

The Florida Scrub-Jay: A Species in Peril¹

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Of the hundreds of native bird species living in Florida, only one, the Florida Scrub-Jay, is found nowhere else—they are true Floridians. The Florida Scrub-Jay is a habitat specialist found only in scrub habitat, the most endangered ecosystem type in Florida. As a result, Florida Scrub-Jay populations have declined dramatically, and this species is now federally listed as threatened. This fact sheet provides biological information about the Florida Scrub-Jay and the unique habitat it depends on for survival. It also includes advice for how people can help conserve this unique and imperiled bird.

Species Description

The Florida Scrub-Jay (*Aphelocoma coerulescens*) is similar in size and shape to the more common Blue Jay (*Cyanocitta cristata*), but differs greatly in color pattern. Like other jays, the Florida Scrub-Jay is a medium-sized bird, approximately 10 inches (26 cm) long. However, unlike Blue Jays, the Florida Scrub-Jay (Fig. 1) does not have a crest on its head and is predominantly blue and gray with no bold black markings. The Florida Scrub-Jay has a sky-blue head, wings, and tail, and its body is pale gray. The front of its head and throat are white, and it has a

blue-gray "bib." The coloration and markings of male and female Florida Scrub-Jays are the same. The more common Blue Jay (Fig. 2) has a prominent, bright blue crest on its head and a dark "necklace" around its throat that continues onto each side of its head. The Blue Jay's back, wings, and tail are bright blue with bold black bars and white tips on the flight feathers. Its face and underside are grayish-white.

Distribution and Status

Florida Scrub-Jays are *endemic* to Florida, meaning that they are only found in this state. They occur only in peninsular Florida, and their specific distribution is largely tied to the habitat type that they require. Historically, Florida Scrub-Jays were found in 39 counties in Florida, but currently only 32 counties still support Florida Scrub-Jay populations (Fig. 3), and 9 of these counties have tiny populations of 10 or fewer pairs. During the last century, Florida Scrub-Jay numbers declined by 80–90%, and there are only an estimated 3,000–4,000 family groups remaining. As a result, the Florida Scrub-Jay is listed by the federal government as a threatened species.

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Figure 1. The Florida Scrub-Jay (*Aphelocoma coerulescens*) is mostly gray and blue in color, and has a blue necklace. It lacks the crested head and black-barred wings and tail of the more common Blue Jay. Credits: Craig A. Faulhaber



Figure 2. The more common Blue Jay (*Cyanocitta cristata*) is also gray and blue and has a black necklace. It has an obvious crest on the head, and bold black bars on the wing and tail feathers. Credits: Craig A. Faulhaber

Habitat Requirements of Florida Scrub-Jays

As its name implies, the Florida Scrub-Jay requires scrub habitat to survive, and will only live and breed in landscapes that include patches of oak scrub dominated by several species of stunted,

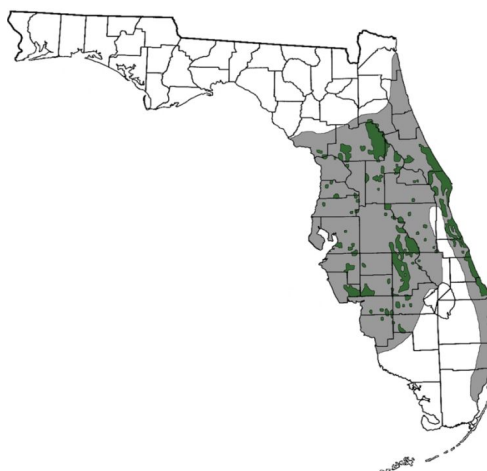


Figure 3. The range of the Florida Scrub-Jay has declined dramatically, and these birds are no longer found throughout most of their historical range. The current range, shown in green (black if viewing in black and white), is only a tiny fraction of the historical range, shown in gray. Credits: Monica E. McGarrity

low-growing oaks. The height of these oaks is critical for Florida Scrub-Jays, which prefer habitat with oaks that are 3–10 feet (1–3 m) tall, scattered among patches of bare sand, palmettos, and other low-growing vegetation (Fig. 4). To provide high-quality habitat for Florida Scrub-Jays, the scrub must be maintained with prescribed fire. Historically, periodic natural fires suppressed the growth of the oaks, reducing their height, increasing the diversity of the understory plants, and creating open areas with less canopy cover. If fire is suppressed, over time the oaks and pines grow tall, dominating the habitat, which gradually becomes less and less suitable for Florida Scrub-Jays (Fig. 5).

