A Technique to Facilitate the Fitting of Telemetry Transmitter Harnesses

Author(s): Richard O. Bierregaard
Source: Journal of Raptor Research, 48(1):86-88. 2014.
Published By: The Raptor Research Foundation
DOI: http://dx.doi.org/10.3356/JRR-13-00016.1
URL: http://www.bioone.org/doi/full/10.3356/JRR-13-00016.1

J. Raptor Res. 48(1):86–88

A TECHNIQUE TO FACILITATE THE FITTING OF TELEMETRY TRANSMITTER HARNESSES

KEY WORDS: *Osprey*; Pandion haliaetus; *telemetry harness.*

When a bird is outfitted with a backpack-mounted telemetry transmitter, the harness straps can be joined and adjusted either at the transmitter on the bird's back or where they cross over the bird's sternum. If the harness straps (I use 6.4-mm Teflon ribbon on Ospreys [*Pandion haliaetus*]) are stitched together over the sternum, the fitting process is usually managed with a number of hemostats securing the straps prior to the stitching. This is cumbersome and often frustratingly complex, because adjusting one of the four straps requires releasing one or more of the hemostats, which can in turn let one or more of the other straps slip out of position.

I have developed a cardboard template that secures all four straps and permits easy adjustment of the tension in the straps prior to stitching. The template for Ospreys, cut from single-ply (not corrugated) 2-mm thick cardboard, is roughly doughnut-shaped, 6.5 cm across, with a central hole 3.5 cm in diameter. The four straps pass through slits cut around the central opening in the template, cross over the center of the opening in the middle of the template, and then pass through double slits on the other side of the stitching hole (Fig. 1A). The double slits add friction to help maintain the position of the straps in the template. I have used a larger version with Bald Eagles, and there is no reason to believe a smaller template would not work with smaller raptors.

Using image-editing software, I duplicate the template 12 times in a 3×4 matrix and print the 12 templates on a single sheet of standard paper 21.6 cm $\times$ 28 cm. I glue that to cardboard and cut out the individual templates as needed.

Before the transmitter is placed on the bird, the two over-the-wing straps are already inserted in the template, crossing over the central opening. I pass these straps over the bird's head, positioning the transmitter on the bird's back and the template in front of the sternum. I then bring the other two straps under the wings and use a hemostat to thread them through the appropriate slits on the template. Now it is easy to adjust the tension on the straps.

Before I start putting the transmitter on the bird, I make certain the front and back straps are cut to exactly the same length, so there should be exactly the same amount of excess strap on the two upper and two lower straps to ensure the transmitter will be properly aligned on the bird's back. The template does take up some space, so the straps should be a bit more snug than the typical harness fit, because when the template is cut away, the harness will loosen somewhat.

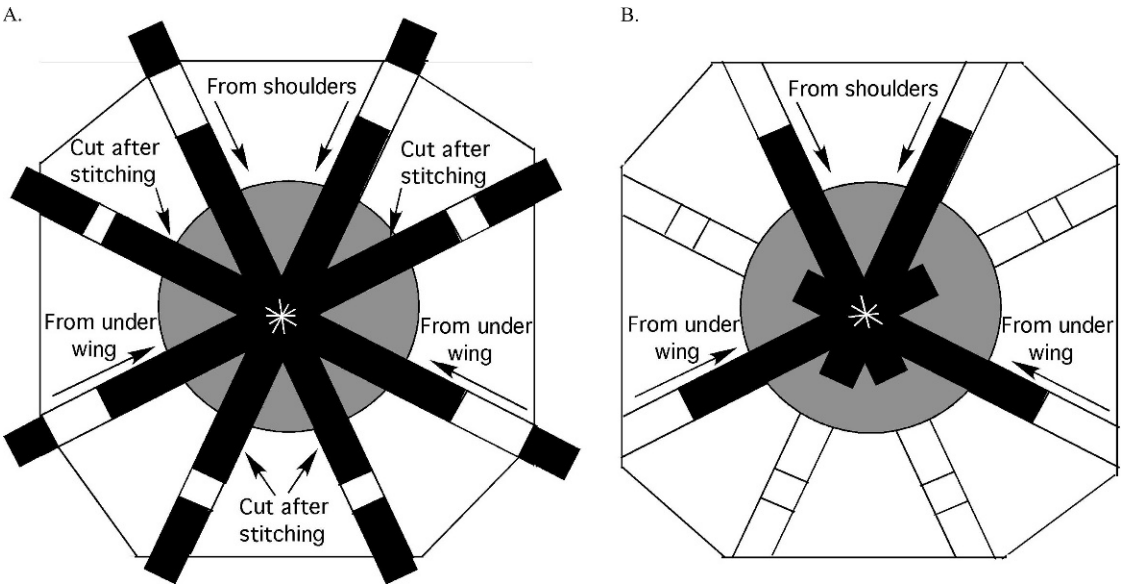

Figure 1. (A). Diagram of template for telemetry harness fitting with straps held in position and stitched. The straps coming over the shoulders and under the wings secure the transmitter on the bird. (B). Diagram of the template with the loose ends of the straps cut off. At this point the template is cut away and removed from the bird.

