food or enable movement.
- Manipulation of vegetation to sustain desirable habitat conditions over time.

Plant material specifications shall include only high quality and adapted species.

Site preparation, planting dates, and planting methods shall optimize vegetation survival and growth.

Equipment travel, grazing, haying and other disturbance to habitat shall be restricted during critical periods such as nesting, brood rearing, fawning or calving seasons. States may establish exceptions when certain disturbance causing activities are necessary to maintain the health of the plant community and control noxious weeds.

Control of regulated noxious weeds and invasive plants shall be specified.

General Criteria Applicable to all Purposes

Upland wildlife habitat management shall consist primarily of managing vegetation to provide the quantity, quality, and distribution of upland habitat elements that will best meet the land user's objectives.

Conservation practice standards are reviewed periodically, and updated if needed. To obtain the current version of this standard, contact the Natural Resources Conservation Service.

The following elements shall be considered when assessing wildlife habitat. Not all elements may apply to every habitat type.

1. Food – types of food, quantity, quality, distribution, and seasonal availability.
2. Cover - types of cover (nesting and escape), quantity, quality, and distribution.
3. Water - quantity, quality, accessibility, and seasonal availability.
4. Interspersion and Connectedness – distance and connections to food, cover, and water.
5. Breeding habitats
6. Threats

Habitat development and management shall be based on the results of a habitat appraisal. For a quality rating use the Caribbean Wildlife Habitat Evaluation Worksheet for the appropriate habitat types (land use management system). If an evaluation determines that the current habitat quality is **less than 0.5** (on a scale of 0 to 1), recommendations shall be made to improve the existing habitat so that the planned (future) condition will have a quality rating of 0.5 or more.

If an evaluation determines that the current condition is **equal to or greater than 0.5**, recommendations shall be made to maintain the existing habitat in its present condition, or improve it toward optimum conditions.

Where habitat is lacking or less than optimum, provide nesting, feeding, resting, and/or protective cover, travel corridors, and water sources as needed, according to Caribbean Area conservation practice standards. These standards include, but are not limited to, those listed as follows:

1. Conservation Cover, Code 327
2. Conservation Crop Rotation, Code 328
3. Fence (Live Posts), Code 382
4. Field Border, Code 386

5. Filter Strip, Code 393
6. Forage Harvest Management, Code 511
7. Fuel Break (383)
8. Hedgerow Planting, Code 422
9. Pasture and Hayland Planting, Code 512
10. Pond, Code 378
11. Residue Management, Codes 329, 345, 346 and Code 344
12. Riparian Forest Buffer, Code 391
13. Shallow Water Management for Wildlife (Ac.) (646)
14. Spring Development, Code 574
15. Tree Planting, Code 612
16. Use Exclusion, Code 472

Vegetative manipulations to restore plant diversity and provide for wildlife habitat shall be accomplished by mowing, light disking, selective cutting, prescribed grazing, planting of annual food plots, or a combination of these methods, as appropriate.

All areas managed for upland wildlife habitat shall be protected, insofar as practicable, from the adverse effects of agricultural, commercial, and residential activities. Livestock and other domestic animals shall be managed or excluded as appropriate from designated habitat areas.

Management and maintenance activities shall be conducted at times when there will be minimal disturbance of wildlife and their habitat.

Contamination by pesticides, herbicides, and other chemicals shall be avoided. If weed control is necessary, preference shall be given to mechanical rather than chemical methods, whenever feasible. Frequent monitoring of the habitat area and adjacent areas should minimize the need to control invasive plant species. Noxious weeds shall be controlled as required by state law.

