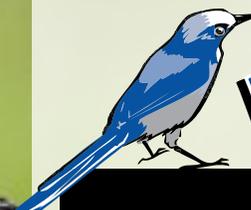


Photo By Debbie Olavarria



**JAY
WATCH**
Audubon FLORIDA

**2015
Annual Report**

Jay Watch: Making a Difference for Florida's Only Endemic Bird Species

Thank you for your continued support of the Audubon Jay Watch citizen science program. Please enjoy the stories in this Annual Report as we celebrate the dedicated work of our volunteers and agency partners. You will find an overview of the season's trainings and surveys along with interesting highlights about the many people and places that are vital to the survival of Florida Scrub-Jays.



Why Protect Scrub-Jays?

Florida Scrub-Jays are a striking blue, silver-gray, and black. They are bold, curious, and live in cooperative family groups. And they approach people closely at many sites around the state. These traits make the Scrub-Jay one of Florida's most sought-after wildlife sightings. Birders and other nature lovers seek them out and take visiting family and friends to see them too. The federally Threatened Florida Scrub-Jay is our state's only endemic bird species, found nowhere else in the world. Habitat loss and fire suppression of scrublands – the Scrub-Jays' prime habitat – have caused historical populations to plummet. They need our help to recover and thrive.

Data collected by Jay Watch volunteers is essential to inform land management decisions about where and when to apply prescribed fire, without which, Scrub-Jays disappear.

Joe Carroll: Audubon Jay Watch Volunteer of the Year



Audubon's Marianne Korosy and Jacqui Sulek flank Jay Watch volunteer of the year Joe Carroll at this year's Jay Watch volunteer celebration.

By Marianne Korosy, Ph.D., Coordinator, Audubon Jay Watch

As Audubon's Jay Watch Coordinator, I have the wonderful opportunity to meet new volunteers and renew friendships around the state each year. I treasure my time with the many passionate individuals who care so deeply about protecting Florida Scrub-Jays. This includes the many dedicated site managers and agency biologists who devote themselves to restoring scrub habitat for the benefit of jays and other rare plants and animals.

That's why it is difficult for me to name a single "volunteer of the year" among the hundreds of Jay Watchers who invest serious time and sweat equity in protecting this charismatic Florida bird.

And yet, Joe Carroll from Vero Beach is a standout. Joe is an 18-year veteran of surveying Scrub-Jays in the eastern Florida peninsula, especially in Indian River County. He began observing Florida Scrub-Jays in the late 1990s while working as a private consultant. He joined Jay Watch in 2006 and began surveys of Florida Scrub-Jays on public lands.

The Jay Watch program benefits from the long memory and experience of volunteers like Joe. I am working to keep more long-term volunteers as team members and team leaders. The leadership that Joe and others provide is invaluable to our success.

When I asked Joe why he returns to Jay Watch year after year, he told me, "Jays are amazing creatures and anyone who gets involved with them just falls in love. You stand there and watch them and they watch you."

Congratulations to Joe Carroll, Audubon Jay Watch 2015 Volunteer of the Year!



Audubon Jay Watch Continues Rapid Growth in 2015

Interest in protecting Florida Scrub-Jays continues to grow across the state. The number of citizen scientists trained in Jay Watch mapping and survey protocol rose again this year, from 131 in 2014 to 154 in 2015.

New volunteers add their efforts to the hundreds that are already trained, many of whom continue their involvement with Jay Watch every year. New and seasoned land managers and biologists also sharpen their skills at our yearly Jay Watch trainings.

In 2015, Audubon held trainings in Highlands, Lee, Manatee, Marion, Martin, Polk, St. Lucie, Sarasota, and Volusia counties. And we are proud to report that two new venues hosted trainings this year.

In St. Lucie County, Florida State Park Biologist Doug Rogers and Volunteer Coordinator Wren Underwood hosted a training session for more than 30 volunteers at Savannas Preserve State Park. And for the first time in Jay Watch history, training and surveys expanded to include scrub sites in Lee County. Staff and volunteers attended an on site training at Hickey's Creek Mitigation Area followed by a classroom session at Caloosahatchee Regional Park.