Scrub is an extremely rare type of upland habitat in Florida. Because much of Florida's scrub has been converted to other land uses and the few remaining areas are also threatened by development, the Florida Natural Areas Inventory considers this habitat type to be imperiled (statewide and globally). Scrub habitat occurs in several different forms, including xeric (dry) oak scrub (Fig. 4), scrubby flatwoods (Fig. 6), and sand pine scrub (Figs. 5 and 7). The Florida Scrub-Jay is the only bird species that is completely dependent on these scrubs. However, scrub is also home to a great variety of rare plants and animals, many of which also solely depend on this habitat for their survival.



Figure 4. Fire-maintained xeric (dry) oak scrub provides excellent habitat for Florida Scrub-Jays. This habitat type is dominated by short, stunted scrub oaks scattered among patches of open sand, and lacks an overstory of sand pines (*Pinus clausa*). The dominant understory plants are myrtle oak (*Quercus myrtifolia*), Chapman's oak (*Q. chapmanii*), sand-live oak (*Q. geminata*), scrub holly (*Ilex opaca* var. *arenicola*), scrub plum (*Prunus geniculata*), scrub hickory (*Carya floridana*), rosemary (*Ceratiola ericoides*), and saw palmetto (*Serenoa repens*). Credits: Steve A. Johnson



Figure 5. When fire is suppressed, as seen in this sand pine scrub habitat at Archbold Biological Station, the pines grow tall and the canopy becomes more closed. The oaks in the understory also grow taller, and in time may begin to dominate the habitat. Fire-suppressed scrub habitat does not provide optimal conditions for Florida Scrub-Jays. Credits: Steve A. Johnson



Figure 6. Scrubby flatwoods habitat has an understory similar to that of oak scrub, and an overstory dominated by slash pine (*P. elliottii*) or longleaf pine (*Pinus palustris*). Scrubby flatwoods can occur in association with many other habitat types Credits: Steve A. Johnson



Figure 7. Sand pine scrub habitat is dominated by an overstory of sand pine (*Pinus clausa*). Important understory plants include myrtle oak (*Quercus myrtifolia*), Chapman's oak (*Q. chapmanii*), sand-live oak (*Q. geminata*), and scrub holly (*Ilex opaca* var. *arenicola*). Prescribed fire is an important tool for managing this habitat, and sometimes produces even-aged stands of pines as seen here at the Juniper Prairie Wilderness of Ocala National Forest. (Notice the low-growing oaks beneath the pines, and the Florida Scrub-Jay perched in a pine at lower left). Credits: Rolf Muller

Diet of Florida Scrub-Jays

The diet of Florida Scrub-Jays is quite varied. They spend much of their time hopping along the ground or through vegetation searching in the shrubs or leaf litter for insects and other invertebrates that make up the bulk of their diet. Small vertebrates and some seeds and berries also may be taken, but less often. During the winter, when insects are scarce, Florida Scrub-Jays rely on acorns as their dominant food source. They harvest acorns from the scrub oaks and bury them in open patches of sand during the fall. A single Florida Scrub-Jay can cache (hide) 6,000–8,000 acorns in a single year. The birds are able to remember where they hide most of their acorns and may return to eat them any time of year.

Social Behavior of Florida Scrub-Jays

Florida Scrub-Jays live in family groups of varying sizes; each family group occupies a specific territory in the scrub habitat. Family groups range in size from a single pair (male and female) to as many as eight or more birds. Every group includes one mated pair, and often includes other related individuals called helpers. They are given the name "helpers" because they assist in defending the territory and feeding nestlings. These helpers are usually offspring from previous years that do not breed, but remain with their parents and assist in raising their younger siblings. Helpers are very important, since family groups that have helpers are able to produce larger numbers of offspring that survive to adulthood. If a nearby territory becomes open (i.e., the breeder of another family group dies), a helper will attempt to move into that area and assume the role of breeder in the new family group.