CONSIDERATIONS

The following items must be considered when managing an area for upland wildlife:

1. Purpose of the project, including identification of the wildlife species or groups of species to be supported and the habitat needs that can be met on the managed property.
2. Surrounding landscape and its relationship to the project location.
3. Site conditions such as soils, available water sources, water quality and quantity, and existing vegetation.
4. The feasibility of providing food, cover, and water for the desired wildlife species at the appropriate time of year.
5. The positive and negative impacts that target specie and other upland wildlife may have on the successful management of the site as well as on surrounding areas. Also consider the potential for attracting nuisance wildlife into an area.
6. Use this practice to promote the conservation of declining species, including threatened and endangered species.
7. Create large blocks of habitat versus increased edge, which leads to predation and parasitism by some species.
8. Consider habitat linkages and habitat corridors when developing upland wildlife habitat.

PLANS AND SPECIFICATIONS

Plans and specifications for upland wildlife habitat management shall be prepared in accordance with the previously listed criteria. Plans and specifications shall contain sufficient detail concerning management of habitat elements to ensure successful implementation of this practice.

The minimum data and documentation to be recorded in the case file:

1. Identify the wildlife species desired and the type of habitat to be managed.

2. Provide the field location of the project and acres, and assistance notes.
3. Note the location of the managed habitat on the conservation plan map.

OPERATION AND MAINTENANCE

Management and maintenance activities shall be conducted at times when there will be minimal disturbance of wildlife and their habitat. Activities will be scheduled to avoid periods when upland wildlife are nesting, and or allow the establishment, development, and management of upland vegetation for the intended purpose.

At a minimum, the following components shall be addressed in the O&M plan, as applicable:

Vegetation

Inspection to determine whether the desired vegetation is present in suitable quantity, quality, and distribution to meet the objectives of the project; the extent of management needed to maintain the desired plant species; and time of year restrictions on mowing, and others as applicable.

Table 1 includes information regarding important vegetation for wildlife species. Information about birds habitat, nest, feeding and nesting period were included in tables 2 and 3. For English, Spanish, and scientific names use table 4.

Water Sources

Water availability and quality to meet objectives of the practice; required inspections to assess the integrity of the structure and determine whether it is functioning properly.

Nuisance Plants and Animals

Describe the extent to which plant and animal pest species, including noxious weeds, will need to be controlled.

Acceptable Uses

Describe the acceptable uses (e.g., haying, grazing, nature preserve, etc.) and time of year/frequency of use restrictions, if any.

Frequency of Inspections

At a minimum, require annual inspections of vegetative and structural components.

References:

Vegetation:

Flora of Puerto Rico and adjacent islands: systematic synopsis, second edition Lioger & Martorell

Árboles Comunes de Puerto Rico y las Islas Vírgenes, Segundo volumen, USDA Forest Service

NRCS-CRP Eligibility Worksheet, National Ranking Factor (N1) Wildlife Cover Benefits Naturalized Exotic Tree Species in Puerto Rico, USDA Forest Service GTR SO-82

Boletín Forestal Área del Caribe, USDA Forest Service, Agosto 1978

PLANTS Database (<http://plants.usda.gov/>)

U.S. Geological Survey (USGS) Biological Resources Division (<http://biology.usgs.gov/>).

U.S.D.A. Drawings (<http://huntbot.andrew.cmu.edu/USDA/USDA-Drawings-03.html>).

TROPICOS Image List (<http://mobot.mobot.org/W3T/Search/image/iix239.html>).

The Next Generation of Field Guides: The Common Woody Plants of Puerto Rico (<http://cgsc.biology.yale.edu/newfield.html>).

Departamento de Recursos Naturales y Ambientales de Puerto Rico Web page (<http://www.drnpr.com/>).

Puerto Rico's Birds in Photographs, Mark W. Oberle

A Guide to the Birds of Puerto Rico and Virgin Islands, Herbert A. Raffaele.

Aves de Puerto Rico, Virgilio Biaggi.

