

## Adult Capture & Banding Protocol

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Ensure you have all necessary banding equipment and permits in place before going into the field.

Tree Swallows typically wear a size 1 band. You will also need: banding pliers, a wing ruler, calipers, and a scale. Other useful tools include a tarp and camera.

***It is critical to be aware of the timing of each nest in your study area and to plan your capture and banding accordingly.*** Females can be safely captured and banded late in incubation (after day 8) through about 5 days after hatch. Males are easiest to catch just after hatch when feeding is most frequent. If you plan to band both males and females, we recommend banding them at the same time. See below for more details.

**Priorities for Data Collection:** When at all possible, it is recommended that you band all breeding adults. This provides the most information for assessing site and mate fidelity and survivorship across the network over time. When time and resources are limited, prioritize banding all females. (They take significantly less time to catch and can be often be caught opportunistically when checking nest boxes.) The next priority for banding is chicks, since they do not require any capture time at all. See the *Nestling Banding Protocol* for more information on banding nestlings. Full data includes banding males.

**Recommendations for Adult females:** We have found adult female *Tree Swallows* in Interior Alaska very easy to trap in the nest box during late incubation (after day 8) or very early after hatch. Do not trap females early in incubation or during laying. At this time they can be sensitive to disturbance and they may abandon. After day 8, you can safely trap females (if you do not plan to trap males.) At this time females sit tight on their nests, and it is usually possible to simply walk up to the box from behind, cover the hole, and gently remove her through the side door. ***Be cautious as you remove females from the nest. They will often grab nesting material, eggs, and even nestlings!*** If you plan to band males, capture and band them both at the same time, just after hatch.

**Recommendations for Adult Males:** Males are cautious and much harder to catch. Be prepared. After a failed attempt, they are even more difficult the next time. We have been most successful trapping males early after hatch, up to about day 5. This is a very intensive time for feeding. As the chicks grow, the male will enter the box with less and less frequency. After the chicks are large enough to reach up for food, he may not enter the box at all. (He will just lean in to pass food to the growing chicks that reach up to the hole.)

Just after hatch, the male will enter the nest box to feed the nestlings, and will often sit in the nest box when the female is out feeding. With careful observation you can watch for him to enter, or for the trade off. We have been most successful by catching the female first, and holding her safely in a bird bag for up to 25 minutes, during which time the male will often enter the box.

**Trapping:** It is possible to quietly approach the nest box from behind, cover the hole, and reach in to get the bird. However, using a trap door helps significantly. There are a variety of models, all designed such that the bird (or the researcher) triggers the door as soon as the bird enters the box. The bird can not get back out easily, however, some will try and can force their way out rather quickly. Retrieve the bird as soon as possible. We have been successful simply weighting a piece of cardboard with a coin, taping it to the inside of the box, and propping the cardboard up with a piece

of grass. When the bird enters the box, it knocks down the grass and the door falls closed. ***Be extremely careful to ensure you collect the trap from each and every nest box after trapping.***

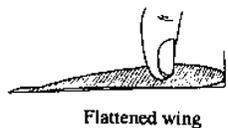
**Bird Safety:** Find a shaded place a short distance from the nest box to work. Avoid holding and working with the birds in hot, direct sunlight or cold/rain. Note the time when you trap a bird. Adults should never be held longer than 30 minutes. Young chicks are not able to thermoregulate, so it is important to allow parents to return to the nest as quickly as possible. Avoid trapping adults during cold or wet periods.

**Data Collection:** All scales and codes are described on the *Adult Banding Sheet*.

Tree Swallows can be reliably sexed during the breeding season by the presence or absence of a brood patch or cloacal protuberance. Females can also be reliably aged as second year (SY) by the presence of significant brown plumage on the back and body. Be cautious, as many older females can have brown plumage around the forehead, face, and under the wings. Unless she is significantly brown, all females should be aged as AHY, as some second year females will also have the blue/green plumage of older birds.

Males can not be reliably aged by plumage, so should be aged as AHY.

**Wing Chord & Flat Wing:** To measure the wing chord, hold the wing as close to a natural resting position as possible, ensuring that all primaries lie in natural alignment.



Flat wing is measured by using your thumb to press on the wing coverts, flattening the wing against the ruler. This method removes the natural curvature, so the measurement is longer (about 2%) than the wing chord. Flat wing is useful for comparison with large international datasets.

**Culmen (nares to tip):** Use calipers to measure the distance from the anterior (distal) end of the nostril to the tip of the bill.