Florida Scrub-Jays spend most of their time searching for food or watching for predators. Although they forage independently, they often remain close to others in their group. One group member sits on an exposed perch, acting as a sentinel to watch for potential danger while other group members are foraging. If a threat is spotted, such as a hawk or a snake, the sentinel bird gives a distinctive warning call and the birds quickly find cover. If the predator is on the ground the jays will often gather

around the predator, scolding and harassing it, creating a "ruckus" (called mobbing), in an attempt to drive it away.

Threats to Florida Scrub-Jays

Habitat Loss and Fire Suppression

The long-term survival of the Florida Scrub-Jay depends on preservation and restoration of suitable scrub habitat. Scrub-Jay populations have declined dramatically, largely because of loss, fragmentation, or modification of scrub habitats. Most of the native scrub habitat has been cleared to make way for citrus groves, housing developments, and shopping centers. The remaining scrub is often modified by fire suppression, and many of these remnants are no longer suitable for Florida Scrub-Jays. Historically, lightning strikes naturally ignited fires in the scrub as well as in other nearby upland habitats, from which fire spread to the scrub. As the human population of Florida increased, however, these natural fires began to pose a safety risk and were often extinguished. Habitats also became fragmented as portions were converted to other land uses, and fires in these small areas became less frequent and were less likely to spread between patches. Protected scrub lands must be managed using prescribed fire to maintain the attributes of the scrub that provide optimal habitat conditions for Florida Scrub-Jays for foraging and breeding. For more information about how land managers use prescribed fire safely to restore this habitat, please see the "What You Can Do" section below.

Other Impacts of Urbanization

Urban development has greatly affected Florida Scrub-Jays. Their habitat has been lost, degraded by fire suppression, and fragmented into small patches that are often divided by roadways. In addition to the many challenges to survival Florida Scrub-Jays face in these small habitat patches, they are often killed by automobile traffic as they fly low across roadways. A recent study published in the journal, Conservation Biology, found that these traffic-related deaths have such intense effects on Florida Scrub-Jays that populations living along roadways can only persist if enough individuals immigrate (move in) from other nearby populations. Because there are so many road

mortalities, in populations of Florida Scrub-Jays near roads, the number of breeding adults that die each year is much greater than the number of offspring they produce each year. This creates what is known as a population "sink," where the population can't sustain itself without a constant influx of newcomers. To make matters worse, birds immigrating from habitat patches without roads are naïve to the dangers of traffic, and are much more likely to be killed by vehicles.

Urban development can also have other harmful effects on Florida Scrub-Jay populations. Introduced predators, such as feral cats, are common in the human-modified landscapes, and may prey on Florida Scrub-Jays. In addition, the few remaining patches of suitable habitat are often separated by great stretches of inhospitable land, and it is extremely difficult for Florida Scrub-Jays to move between them. As a result, the genetic diversity of jays in these isolated populations deteriorates, reducing their ability to adapt, resist disease, and persist. Without a landscape-level effort to preserve Florida Scrub-Jay habitats, maintain connectivity between patches, and minimize the impacts of urbanization, many of these populations have little chance of long-term survival.

How You Can Help

Many people in Florida are working today to devise strategies to protect the Florida Scrub-Jay and other wildlife and to restore and preserve wildlife habitat. For instance, land managers faced with the challenge of restoring habitat where fire has been suppressed for many decades have learned that large trees and underbrush may need to be cut down and removed before an area is burned in order to reduce the intensity of the fire and the likelihood that it will endanger humans. In other areas, the large oaks will not catch fire and there is little underbrush for fuel, so the oaks must be cut down before the area will burn. After these initial "mechanical" restorations, land managers are able to safely use regular, prescribed fires to maintain the habitat for Florida Scrub-Jays and other wildlife. Not only professionals but all of Florida's citizens should take action to help conserve our native habitats, plants, and animals, including the imperiled scrub habitat and the wildlife that depends on it for survival. You can do your part by learning

more about prescribed fire, supporting the use of controlled burns to maintain conservation lands in your area, and educating others to help increase popular support for this essential step in the overall effort to preserve and protect our fragile Florida ecosystems.