Table 1. Vegetation Producing Food, Shelter, Cover or Breeding for Wildlife

Woody and herbaceous vines		
Spanish name	English name	Scientific name
Bejuco de berac	West Indian milkberry	<i>Chiococca alba</i> (L.) Hitchc.
Bejuco de paloma (Bejuco de guajanilla)	Bread and cheese	<i>Paullinia pinnata</i> L.
Bejuco de playa	Bay hops	<i>Ipomoea pes-caprae</i>
Bejuco de puerco	Darkeye morning glory	<i>Ipomoea tiliacea</i>
Cohombro (Pepinillo)	Cherkin, Cucumber	<i>Cucumis anguria</i> L.
Conchitas	Butterfly pea	<i>Clitoria ternatea</i>
Cundeamor	Wild balsam apple balsampear	<i>Momordica charantia</i> L.
Flor de conchitas	Centro, butterfly-pea	<i>Centrosema pubescens</i>
Parcha	Passion fruit	<i>Passiflora edulis</i> Sims.
Tagua-tagua (Flor de pasión silvestre)	Love-in-a-mist	<i>Passiflora foetida</i> L.
	Purple bushbean	<i>Macroptilium atropurpureum</i>

Forbs and runners		
Spanish name	English name	Scientific name
Blero	Spleen amaranth	<i>Amaranthus dubius</i> Mart.
Botón de cadete (molinillo)	Lion's ear	<i>Leonotis nepetifolia</i> (L.) R. Br.
Cardo santo		<i>Mexican pricklypoppy</i>
Cotarrera de agua	Slender	<i>Fourspike heliotrope</i>
Crotalaria	Sunn hemp	<i>Crotalaria juncea</i>
Guineo	Banana	<i>Musa sapientum</i> L.
Habichuela parada	Wild bush bean	<i>Macroptilium lathyroides</i>
Leche vana (acerca amor)	Mexican fireplant	<i>Euphorbia heterophylla</i> (L.)
Lechecillo	Pillpod sandmat	<i>Chamaesyce hirta</i> (L.) Millsp
Llantén	Greater plantain	<i>Plantago major</i> (L)
Matagallina (yerba mora)	Black nightshade	<i>Solanum americanum</i> Mill
Morivivi bobo (Yerba rosario)	Shyleaf	<i>Aeschynomene americana</i> L.
Verdolaga	Little hogweed	<i>Portulaca oleracea</i>
Verdolaga de abrojo	Big caltrop	<i>Kallstroemia maxima</i> (L.)
Verdolaguilla (Verdolaga francesa)		<i>Talinum triangulare</i> (Jacq.)
Vinagrillo (Trebolillo)	Yellow sorrel	<i>Oxalis corniculata</i> (L.)
Yerba de hicotea	Denseflower knotweed	<i>Polygonum glabrum</i> Willd.in L
Yerba de zanjas	Ditch-grass	<i>Ruppia maritima</i> L.

Grass and grass-like		
Spanish name	English name	Scientific name
Arrocillo	Barnyard grass	<i>Echinochloa crus-galli</i> (L.)
Arroz	Rice	<i>Oryza sativa</i> L.
Carrucillo (cortadora)		<i>Olyra latifolia</i> L.
Cerrillo (Matojo de burro)	Dropseed, smutgrass	<i>Sporobolus indicus</i>
Cohitre azul	Tahitian bridalveil	<i>Gibasis geniculata</i> (Jack)
Cohitre falso (carruzo)		<i>Ichnanthus pallens</i>
Coquí	Common goldstar	<i>Hypoxis decumbens</i> (L.)
Coquí blanco		<i>Rhynchospora nervosa</i> spp. <i>Ciliata</i>
Cortadora de altura	Forest saw-grass (razor grass)	<i>Scleria secans</i> L.
Gramma colorada	Broadleaf carpetgrass	<i>Axonopus compressus</i>
Gramma de costa (horquetilla)	Radiate fingergrass	<i>Chloris radiata</i> (L.) Sw
Junquito	Forked fimbry	<i>Fimbristylis dichotoma</i> (L.)
Maíz	Corn	<i>Zea mays</i> L.
Malojillo	Para grass	<i>Brachiaria mutica</i>
Matojo blanco (cortadero)	Cortadero	<i>Paspalum virgatum</i> L.
Millo, Mijo	Broomcom	<i>Sorghum vulgare</i>
Pajón	Railroad- track grass	<i>Dichanthium annulatum</i>
Pata de gallina	Goosegrass	<i>Eleusine indica</i> (L.) Gaertn.
Pendejuelo	Crabgrass	<i>Digitaria sanguinalis</i> L. Scop.
Yerba bahía	Bahia grass	<i>Paspalum notatum</i>
Yerba Bermuda	Bermuda grass	<i>Cynodon dactylon</i>
Yerba brava (cortadera)	Cortadera	<i>Paspalum millegrana</i> Schrad.
Yerba Buffel	Buffel grass	<i>Pennisetum ciliare</i>
Yerba de Guinea	Guinea grass	<i>Urochloa maxima</i>
Yerba egipcia	Crowfoot grass	<i>Dactyloctenium aegyptium</i> (L.)
Yerba Johnson	Johnson grass	<i>Sorghum halepense</i>
Yerba venezolana	Venezuelan grass	<i>Paspalum fasciculatum</i>

