

FLORIDA SCRUB-JAY

Aphelocoma coerulescens



Photo of Florida scrub-jays.

FAMILY: Corvidae

STATUS: Threatened (*Federal Register*, June 3, 1987)

DESCRIPTION: Florida scrub-jays are 25- to 30-centimeters (12-inches) long and are similar in size and shape to the more common and widespread blue jay (*Cyanocitta cristata*) but differ significantly in coloration. Unlike the blue jay, scrub-jays lack a crest and conspicuous white-tipped wing and tail feathers, black barring and bridle of the blue jay. The Florida scrub-jay's head, nape, wings, and tail are pale blue, and is pale grey on its back and belly. Its throat and upper breast are lightly striped and bordered by a pale blue-grey "bib" (Woolfenden and Fitzpatrick 1996a). The sexes of Florida scrub-jays are not distinguishable by plumage, and males average only slightly larger than females (Woolfenden 1978). Scrub-jays are omnivorous, eating almost anything they can catch. Insects comprise the majority of the animal diet throughout most of the year (Woolfenden and Fitzpatrick 1984). Acorns are by far the most important plant food (Fitzpatrick *et al.* 1991); surplus acorns are frequently cached in the ground (DeGange *et al.* 1989).

REPRODUCTION AND DEVELOPMENT: Florida scrub-jays have a social structure that involves cooperative breeding, a trait that the western North American species of scrub-jays do not exhibit (Woolfenden and Fitzpatrick 1984). Florida scrub-jays live in groups ranging from two (a single mated pair) up to large extended families of eight adults and one to four juveniles. Fledgling scrub-jays remain with the breeding pair in their natal territory as "helpers," forming a closely-knit cooperative family group. Pre-breeding numbers are generally reduced to either a pair with no helpers or families of three or four individuals (a pair plus one or two helpers).

To become a breeder, a scrub-jay must acquire a territory and mate. Evidence presented by Woolfenden and Fitzpatrick (1984) suggests that Florida scrub-jays are permanently monogamous. The pair retains ownership and sole breeding privileges in their particular territory year after year. Courtship to form the pair is lengthy and ritualized, and involves posturing and vocalizations made by the male to the female (Woolfenden and Fitzpatrick 1996a). Copulation between the pair is generally out of sight of other jays (Woolfenden and Fitzpatrick 1984). Age at first breeding varies from 1 to 7 years, although most individuals become breeders between 2 and 4 years of age (Fitzpatrick and Woolfenden 1988). Persistent breeding populations of Florida scrub-jays exist only where there are scrub oaks in sufficient quantity to provide an ample winter acorn supply, cover from predators, and nest sites during the spring (Woolfenden and Fitzpatrick 1996a). They typically nest at the edge of an oak thicket, near an open area.

During the breeding season, which runs from March through June, average production of young is two fledglings per pair, per year (Woolfenden and Fitzpatrick 1990; Fitzpatrick *et al.* 1994), and the presence of helpers improves fledgling success (Mumme 1992). Annual productivity must average at least two young fledged per pair for a population of scrub-jays to maintain long-term stability (Fitzpatrick *et al.* 1991).

RANGE AND POPULATION LEVEL: The Florida scrub jay is endemic to peninsular Florida. The estimated population is between 7,000 to 11,000 individuals (Breininger 1989; Fitzpatrick *et al.* 1991; Fitzpatrick *et al.* 1994). Scrub has been significantly reduced by development activity and now typically occurs only in scattered and often small patches in peninsular Florida (Fitzpatrick *et al.* 1991). Florida scrub-jay populations formerly inhabited 39 of 40 peninsular Florida counties, from Levy, Gilchrist, Alachua, Clay, and Duval Counties southward. 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).

HABITAT: The Florida scrub-jay lives only in the scrub and scrubby flatwoods habitats of Florida. This type of habitat grows only on nearly pure, excessively well-drained sandy soils, and occurs along present coastlines in Florida, on paleodunes of the high central ridges and other ancient shorelines of the Florida Peninsula, and inland on scattered alluvial deposits bordering several major rivers. This species' habitat is dominated by a layer of evergreen oaks [myrtle oak (*Quercus myrtifolia*) and/or Archbold oak (*Q. inopina*), sand live oak (*Q. geminata*), Chapman oak (*Q. chapmanii*), and runner oak (*Q. minima*)], rusty lyonia (*Lyonia ferruginea*), and Florida rosemary (*Ceratiola ericoides*). This layer is rarely greater than two meters in height, except where fire has been suppressed. Ground cover is sparse, dominated by saw palmetto (*Serenoa repens*) and sand palmetto (*Sabal etonia*). Bare sand patches are essential for foraging and acorn-caching. Slash pines (*Pinus elliottii*) and sand pines (*P. clausa*) are widely scattered with usually less than 15 percent cover (Woolfenden and Fitzpatrick 1996a).

REASONS FOR CURRENT STATUS: The major cause of the decline of the Florida scrub-jay has been habitat destruction by humans. The decline probably began in the mid-1800s when scrub was cleared for towns, citrus groves, and cleared pastures. The destruction of scrub accelerated throughout the 1900s, especially after 1950, for the development of air fields, phosphate mines, pine plantations, military installations, super highways, mobile home parks, shopping malls, rocket-launch complexes, tourist resorts, golf courses, and theme parks. Fire

suppression accompanying human settlement further reduced usable habitat throughout the species' original range (Woolfenden and Fitzpatrick 1996a). By 1983, Florida scrub-jays were extirpated from 7 counties (Cox 1987), including Broward, Dade, Duval, Gilchrist, Hendry, Pinellas, and St. Johns. By 1993, the species was considered extirpated from Alachua and Clay County, and less than 10 breeding pairs remained in 6 other counties (Flagler, Hardee, Hernando, Levy, Orange, and Putnam (Fitzpatrick *et al.* 1994). Recent information indicates that there are at least 12 to 14 breeding pairs of scrub-jays located within Levy County, higher than previously thought (K. Miller, FWC, pers. comm. 2004), and there was at least one breeding pair of scrub-jays remaining in Clay County (K. Miller, FWC, pers. comm. 2004). A scrub-jay was documented in St. Johns County as recently as 2003 (J.B. Miller, FDEP, in litt. 5/13/03). Populations are close to becoming extirpated in Gulf coast counties (from Levy south to Collier) (Fitzpatrick *et al.* 1994; Woolfenden and Fitzpatrick 1996a). Based on the amount of destroyed scrub habitat, scrub-jay population loss along the Lake Wales Ridge is 80 percent or more since pre-European settlement (Fitzpatrick *et al.* 1991). Since the early 1980s, Fitzpatrick *et al.* (1994) estimated that in the northern third of the species' range, the scrub-jay has declined somewhere between 25 and 50 percent. The species may have declined by as much as 25 to 50 percent in the last decade alone (Stith *et al.* 1996).

MANAGEMENT AND PROTECTION: All concerned federal agencies know of the presence of the scrub-jay on lands they manage, and are aware of the bird's habitat needs. The Service is working closely with the Merritt Island National Wildlife Refuge, Canaveral Air Force Station, and the Ocala National Forest to make sure their management plans are in keeping with habitat requirements of the Florida scrub-jay. Elsewhere the U.S Fish and Wildlife Service (Service) is working with state and local governmental entities to ensure proper fire management of scrub acreage purchased for preservation. Private landowners wishing to develop scrub habitat are working with the Service to conserve scrub habitat through the provisions of sections 7 and 10 of the Endangered Species Act.

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Last Updated: 07/2007
Last Reviewed: 08/2005