

**Florida Fish and Wildlife Conservation Commission**  
620 South Meridian Street, Tallahassee, FL 32399

**Policy, Position Statement, or Guideline (PPG)**

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Note: This document is subject to update after further review.



The purpose of these guidelines is to ensure that the banding of Florida scrub-jays (*Aphelocoma coerulescens*) is done safely and consistently. The Bander's Code of Ethics (The North American Banding Council 2001) requires that banders continually assess their work to minimize risks to the bird and share these assessments with their peers. These guidelines are the product of assessing our techniques, and we are sharing them to help other banders improve their practices. The following guidelines are based on observations and experience from the long-term population study at Archbold Biological Station (ABS).

### **General Handling**

Prior to handling Florida scrub-jays, banders must have received training from other banders and obtained the necessary authorizations from the U.S. Geological Survey Bird Banding Laboratory and the U.S. Fish and Wildlife Service (USFWS). Florida scrub-jays are federally listed as a threatened species, therefore authorization is also required to trap, handle, band and apply auxiliary markers. It is the responsibility of the bander to ensure they are in compliance with all existing regulation.

Banders are reminded to handle birds carefully, quietly, and in the least amount of time necessary. An organized banding kit minimizes the time birds are in hand and reduces stress on the bird (Figure 1).



Figure 1 A well-organized banding kit.



Figure 2 Using bander's grip to hold a Florida scrub-jay.



*Figure 3 Hold the scrub-jay in banders grip and apply the metal band using banding pliers. The band opener should be pointed away from the foot of the bird to avoid catching a toe in the opener as the band is closed.*

Florida scrub-jays should be held using bander's grip (Figure 2). Photographer's grip should be avoided because of increased risk of wing strain or leg injury. Similarly, free holds, where one person holds the bird while another bands, are not to be used. Free holding small and medium sized birds increases the risk of leg injury. Bander's grip is the safest way to hold a bird of the scrub-jay's size (The North American Banding Council 2001).

Captured scrub-jays waiting to be banded can be kept in bags made of soft, thin, lightly colored cotton. These bags should be turned inside out, so that the bird cannot get its nails caught in the seams. Bags can be hung in the shade away from solid surfaces, such as vehicles or tree trunks, so that the bird cannot injure itself by thrashing in the bag. Bags should not be placed on the ground. To minimize handling stress, we recommend pacing trapping so as not to exceed the rate at which birds can be banded and processed.

### **Applying USGS Metal Bands**

Apply the metal USGS band using banding pliers of the appropriate size for the band used (preferred recommended by BBL is a size 3, but the BBL also allows sizes 2 and 2A if appropriate to the population). Virtually all banding projects on Florida Scrub-Jays use size 3 bands. Keep the side of the pliers with the band opener proximal to the bird and away from the foot (Figure 3). This ensures that you do not pinch the bird's toes in the opener as you close the band. You should ensure that the band edges at the gap are parallel and even at the top and bottom. You can use a pair of needle-



*Figure 4 Apply counter tension to the pliers using your pinky finger.*

nose pliers to align these edges but be careful when applying pressure to make sure you do not overlap the bands. To avoid this, use your pinky to apply counter tension to the pliers (Figure 4) thereby reducing the risk of closing the pliers too tightly or crushing the band or leg. Always carry a pair of [gasket pliers](#) (that open when you apply pressure rather than close) so that you can easily re-open and remove any band.

### Applying Plastic Color Bands

Prior to color-banding scrub-jays, banders should consult the regional banding scheme and coordinate with other banders to avoid duplicating existing color band combinations. Banders can contact the Florida Fish & Wildlife Conservation Commission's Avian Conservation Coordinator for assistance regarding regional banding schemes and matrices.

For Florida scrub-jays, 1FB or 2FB sized color bands should be used. Color bands should be the wrap-around type, as the split-end bands can be removed by the jays. Wrap-around color bands may be applied to the leg by hand or with a pair of needle nose pliers (Figure 5). Currently color bands are available in different plastics – darvic and celluloid – each of which requires a different method of application. Darvic is a stiffer plastic, harder to apply and seal, but purportedly more UV-resistant. Celluloid bands are more flexible and easier to apply and seal, but less UV resistant. Celluloid bands may fade over time and they are becoming increasingly scarce in the banding supply market.



Figure 5 Apply color bands to the leg by hand (a) or with pliers (b).

Due to the reduced availability of colored plastic bands, some banders have inquired about the use of colored aluminum bands as an alternative. However, they are not a suitable alternative to colored plastic bands. Aluminum bands placed on the same leg make contact with one another to create a lip of metal around the band that poses a significant risk of injury to the bird (Reed 1953; Griesser et al. 2012). For this reason, only apply one metal band per leg.

### **Darvic bands**

For darvic bands, pliers are recommended. Banding pliers should be used to fit colored leg bands. [Tetrahydrofuran](#), the active ingredient in PVC cement, should be applied to the darvic band using a capillary tube (Figure 6). This allows the bander to apply the appropriate amount of solvent to the interior and exterior band overlaps. In order to completely seal the band, both banding and needle nosed pliers can be used simultaneously. While the banding pliers apply pressure to the outside of the band, the bander can place the needle-nosed pliers between the bird's leg and the interior of the band (Figure 7). This method ensures a good seal because pressure is applied to the entire band, rather than a single point of contact. In order to hold both pairs of pliers and the bird, you may hold the pliers using the fingertips of the hand you are holding the bird in and brace everything against your body (Figure 8). The band should be held like this for at least one minute so that a good seal can form. High humidity and older tetrahydrofuran may increase the amount of time needed to seal the band.



*Figure 6 Use a capillary tube to apply tetrahydrofuran to the interior and exterior overlaps of darvic bands.*



*Figure 7 Use banding and needle nosed pliers simultaneously to completely seal color bands.*



*Figure 8 Brace the bird and banding pliers against your body if needed.*

Tetrahydrofuran is flammable and toxic. Care should be used to avoid skin contact in the field and bottles should be stored in cool, dry, flammable chemical lockers. We use a small glass vial in the field with just enough for a few days.

### **Celluloid bands**

Celluloid bands should be sealed with acetone. Use a dropper to apply acetone to both the exterior and interior overlap (Figure 9). Fit the band using banding pliers, needle nose pliers, or your fingertips (Figure 10). Acetone seals the bands very quickly so you must appropriately size the bands immediately after applying the solvent.



*Figure 5 Use a dropper to apply acetone to celluloid band.*

Regardless of type, a correctly applied band should be properly sized and completely sealed. Use the interior diameter of the USGS metal band to size the color bands. All bands should have the same interior diameter as the USGS band. Additionally, the inside, outside, and overlap must all be sealed (Figure 11), otherwise the band is likely to loosen. Bands that are too large or incompletely sealed can slip over the foot and cause a bird to become toe-hung or otherwise injured. Ensure all bands are properly sized and completely sealed before releasing the bird.



*Figure 10 You may size celluloid bands with your fingertips instead of banding pliers.*



*Figure 6 A correctly sealed band. Note the inside, outside and overlaps are all completely sealed. All bands must be completed sealed.*

### **Literature Cited**

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**This document was written in coordination with Archbold Biological Station.**



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