Shrub-like, shrubs and trees		
Spanish name	English name	Scientific name
Achiotillo		<i>Alchornea latifolia</i> Sw.
Adormidera (guayacaniillo)	Yellow balsam	<i>Croton flavens</i>
Ají (ají picante)	Wild pepper	<i>Capsicum frutescens</i> L.
Algarroba	Locust tree	<i>Hymenaea coubaril</i>
Almácigo	Turpentine tree	<i>Bursera simaruba</i>
Almendrón	Bully-tree	<i>Pouteria multiflora</i> L.
Anón	Sugar apple	<i>Annona squamosa</i> L.
Bálsamo (Doña Julia Pata de pájaro)	Scarletbush	<i>Hamelia patens</i> (Jack)
Berenjena cimarrona	Turkey berry	<i>Solanum torvum</i> Sw.
Bretónica prieta		<i>Melochia nodiflora</i> Sw.
Bucayo enano (Bucayo sin espina, machete)	Erythrina	<i>Erythrina berteroana</i> Urban
Cabo de hacha (Tinacio)	Broomstick	<i>Trichilia hirta</i>
Cachimbo	Red cappel	<i>Palicourea crocea</i> (Sw.) R.&S.
Cadillo	Caesarweed	<i>Urena lobata</i>
Cadillo de perro	Sacramento Burrbark	<i>Triumfetta semitriloba</i> Jacq.
Café de La India (Mirto)	Orange jessamine	<i>Murraya exotica</i> (L.) Jack
Camasey blanco		<i>Miconia prasina</i>
Camasey de felpa (terciopelo)		<i>Miconia racemosa</i> Aubl. D.C.
Canela	Wild cinnamon	<i>Canella winteriana</i>
Capá blanco	Bastard stopper	<i>Petitia domingensis</i> Jacq.
Capá colorado (cerezo)	Smooth manjack	<i>Cordia laevigata</i> Lam.
Capá prieto		<i>Cordia alliodora</i>
Caracolillo		<i>Trichilia pallida</i>
Cariaquillo Santa María	Button or wild sage	<i>Lantana involucrata</i> L.
Cedro hembra	Cigar box cedar	<i>Cedrela odorata</i>
Ceiba	Silk-cotton tree	<i>Ceiba pentandra</i>
Cereza	Red manjack	<i>Cordia collococca</i>
Cerezo, Caracolillo (cotorrerillo)	Wild honeytree	<i>Casearia decandra</i> Jacq.
China dulce	Sweet orange	<i>Citrus sinensis</i> (L) Osbeck
Ciruela del país (jobillo)	Purple mombin	<i>Spondias purpurea</i> L.
Cóbana negra		<i>Stahlia monosperma</i>
Cojoba	Red tamarind	<i>Pithecellobium arboreum</i>
Cojóbana	Cohoba	<i>Piptadenia peregrina</i>
Corazón	Custard apple	<i>Annona reticulata</i> L.
Corazón cimarrón	Pond apple	<i>Annona glabra</i>
Corcho	Black mampoo	<i>Guapira fragans</i>
Crotón lobulado	Lobed croton	<i>Croton lobatus</i> L.
Cupey	Balsam fig	<i>Clusia rosea</i>
Desmanto		<i>Desmanthus spp</i>
Emajagua	Sea hibiscus	<i>Hibiscus tiliaceus</i> L.
Escoba blanca (majagua)	Commoc wireweed	<i>Sida acuta</i> Burm. f