Florida's citizens also need to take action to help conserve our native habitats, plants, and animals, including the imperiled scrub habitat and the wildlife that depends on it for survival. If you would like to get involved in conservation, you can join one of the many conservation societies, such as The Audubon Society and The Nature Conservancy, which rely on the help of concerned citizens. The Nature Conservancy sponsors the Jay Watch program, which uses citizen scientists to help monitor and protect Florida Scrub-Jays. For more information on the Jay Watch program and some of the conservation societies working to protect Florida, see the "References and Resources" section below.

In addition to becoming an involved citizen, you should learn more about Florida's diverse wildlife, and try to be aware of how your actions impact wildlife. For example, outdoor cats (tame or feral) may kill more than a billion wild animals in Florida each year, including over 65 million birds. By spaying or neutering your pet and keeping it indoors, you can help to protect wildlife. When driving on Florida's roadways, especially in rural areas and near wetlands, you should also watch out for low-flying birds and for snakes, turtles, and other wildlife attempting to cross—give them a brake! By learning more about Florida's ecosystems, you can also learn to recognize fragile habitat types like scrub, so that you can be especially careful when traveling through them. An excellent way to learn more about Florida's natural ecosystems and the plants and animals that inhabit them is to become a Master Naturalist by participating in the various learning modules offered by the University of Florida's Master Naturalist Program (FMNP). Visit the FMNP Web site listed below to find a county Extension office or nature center in your area that offers courses for this award-winning program. For more information on Florida's habitats, prescribed fire, and other topics see the "References and Resources" section below.

References and Resources

Internet Resources

Florida Master Naturalist Program – University of Florida Cooperative Extension Service
<http://www.masternaturalist.ifas.ufl.edu/>

Saving the Florida Scrub-Jay – The Nature Conservancy

<http://www.nature.org/wherewework/northamerica/states/florida/misc/art27240.html>

Jay Watch – The Nature Conservancy
<http://www.nature.org/wherewework/northamerica/states/florida/volunteer/art7303.html>

Florida Scrub-Jay (*Aphelocoma coerulescens*) – Cornell Lab of Ornithology "All About Birds" Online at:

http://www.birds.cornell.edu/AllAboutBirds/BirdGuide/Florida_Scrub-Jay.html

Florida Scrub-Jay (*Aphelocoma coerulescens*) – excerpted from the U. S. Fish and Wildlife Service Multi-species Recovery Plan for South Florida

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

Florida Scrub-Jay (*Aphelocoma coerulescens*) –U. S. Fish and Wildlife Service species report Online at:
<http://www.fws.gov/northflorida/Species-Accounts/Fla-Scrub-Jay-2005.htm>

FWCC Land Cover/Habitat Classifications – Florida Department of Environmental Protection Online at:
<http://www.dep.state.fl.us/water/wetlands/feri/fwcchabitats.htm>

Prescribed Fire in Florida: Using Fire Wisely – Florida Department of Agriculture and Consumer Services, Division of Forestry--

http://www.fl-dof.com/wildfire/rx_guide.html

Audubon of Florida--
<http://www.audubonofflorida.org/>

The Nature Conservancy – Protecting Nature, Preserving Life--
<http://www.nature.org/wherewework/northamerica/states/florida/>

1000 Friends of Florida – Saving Special Places, Fighting Urban Sprawl, and Building Better Communities-- <http://www.1000friendsofflorida.org/>

Florida Wildlife Federation - "*Protecting Florida's Natural Resources for 70 Years!*"--
<http://www.fwfonline.org/Index.htm>

The Council for Sustainable Florida--
<http://www.sustainableflorida.org/>

Florida League of Conservation Voters--
<http://www.floridalecv.org/index.htm>

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