**3.11 SCRIPT– How to monitor mobile species?**

Monitoring mobile species requires the implementation of suitable monitoring systems. In ecology, there are several ways of observing mobile animals – this can be done closely or not, depending on the animal’s travelling distance.

When animals travel over short distances, big mammal ecologists often use radiotracking. This is a monitoring or detection system for animals previously fitted with a radio transmitter.

The animal’s conformation, environment and ways of moving about are considered when fitting the transmitter. In the case of large animals, harnesses and collars are used, and whenever the harness is too big, adhesive tapes, subcutaneous or surgical implants are preferred. Remember not to ever equip small animals with transmitters exceeding 6% of their weight.

Another technique for animals travelling over short distances - provided they are easy to find again - is to use bands or coloured marks. This is obviously more convenient than radio-transmitters.

The animal is equipped with a numbered ring and a bright coloured tags or plate to facilitate identification from a short distance – this will help recognising it in a group setting and to monitor its movements and behaviour individually.

Parts of their coat can also be bleached to monitor individual animals of a species on a territory. This is by the way often carried out on animals such as the large birds of prey or wading birds.

For animals travelling over longer distances, ecologists essentially use GPS tags or ARGOS which shows the animal’s location from a distance.

The GPS (Global Positioning System) has the benefit of recording locations with great precision, of not having a range limit, and to give the possibility of choosing the time and frequency of data reception.

In the special case of migratory birds, it isn’t uncommon to band the animal to monitor movement, but this requires using the capture (to put the band) and Recapture (to read the results) technique. The only exception is when monitoring large species where it is possible to read the larger rings from a distance.

All the techniques using tags and transmitters help finding living animals, but also their carcasses, which is very useful when studying the cause of death.

They also give the possibility to obtain important information on territorial limits, interactions with different populations, breeding areas and rates, food intakes and other behaviours.

They are therefore excellent techniques complementing other direct monitoring techniques that we talked about earlier, even though they resemble research more than strictly speaking monitoring. This is due to their cost, the indicator collection time and thereby information to be processed by management.