Shrub-like, shrubs and trees (cont.)		
Spanish name	English name	Scientific name
Espino rubial	Prickle yellow	<i>Zanthoxylum caribaeum</i>
Espinosa, Ayua	Prickle ash	<i>Zanthoxylum martinicense</i>
Flamboyán	Flame tree	<i>Delonix regia</i>
Fresa de montaña	Wild raspberry	<i>Rubus rosifolius</i> Smith
Gandul	Pigeon pea	<i>Cajanus cajan</i> Huth
Garrocho	Swizzle-stick tree	<i>Quararibea turbinata</i>
Granadillo	Yellow sanders	<i>Buchenavia tetraphylla</i>
Guaba		<i>Inga vera</i>
Guácima	Bastard cedar	<i>Guazuma ulmifolia</i>
Guamá	Pomshock	<i>Inga lauriana</i>
Guama venezolano		<i>Inga quaternata</i>
Guanábana	Soursop	<i>Annona muricata</i> L.
Guara		<i>Cupania americana</i>
Guaraguo	Musk wood	<i>Guarea guidonia</i>
Guayacán	Lignum-vitae	<i>Guaiacum officinale</i>
Guayacán blanco	Hollywood lignum-vitae	<i>Guaiacum sanctum</i>
Hedionda	Coffee senna	<i>Senna occidentalis</i> L.
Hicaco, Icaco	Coco plum	<i>Chrysobalanus icaco</i> L.
Higo silvestre	Common fig	<i>Ficus carica</i> L.
Higüero	Calabash	<i>Crescentia cujete</i>
Higuillo de hoja menuda		<i>Piper aduncum</i> L.
Jaboncillo	Wingleaf soapberry	<i>Sapindus saponaria</i>
Jagua	Genip	<i>Genipa americana</i> L.
Jagüey blanco		<i>Ficus trigonata</i>
Jagüey macho	Wild bayantree	<i>Ficus citrifolia</i>
Jagüey prieto		<i>Ficus sintensii</i>
Jobo (jobo gusanero)	Yellow mombin	<i>Spondias mombin</i> L.
Laurel amarillo		<i>Nectandra turbacensis</i>
Laurel avispillo (bobo)		<i>Cinnamomum elongatum</i>
Laurel de paloma		<i>Ocotea portoricensis</i> Mez.
Laurel espada		<i>Ocotea floribunda</i>
Laurel geo	Loblolly sweetwood	<i>Ocotea leucoxylon</i>
Maga	Maga wood	<i>Thespesia gandiflora</i>
Mamey	Mammee apple	<i>Mammea americana</i> L.
Malagueta	Bay-rum-tree	<i>Pimenta racemosa</i>
Mangó	Mango tree	<i>Mangifera indica</i> L.
Manzanillo	Manchineel	<i>Hippomane mancinella</i>
María		<i>Calophyllum calaba</i>
Maricao (doncella)		<i>Byrsonima spicta</i>
Masa		<i>Tetragastris balsamifera</i>
Mata de mariposa		<i>Gonzalagunia hirsuta</i>
Mierda de gallina	Caribbean myrtlecroton	<i>Bernardia dichotoma</i> (Willd.).