Figure 2. Osprey with harness in place. The stitching is complete, the excess straps have been cut, and the template is ready to be cut away.

Using a curved needle, I stitch together the four straps where they cross over the sternum prior to cutting away the template. When I thread the needle for stitching, I use a double strand of nylon thread. I tie a knot and leave about 6–8 cm of thread behind the knot. When I take the first stitch, this 6–8 cm ''tail'' protrudes from the junction of the four harness straps where the needle first passed through the straps. After taking several more stitches, I

tie a square knot with the trailing thread and the thread attached to the needle. When I have that first knot tied, I check the fit on the harness. If the fit is satisfactory, I continue stitching, tying a knot after every five or six stitches. This ensures that if the thread breaks at some point, the stitching cannot entirely unravel. When I am done stitching, I cut off the ends of the harness straps that extend past the point where the straps are stitched together (Fig. 1B, Fig. 2), and then cut the template so it can be removed.

This technique has substantially reduced the time it takes to process a bird, and thus reduces stress on the bird being tagged (as well as the researcher!). Two anonymous reviewers provided useful suggestions on the first draft of this letter.—**Richard O. Bierregaard[1] (e-mail address: rbierreg@gmail.com), UNC-Charlotte, Biology Department, 9201 University City Boulevard, Charlotte, NC 28223 U.S.A.**

[1] Present address: 421 Cotswold Lane, Wynnewood, PA 19096 U.S.A.

Received 1 March 2013; accepted 6 October 2013

J. Raptor Res. 48(1):88–89

A COMMUNAL ROOSTING OF THE GREAT HORNED OWL (*BUBO VIRGINIANUS*)

KEY WORDS: *Great Horned Owl*; Bubo virginianus; *roost*; *Utah.*

While conducting roadside eagle surveys on 27 November 2012 in west-central Utah, we found two Great Horned Owls (*Bubo virginianus*) roosting in a group of six deciduous trees along the southern boundary of a 3-ha farm lot. Upon investigating further, we found an additional four owls also roosting in this group of trees. The owls were dispersed at random in the trees, with the average distance between owls being approximately 1 m, and the largest distance between owls approximately 5 m. The number of owls per tree never exceeded two, and two owls perched in trees alone. Our proximity to the owls caused three birds to flush from the trees and retreat to a nearby hayloft 100 m to the west.

The presence of more than two adult Great Horned Owls is counter to the species' typical roosting behavior. The Great Horned Owl is an aggressive and highly territorial species (Houston et al. 1998). They generally roost alone, except prior to or during breeding season when members of a mated pair may roost in close proximity (Houston et al. 1998). Over the course of our field season, we observed numerous pairs roosted as close as 1 m apart. Though these birds may tolerate the presence of their mate, they aggressively defend their territory against other conspecifics, including juveniles, which are driven away in autumn (Houston et al. 1998). The Great Horned Owl has also been reported to engage in cannibalism, a dramatic example of their aggressive behaviors (Millard et al. 1978).

Considering the known aggressive and territorial nature of this species, we question why multiple birds were roosting together. Unmated individual Great Horned Owls that are unable to establish territories may be solitary wanderers, often occurring at territory boundaries (Rohner 1995, 1996). Communal roosting has never been reported for floaters, but factors related to high prey density could contribute to their roosting in close proximity. The farm plot was surrounded on all sides by agricultural pastures. The presence of perches (fence posts and power poles) and potentially high prey availability in the surrounding habitat could have reduced competition and induced the owls to remain close to optimal foraging habitat. However, the farm and surrounding area seemed at least superficially similar to other farmlands in the region, which also had an abundance of perch sites, roost trees, similar foraging habitat, etc. Extreme weather might cause unusual behaviors, but can be disregarded in this instance as our visit was during mild weather, with typical winter temperatures for the area. It is possible that parents might tolerate the presence of their young until near to the following breeding season. Great Horned Owl clutches containing five eggs have been reported (Houston et al. 1998), and young may not disperse the territory till January (Peterson 1979), which suggests the possibility that these birds may have been a family group. Still, the presence of six birds would suggest that either the previous year had an uncharacteristically high fledging rate, or there were at least two broods of offspring present, which is highly unlikely.

Three additional visits were conducted to observe the roosting owls from 3 December 2012 to 8 January 2013, during which three, two, and three owls were found in the roost trees. On the second visit, we experimented with call-playbacks to learn something about the territoriality of the roosting birds. Hooting between mated pairs is a regular