Dr. Reed Bowman, Archbold Biological Station's Director of Avian Ecology, taught the advanced training class at the Station this year. Reed led a scrub walk to visit three adjacent Scrub-Jay family groups. Participants learned that territorial boundary interactions between adjacent family groups aren't as raucous when the breeders in each group are related.

In addition to Reed Bowman and Archbold Biological Station, a big thanks goes to Rob Rossmann, Biologist at Jonathan Dickinson State Park, for leading a Jay Watch training for the third year running.

And finally, thank you to all our Jay Watch partners who provided site access or co-taught onsite Jay Watch trainings: Florida Department of Environmental Protection Office of Greenways and Trails and the Florida Park Service, Florida Fish and Wildlife Conservation Commission, Future Farmers of America, Lee County Parks and Recreation, Manatee County Natural Resources Department, Sarasota County Natural Resources Department, and Volusia County Environmental Lands Department.

In 2015 277 volunteers contributed 3002 hours to survey Florida Scrub-Jays at 47 sites in 18 counties



Share your favorite Scrub-Jay or scrub habitat photos, stories about Florida Scrub-Jays, ask questions, and find out the latest on Jay Watch trainings, surveys, and restoration projects on the new-in-2015 Audubon Jay Watch group page in Facebook.

Join the fun today at: [facebook.com/groups/AudubonJayWatch](https://www.facebook.com/groups/AudubonJayWatch)



Advanced Training 2015, Archbold Biological Station.



How are Florida Scrub-Jays Doing at Jay Watch Sites?

Forty-seven Jay Watch sites – public and private lands – that completed surveys in 2014 have reported 2015 survey data as of December 1. And the comparison of this data is providing crucial feedback to the managers of Scrub-Jay habitat. At first glance, the numbers can be discouraging—from 2014 to 2015, the total number of Scrub-Jays declined at more than half the sites. No juveniles fledged at 32% of the 47 sites in either 2014 or 2015. And at 42% of the sites, fewer juveniles fledged in 2015 than in 2014. When we take a closer look, however, the story the data tells is more nuanced and instructive.

Informed by past years' Jay Watch data, scrub habitat restoration and management at a number of Jay Watch sites has been aggressive in the past one to three years. Sites that have undertaken restoration projects include:

- Jonathan Dickinson State Park in Martin County
- Lake June-in-Winter and Highlands Hammock state parks in Highlands County
- Cross Florida Greenways “Triangle” in Marion County
- Shamrock Park in Sarasota County
- Duette and Little Manatee Southfork preserves in Manatee County
- ADB Catfish Creek and Lake Kissimmee state parks in Polk County
- Lyonia Preserve and Lake Monroe Conservation Area in Volusia County.

This year's data are already returning early hopeful results: Scrub-Jays have fledged more young at some of these sites post-restoration. At the remainder, it's still too soon to tell. Burned habitat needs time to recover before jays recolonize the area. In the next three to five years, Jay Watchers can look forward to potential increases in the numbers of juveniles fledged at these sites. This is essential feedback for land managers working to improve their sites for jays!

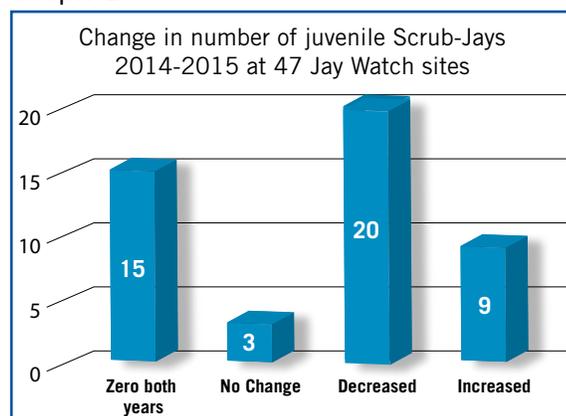
For all of you citizen science data wonks, the two graphs to follow compare 2014 and 2015 data on total number of Scrub-Jays (adults + juveniles) and the number of juvenile Scrub-Jays detected in both years.