Shrub-like, shrubs and trees (cont.)		
Spanish name	English name	Scientific name
Moca	Cabbage bark	<i>Andira inermis</i>
Moral (Moral de paz)	White/Mucilage manjack	<i>Cordia sulcata</i> DC
Moralón		<i>Coccoloba pubescens</i>
Muñeco/Capá (cimarrón)	Manjack	<i>Cordia borinquensis</i> Urban
Murta		<i>Eugenia sintenisii</i> Kiaersk
Naranja	Sour orange	<i>Citrus aurantium</i> L.
Nigua	Chiggery grapes	<i>Tournefortia hirsutissima</i> L
Noni, Gardenia hedionda	Indian mulberry	<i>Morinda citrifolia</i>
Ortegón		<i>Coccoloba rugosa</i>
Pajuil	Cashew nut	<i>Anacardium occidentale</i> L.
Palma de abanico	Broom teyer	<i>Coccothrinax alta</i>
Palma de lluvia		<i>Gaussia attenuata</i>
Palma de sierra	Sierra palm	<i>Prestoea montana</i>
Palma real	Puerto Rico royal palm	<i>Roystonea borinquena</i>
Palma sombrero	Hat palm	<i>Sabal causiarum</i>
Palo blanco	Varital	<i>Drypetes glauca</i> Vahl.
Palo de Jazmín		<i>Styrax portoricensis</i>
Palo de paloma (coral, manto)	Poison cherry, (wild cherry)	<i>Crossopetalum rhacoma</i> Crantz
Palo de Perico (basora prieta saraguaso)	Black sage	<i>Cordia polycephala</i> (Lam.)
Palo de violeta	Violet tree	<i>Polygala cowellii</i>
Palo moro (bálsamo)	Seminole balsamo	<i>Psychotria nervosa</i>
Panapén	Breadfruit	<i>Artocarpus altilis</i>
Pazote	Sowbane (wormseed)	<i>Chenopodium ambrosioides</i>
Péndula (Higuerillo, palo de guitarra)	Florida fiddlewood (Pasture fiddlewood)	<i>Citharexylum fruticosum</i> L
Pollo		<i>Dendropanax arboreus</i>
Pomarrosa	Rose apple, plum rose	<i>Syzygium jambos</i>
Rabo ratón	Wild cherry	<i>Casearia arborea</i>
Roble blanco	White cedar	<i>Tabebuia heterophylla</i>
Roble Cimarrón		<i>Tabebuia haemantha</i>
Roble de guayo (Palo de vaca)	Bodywood	<i>Bouyeria succulenta</i> Jacq.
Sabinón		<i>Croton poecilantus</i>
Sáuco cimarrón (Avispillo)	Muttonwood	<i>Turpinia occidentalis</i> (Sw)
Sebucán, dildo	Royen's tree cactus	<i>Pilosocereus royenii</i> (L.)
Tabonuco	Candlewood	<i>Dacryodes excelsa</i> Vahl.
Tachuelo	Fustic	<i>Pictetia aculeata</i>
Tortugo amarillo	False mastic	<i>Mastichodendron foetidissimum</i>
Tuatúa (higuerreta cimarrona)	Bellyache bush	<i>Jatropha gossypifolia</i> L.
Ucar	Black olive	<i>Bucida buceras</i>

Shrub-like, shrubs and trees (cont.)		
Uva de Playa	Seaside grape	<i>Coccoloba uvifera (L.) L.</i>
Yagrumo hembra	Trumpet tree	<i>Cecropia schreberiana</i>
Yagrumo macho	Matchwood	<i>Schefflera morototoni</i>
Yerba capitana	Bertero's mistletoe	<i>Phoradendron dichotomum</i>
Yuca	Cassava	<i>Manihot esculenta Crantz</i>
Zarcilla	Leadtree	<i>Leucaena leucocephala</i>
Zarabacoa enana	Pencil flower/cheesytoes	<i>Stylosanthes hamata</i>
Zarzamora	Sawtooth blackberry	<i>Rubus argutus Link.</i>

