

# Protocol for fitting of tracking devices on vultures

By Kerri Wolter and Walter Naser



Vulture tracking has revolutionized the understanding of vulture behaviour, movement patterns, survival rates as well as helped us respond quickly to threats by being able to detect injuries and fatalities from the numerous threats vultures face.

By tracking vultures we are not only protecting this key stone species but also safeguarding the ecosystems they support.

Vulpro tries, where possible, to fit as many vultures in hand with tracking devices. This includes the capture of targeted wild vultures together with varying species, rehabilitated individuals that are released as well as every captive bred offspring that is released to support the declining populations.

Vulpro uses a few different tracking devices and this depends on the availability and costings of which tracker is purchased and for which group of vultures. All trackers provide us with the following information:

- Movement and foraging ranges
- Flight speed, altitude and air temperature
- Time spent at specific locations
- Mortality detection
- Date, time and exact co-ordinates at each recorded download

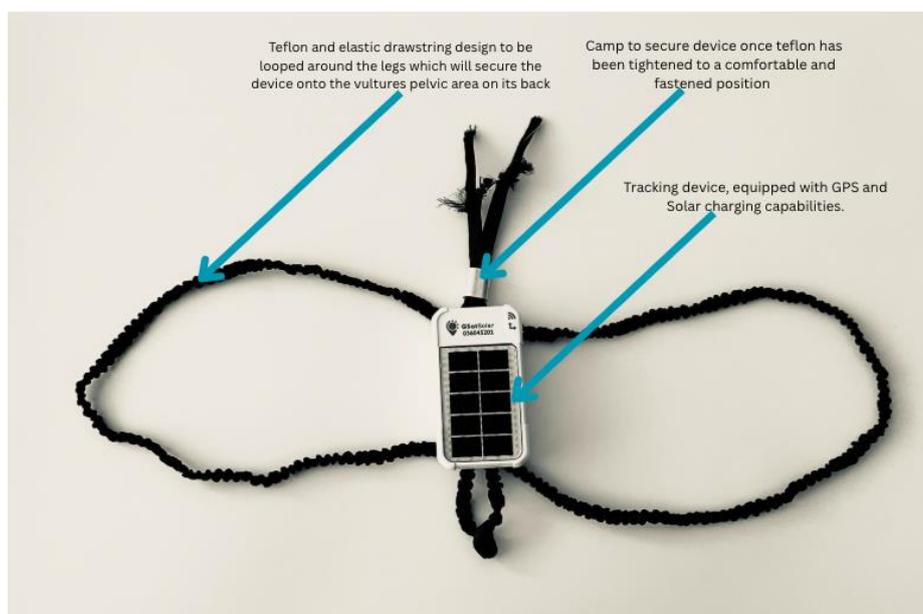
There are various harness designs which are used to fit tracking devices on to a wide range of vulture species.

The two tried and tested methods which have been successfully used on vulture species in southern Africa by Vulpro are the backpack harness and the pelvic harness. After several years of Vulpro using the backpack design, we have now opted to use the more simplistic pelvic harness which only takes several minutes to fit compared to the 15-20 minutes of fitting the backpack harness.

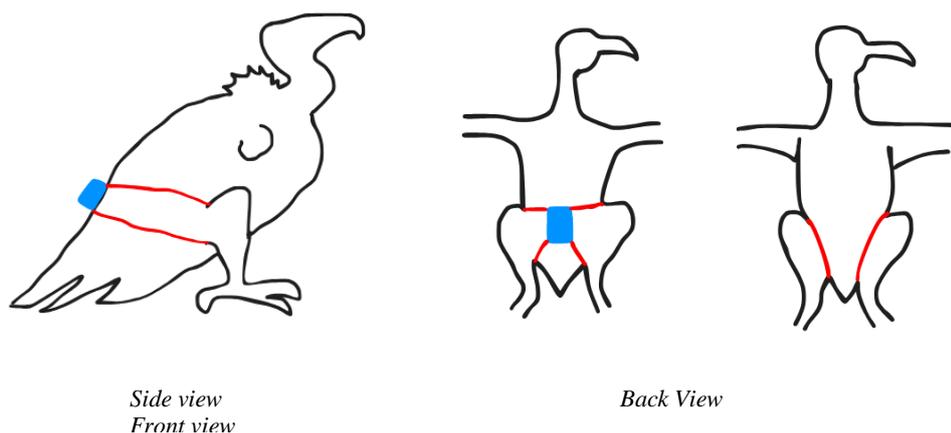


*Figure 1: Tracking device setup for the pelvic harness method.*

To start off with, it is important that the correct handling of vultures be carried out during the capture and fitting of any tracking device; please refer to the Vulpro's handling protocol. **It is important to follow correct handling protocols in order to reduce stress to the vulture.**



*Figure 2: Labelled diagram showing tracking device setup for the pelvic harness method.*



*Figure 3: Diagram showing attachment of tracking device on vulture using the pelvic harness method.*

The pelvic harness or leg loop design has been successfully used in South Africa on Cape Vultures, African White-backed Vultures, Bearded Vultures, Lappet-faced Vultures, White-headed Vultures and Hooded Vultures.