Graph 1 depicts changes in the number of juveniles from 2014 to 2015. Inevitably, some Jay Watch surveys must be scheduled early in the June 15-July 15 survey window while others are scheduled later in the window. In years like 2015, when the onset of the summer rainy season is delayed somewhat, high protein prey such as insects and frogs may be in short supply when parents need to feed hungry nestlings. Nest failure and re-nesting produces late season fledglings that may be hidden deep in oak shrubs and go undetected during earlier Jay Watch surveys. Re-nesting with later fledging also may occur at sites where scrub habitat is overgrown and sneaky predators have ample cover from which to raid nests or surprise naïve young birds. As a result, early season counts miss late season fledging, and late season counts have a harder time finding fledglings hidden deep in lush late-summer scrub. In short, in years like these, surveys likely do not capture all the season's fledglings—undercounting the birds' success.

Jay Watch Survey Pro Tip

Adults and fledged juveniles typically approach a Jay Watch survey station when playback calls are initiated. They are curious and bold, especially the youngsters. Adults that respond to playback calls by perching and remaining some distance from your survey point, appearing highly agitated with bobbing and other rapid movements, and issuing a loud, continuous “screech-scold” call may be guarding young birds. The screech-scold call is an effort to ward off our interference and also warns their youngsters to hold still and hidden. If you see this behavior while conducting your surveys, note it on your data sheet.

Graph 1



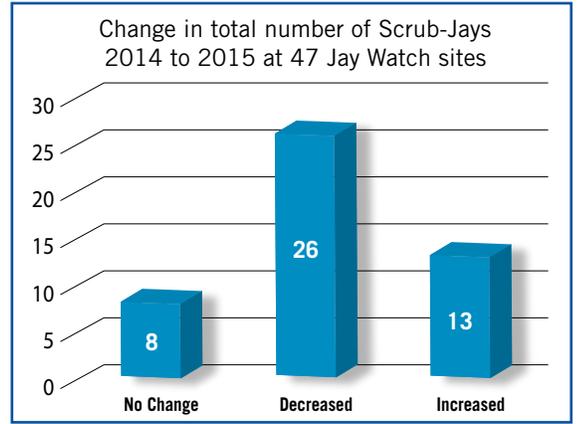
Changes in the total number of Scrub-Jays at each site reflect changes in the total number of adults plus the number of juveniles recorded that year. The number of adults includes jays older than one year and the jays that fledged the previ-



ous year and survived through their first winter. Whereas adult survival year-to-year tends to be relatively high for scrub-jays, the majority of juveniles don't survive through their first winter. Thus, this metric includes only the birds with a greater likelihood of longer survival and breeding success.

Although 15 sites recorded zero juveniles in both 2014 and 2015, those sites still have adults which may breed successfully in future years, especially if scrub management improves and weather cooperates. The bad news is that the total number of Scrub-Jays declined at more than half of the 47 sites from 2014 to 2015. The same declining trend is evident between 2013 and 2014 at more than half of the surveyed sites (data not shown).

Graph 2



Exactly half of the 34 sites showing no change or a decrease in the total number of Scrub-Jays have only one or two jay family groups with 2-3 birds per group. Although disappointing, declines and eventual disappearance of Scrub-Jays at these sites is almost inevitable due to poor breeding success, depredation, and old age unless there is a substantial investment in habitat restoration with a resulting increase in breeding success.

Jay Watchers spend a month each summer sweating in the scrub to make sure land managers have the most current data to inform their habitat management and restoration prescriptions – without which, the birds will continue to decline.