Table 2. Birds Information

Spanish	Habitat	Nest	Feeding
Bien-Te-Veo de Puerto Rico	Mountain forest, coffee plantation, coastal karst and thorn forest with vine tangles.	Deep, cup-shaped, low to moderate elevation.	Insects (grasshopper, cicadas, beetles, aphid and caterpillars).
Bobito	Forests of moderate elevation, coffee plantations.	Cup of mosses, lichens and other fine materials, with thin bark camouflaging the exterior.	Insects
Carpintero de Puerto Rico	Forest, coffee plantations, mangroves, palm grove, parks and gardens.	Nest cavities are usually high in trees.	Insects, lizards, scorpions, and frogs.
Come ñame de Puerto Rico	Moist and dry forest with thick brushy areas, and coffee plantations (not found from Fajardo to Ceiba).	Open or domed with an entrance in the side.	Seeds, fruits and buds.
Cotorra de Puerto Rico	Forest	A large tree cavity in a tree trunk, usually palo colorado tree (<i>Cyrilla racemiflora</i>).	Seeds, fruits and flowers, important food tree: sierra palm (<i>Prestoea montana</i>).
Guabairo	Dry, semideciduous forest with open understory and dense leaf litter.	Normal clutch and these are laid directly on the leaf litter on the forest floor beneath the brush.	Insects
Jui	Shade coffee plantations and lower elevation forests, especially in coastal scrub forests.	Tree hole	Weevils, caterpillars, bees, wasps, dragonflies, and hemipteran insects, wild fruit and berries. occasionally snails, lizards and frogs.
Llorosa de P.R.	Mountain forests, shade coffee plantations, and gardens at higher elevations.	Cup-shaped made of roots, vines and strands of fungus, lined with strips of palm leaves.	Insects, (moths, caterpillars, beetles, grasshoppers, ants), spiders, snails, and lizards) fruit and some seeds.
Mariquita de Puerto Rico	Open, dry forests and mangroves of southwestern Puerto Rico.	Cup nest in mangroves, palms, and other trees or in a tree cavity or nest box.	Insects and seeds.
Múcaro Común	Wooded areas, dense tree stands.	Tree cavity, hole in a tree.	Large insects (crickets, grasshoppers, roaches, beetles, moths, caterpillars).

Birds Information (cont.)			
Spanish	Habitat	Nest	Feeding
Puerto Rican Lizard-Cuckoo	Thick forests, coffee plantations limestone hills, and even suburban neighborhoods adjacent to dense vegetation.	Twig platform in a tree or bush.	Small lizards, large spiders and insects, spiders and insects, including cicadas, beetles, stick insects, and caterpillars.
Reina Mora*	Forests, suburban gardens, and plantations with fruiting plants	Ranging from a small cup, to bulky, deeper nests.	Berries and fruits such as figs, blackberries and Cecropia fruits, but will consume some aphids and other insects.
Reinita del Bosque Enano	Mountain cloud forest and lower montane forest from 370-1030 meters in elevation.	Unknown	Insects
Reinita Mariposera*	Dry, lowland forests and some moist forest areas, with tangles of vines and thickets, especially in the southwest and the northern limestone hills.	Finely woven cup-shaped located in a tree or dense thicket, cup placed 3-20 feet high in a tree or shrub.	Lantern flies, grasshoppers, caterpillars, stink bugs, flies, weevils, other beetles, spiders, and rarely small frogs.
San Pedrito de Puerto Rico	Forest types with dense thickets and vines, as long as there are earthen banks or road cuts for nesting, arid area in the south.	Excavates a curved burrow with a terminal nest chamber into an earth bank.	Insects, including katydids, grasshoppers, crickets, earwigs, dragonflies, flies (Diptera), and beetles (Coleoptera), as well as spiders, and occasional small lizards and fruits.
Zumbador verde de P.R.	Coffee plantations, forest central and western mountains.	Cup-shaped nest that is coated with lichens, typically placed on a tree limb.	Insects (such as beetles, flies, lantern flies), spiders, and flower nectar.
Zumbadorcito de Puerto Rico	Mountain forest, it is also found irregularly on the coast (drier south).	Tiny cup made of lichens, tree ferns, and other plant material.	Insects (lantern flies, mosquitoes, and other fly species), spiders, and nectar.