The pelvic harness:

For the pelvic harness, materials needed include:

- Teflon Tape , 4 to 6mm wide. Needs to be approximately 100cm per vulture
- Bra elastic or silicone tubing. Needs to be approximately 90cm per vulture
- Clamps. One per unit
- Ringing Pliers to tighten clamps
- Tracker
- Spare tracker padding
- Superglue

The elasticity of the elastic or silicone tubing is inserted into the teflon tape in this design, allowing for more comfort for the vulture without compromising a secure fit and allowing the harness to expand or contract depending on the needs of the bird.

The first step to creating a pelvic harness is to run the elastic bungee cord through the teflon tape. The teflon tape should be longer than the bungee cord and should bunch up a bit to allow more elasticity.

Once the bungee cord and teflon tape are threaded, at the middle point of the cord, a knot should be tied, thick enough to not slip through the device. .

Each end of the cord should then be threaded through the bottom of the device so that the knot sticks out at the bottom of the device without being pulled through. From there both ends of the chord should be run alongside the back of the device and threaded through the top of the device. This will create the loops of the pelvic harness. A clamp can then be loosely secured to the teflon to prevent it from slipping out when handling the vulture, but should remain loose enough to be adjusted for correct fit.

It is important to run the bungee cord through the teflon taping and secure it to the device with a clamp ready to go before attempting to put the tracker on the vulture. By preparing the leg loop harness in advance, it reduces the time that the vulture is being handled and put

under stress and it ensures the correct placement of the device even with a vulture that is struggling.

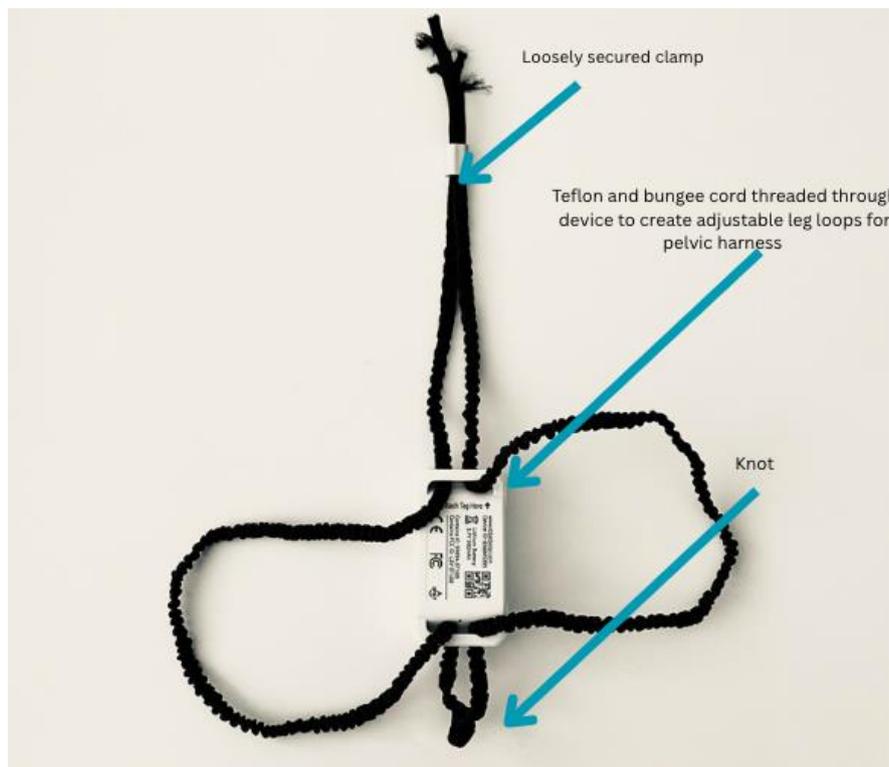


Figure 4: Labelled diagram showing tracking device setup for the pelvic harness method.

Once the necessary preparations have been made and the pelvic harness has been set up, fitting the pelvic mount to the vulture is relatively straightforward. Of course, it is important that the correct handling of vultures be carried out during the capture and fitting of any tracking device; please refer to the Vulpro handling protocol. **Proper handling is essential to reduce stress.**

Fitting of the device to the vulture:

- Firstly, the vulture must be secure on its sternum on a table. You need 3 people to assist. One to hold the head, another to hold each leg in each hand and the third to secure the wings. Once the bird is secure on the table, you can proceed:
  - Put the tag on the vulture's lower back.
  - Pass one loop around one leg.
  - Repeat with the second loop around the other leg. During this process, you will need to pull the straps into position which needs to fit into the place around the 'hips' and under the leg pits
  - Adjust the fit by pulling on the loosely clamped side of the cord, making sure that both loops are the same length and ensuring that the tag is situated at the centre of the back.
  - Make sure that the leg loops fall between the inguinal region (where the leg joins the body) and that two fingers can comfortably pass between the device and the vulture's back.
  - Adjust and tighten the clamp to secure the pelvic mount.
  - trim the excess cord and place superglue on the cut to prevent unravelling of the cord.
  - Ensure the superglue has dried before releasing the vulture.





*Figure 5: Placing the first loop of the pelvic mount around the leg of Cape Vulture fledgeling. 2025.*



*Figure 7: Clamping the pelvic mount with a newly fitted tracker to a Cape Vulture fledgeling. 2025.*

For any further information or additional explanations, please contact: Kerri Wolter

*Figure 6: Placing the second loop of the pelvic mount around the leg of Cape Vulture fledgeling. 2025.*

E-mail: [kerri@vulpro.com](mailto:kerri@vulpro.com)