What else can we do? Talk with friends and family about the positive benefits of prescribed fire. Support funding needed by parks and preserves to invest in maintaining scrub lands in the low, open structure in which Scrub-Jays thrive. Volunteer to help with habitat restoration projects. Volunteer to do Jay Watch surveys each June and July and then volunteer to help out at your local parks during the rest of the year. It will take a community to raise the population of Florida Scrub-Jays and Jay Watchers are vital to that effort.

Photo by Vince Lamb



THANK YOU!



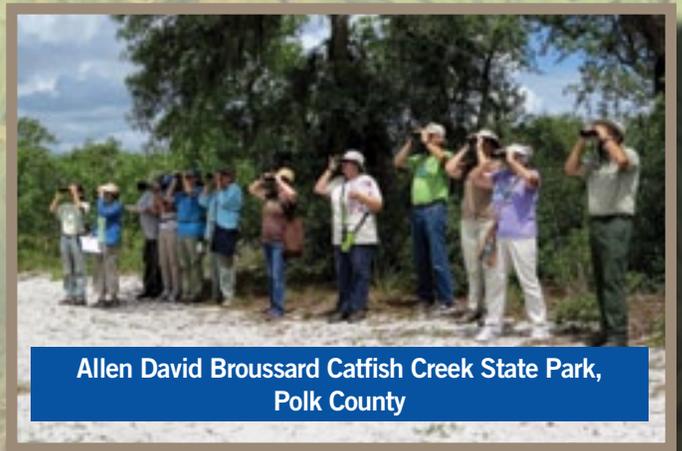
Fred and Ann Hunter, private property, Lake County



Alva Scrub Preserve, Lee County



Cross Florida Greenways, Marion County



Allen David Broussard Catfish Creek State Park, Polk County



Jonathan Dickinson State Park, Martin County



Lake Kissimmee State Park, Polk County



FWC Royce Ranch training, Highlands County



Duette Preserve, Manatee County



Savannas Preserve State Park training, St. Lucie County



Hickeys Creek Mitigation Area, Lee County

Jay Watchers Locate “Missing” Scrub-Jays

Jay Watch volunteers provide many great benefits to the scientific understanding of Florida Scrub-Jays. As volunteers complete summer surveys and map remote habitats, they record the location of Scrub-Jays with special colored leg bands. Scientists then compare the current location of the banded bird to where it was originally banded. This information informs ecologists about “dispersal,” including natal dispersal, which is the movement of juvenile birds during their first fall and winter post-fledging.

Sometimes, Jay Watchers make exciting finds of banded Scrub-Jays in unexpected locations. Sandy Cooper, a Jay Watcher and volunteer for Oscar Scherer State Park in Sarasota County, found two new banded Scrub-Jays in the park over the summer. You could imagine his excitement when he and park staff discovered that the two birds were banded at two different parks - Caspersen Beach and Lemon Bay - 10 miles and 12 miles away! (Figure 1.)

There was even more excitement at the Little Manatee-Southfork Preserve in Manatee County. Volunteers found two different banded Scrub-Jays during summer surveys, which is big news because there has not been any banding there in many years. Thanks to Pam and Doug DeNeve, Cheryl Merz, Kathy Prophet, and others, we now know that both birds are females and that they had been “missing” from their original banding locations - 10 miles and 1.6 miles away for three and five years, respectively.

Figure 1.



Scrub habitat patches separated by less than 2.5 km (about 1.6 miles) are more likely to be colonized than patches farther apart.



Why are these finds so important to research?

On average, Florida Scrub-Jay groups need about 20-25 acres of suitable scrub habitat to find adequate food for survival and to raise young. And on average, about 70% of any scrub patch is in suitable condition for Scrub-Jays based on burn frequency. So, the total acreage of suitable scrub habitat in a given patch (park or preserve) limits the number of groups that can successfully breed and survive in that patch. If agricultural or housing developments destroy scrub habitat, the Scrub-Jays in that patch must find another place to live. Young and older birds may leave their natal scrub patch in search of a mate elsewhere if there are no breeder vacancies or unoccupied habitat in which they might set up housekeeping.