Table 3. Endemic Birds Nesting Period

Spanish / English name	Month											
	J	F	M	A	M	J	J	A	S	O	N	D
Bien-Te-Veo de Puerto Rico/Puerto Rican vireo				●	●	●						
Bobito/Lesser Antillean Pewee				●	●							
Carpintero de Puerto Rico/Puerto Rican Woodpecker	●	●	●	●								
Come ñame de Puerto Rico/Puerto Rican Bullfinch		●	●	●	●	●						
Cotorra de Puerto Rico/Puerto Rican Parrot		●	●	●	●	●						
Guabairo Pequeño/Puerto Rican Nightjar		●	●	●	●	●	●					
Juí/Puerto Rican Flycatcher		●	●	●	●	●	●					
Llorosa de Puerto Rico/Puerto Rican Tanager	●	●	●	●	●	●	●	●				
Mariquita de Puerto Rico/Puerto Rican Yellow-shouldered Blackbird					●	●						
Múcaro Común/Puerto Rican Screech-Owl				●	●	●						
Pájaro Bobo Mayor/Puerto Rican Lizard-Cuckoo		●	●	●								
Reina Mora/Puerto Rican Stripe-headed Tanager	●	●	●	●	●	●						
Reinita del Bosque Enano/Elfin Woods Warbler	●	●	●	●								●
Reinita Mariposera/Adelaide's Warbler			●	●	●	●						
San Pedrito de Puerto Rico/Puerto Rican Tody		●	●	●	●							
Zumbador Verde de Puerto Rico/Green Mango	●	●								●	●	●
Zumbadorcito de Puerto Rico/Puerto Rican Emerald		●	●	●	●							

Table 4. Spanish, English and Scientific Names of Birds

Spanish name	English name	Scientific name
Bien-Te-Veo de P. R.	Puerto Rican Vireo	<i>Vireo latimeri</i>
Bobito	Lesser Antillean Pewee	<i>Contopus latirostris</i>
Carpintero de P. R.	Puerto Rican Woodpecker	<i>Melanerpes portoricensis</i>
Comeñame	Puerto Rican Bullfinch	<i>Loxigilla portoricensis</i>
Cotorra de Puerto Rico	Puerto Rican Parrot	<i>Amazona vittata</i>
Guabairo	Puerto Rican Nightjar	<i>Caprimulgus noctitherus</i>
Juí	Puerto Rican Flycatcher	<i>Myiarchus antillarum</i>
Llorosa de P.R.	Puerto Rican Tanager	<i>Nesospingus speculiferus</i>
Mariquita de P. R.	Puerto Rican Yellow-shouldered Blackbird	<i>Agelaius xanthomus</i>
Múcaro Común	Puerto Rican Screech-Owl	<i>Octus nudipes</i>
Pájaro Bobo Mayor	Puerto Rican Lizard-Cuckoo	<i>Saurothera vieilloti</i>
Reina Mora de Puerto Rico	Puerto Rican Stripe-headed Tanager	<i>Spindalis portoricensis</i>
Reinita del Bosque Enano	Elfin Woods Warbler	<i>Dendroica angelae</i>
Reinita Mariposera	Adelaide's Warbler	<i>Dendroica adelaidae</i>
San Pedrito de Puerto Rico	Puerto Rican Tody	<i>Todus mexicanus</i>
Zumbador verde de P.R.	Green Mango	<i>Anthracothorax viridis</i>
Zumbadorcito de P.R.	Puerto Rican Emerald	<i>Chlorostilbon maugaeus</i>