So how far do Scrub-Jays move in search of mates, improved breeding opportunities, or to find another scrub patch when their former home-patch is no longer available? We know the answer to this question because Florida Scrub-Jays are among the more well-studied birds on earth. Decades of research on movements of color banded birds at Archbold Station and other sites tells us that Scrub-Jays are more likely to colonize nearby scrub patches than isolated ones.

Although gaps between habitat patches of any distance may inhibit their movements, patches separated by less than 2.5 km (about 1.6 miles) are considered “functionally adjacent” by Florida Scrub-Jays, at least for purposes of conserving habitat (Coulon, et al. 2012; Biology Letters). There’s another body of genetic research showing that the farther a Scrub-Jay moves from its former home-patch to a new patch, the less successful it will be at breeding in the new scrub patch (Coulon et al. 2010; Conservation Biology).

This is where Jay Watch helps. Our volunteers will be the first to know that transplanted breeders are successful – or not – in coming years on remote, rarely-monitored sites. Stay tuned for updates on these migrant Scrub-Jays in 2016!



Photo by Susan Faulkner Davis

Jay Watch Data Drives Important Scrub Restoration Project in Manatee County

The research completed by Jay Watch volunteers is important for monitoring bird behaviors, but it's also crucial to successful habitat restoration work. At Duette Preserve in Manatee County, Jay Watch data collected over the past four years showed that the number of Scrub-Jays along the survey route declined from 11 to 4 birds, with no juveniles produced in 2015. This tells us that former Scrub-Jay residents may have moved on from this overgrown habitat to better habitat in which they can raise young in less peril from predators. Duette has a palmetto prairie landscape, with small patches of 10-20 foot tall scrub oaks, sandy soils, and a little grass. In other words, this means little to no fuel for fires. See photos below.

Jay Watchers know that prescribed burns at intervals of 5-20 years are critical to maintaining the low, open habitat that Scrub-Jays and other scrub endemics need. Fire clears the bare sand patches in which Florida Scrub-Jays bury acorns for winter months, when caterpillars, insects, frogs, and other protein-rich foods are in short supply. Dead scrub oak leaves don't burn well and without dead grass or downed wood, there is insufficient fuel to carry a prescribed fire across sandy scrub patches. In some cases, waiting for fuel to accumulate means that sand pines and scrub oaks grow tall and help predators, like fast-flying Cooper's Hawks, to hide from the view of unsuspecting Scrub-Jays on exposed perches.

Thanks to generous support from the Batchelor Foundation and Wells Fargo, and approval from our partner agency, Manatee County Natural Resources Department, Audubon Florida was able to hire Quest Ecology to trim the trees on 75 acres of overgrown scrub habitat at Duette. Using pole saws, restoration crews cut sand pines and scrub oaks taller than 10 feet and left the debris on the ground to provide fuel for future fires. The crew did leave a few trees alone to provide nesting sites for Scrub-Jays and other birds, like Eastern Towhees.

Now we wait and watch for Scrub-Jays to recolonize this area, where birds both young and old can now perch openly in far less peril. Stay tuned for an update in 2016!

BEFORE



After



Florida Scrub-Jays and Peanuts: To Feed or Not To Feed

At the invitation of Audubon's Jay Watch Coordinator, Dr. Tringali addresses one of the most controversial questions among all who treasure and visit Florida Scrub-Jays



Angela Tringali, Ph.D.
Florida Scrub-Jay Conservation Coordinator
Florida Fish and Wildlife Conservation Commission

Feeding Florida Scrub-Jays is prohibited by state and federal law and with good reason - research shows it harms rather than helps the birds. No description of the Florida Scrub-Jay is complete without mentioning its affable personality. The bold Florida Scrub-Jay frequents bird feeders, picnic areas, and will take food directly from people's hands. This natural charm and seemingly friendly disposition might be one of the reasons you decided to join Jay Watch. It is certainly one of the reasons the Florida Scrub-Jay is an effective flagship species. People advocate for habitat protection and management on behalf of Scrub-Jays, benefiting a whole suite of scrub species, many of which are rare, endemic, or imperiled.

While these behaviors endear Scrub-Jays to humans, they come with a cost. Human provided foods, typically peanuts, bird seed, or pet food, do more harm than good. Scrub-Jays with access to human provided foods defend smaller territories and smaller territories equate to fewer insects available to feed fast-growing Scrub-Jay nestlings. Nestlings require insects for sustenance

because they cannot digest plant-based foods like peanuts and bird seed. Access to abundant, reliable, human provided food sources over winter also can cause Scrub-Jays to breed earlier in the year. When breeding begins too early, nestlings hatch before peak availability of the insect foods needed to sustain their rapid growth.

Finally, Scrub-Jays with access to human provided foods tend to have larger brood sizes. Thus, what little nestling appropriate food exists must be divided among more mouths. Feeding Florida Scrub-Jays increases nestling starvation and reduces the number of birds that fledge.

Even occasional feeding can be detrimental to Scrub-Jays. Feeding Scrub-Jays alters their natural behavior, which may make them more vulnerable to predators or collisions with vehicles.

The Florida Scrub-Jay's bold and curious behavior makes it more likely to receive attention from conservation-minded citizens, but also more likely to need it. If it weren't for Scrub-Jays' frequent visits to feeders, hats, and hands they may not be as beloved, but they also may not be as impacted by the harmful effects of human provided foods. Luckily, the remedy is easy: stop feeding Scrub-Jays. Instead, plant native plants in your yard and avoid the use of pesticides. These actions can reduce the negative impacts of suburban development and provide the birds in your yard with natural, healthful foods.



Special Thanks to 2015 Jay Watch Donors

Batchelor Foundation
Disney Conservation Fund
Mosaic Company Foundation
Wells Fargo – National Fish and Wildlife Foundation

Jay Watch Partner Organizations

Archbold Biological Station
Florida Department of Environmental Protection
Florida Forest Service
Florida Fish and Wildlife Conservation Commission
Hillsborough County
Lee County
Manatee County
Polk County
Sarasota County
South Florida Water Management District
Southwest Florida Water Management District
St. Johns River Water Management District
St. Lucie County
The Nature Conservancy
U.S. Fish & Wildlife Service
U.S. National Park Service

Audubon Chapters with Jay Watch participants

Audubon Society of the Everglades
Audubon of Southwest Florida
Citrus Audubon Society
Eagle Audubon Society
Flagler Audubon Society
Four Rivers Audubon Society
Halifax River Audubon Society
Hendry-Glades Audubon Society
Highlands County Audubon Society
Kissimmee Valley Audubon Society
Lake Region Audubon Society
Manatee County Audubon Society
Marion Audubon Society
Audubon of Martin County
Orange Audubon Society
Peace River Audubon Society
Pelican Island Audubon Society
Ridge Audubon Society
St. Lucie Audubon Society
Sanibel-Captiva Audubon Society
Santa Fe Audubon Society
Sarasota Audubon Society
Seminole Audubon Society
Space Coast Audubon Society
Tampa Audubon Society
Venice Area Audubon Society
West Pasco Audubon Society
West Volusia Audubon Society

How to Participate in Jay Watch

Find a training

Jay Watch surveys run mid-June through July, with volunteer trainings held prior to the surveys in May and early June. For training information or to sign up for the Jay Watch e-newsletter, contact: Jacqui Sulek jsulek@audubon.org

Sign up for surveys

To join surveys or for data inquiries contact:
Marianne Korosy mkorosy@audubon.org

More information

<http://fl.audubon.org/jay-watch>
www.facebook.com/groups/audubonjaywatch/

Join Jay Watch

Email Audubon's Jacqui Sulek -
jsulek@audubon.org

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