**Population contextual data monitoring training - ENTRY LEVEL**

This training would be very general, suitable not only for national/regional coordinators and well educated ornithologists/ecologists/professionals from NGOs or institutes, but also enthusiast individuals. The main objective is to present recommended monitoring methods with ambition to unify the schemes on a European level. The training will consist of several sections and each would include different levels of information (basic overview + complex information with the goal of panEuropean harmonization of methods). We should make the training interesting enough for professionals, but also simple enough for beginners to easily follow the contents and to not feel excluded. Later, we need different, more specialized training courses (depending on the audience, contextual data and experience level).

The training would have a theoretical and a practical part. The content for the theoretical part could be accessible online (on a platform such as Moodle) beforehand.

**Sections of training course**

**THEORETICAL PART**

1. **importance of biomonitoring**

* What is biomonitoring? Why is it important not only for species conservation but also for human health?
* presentation of ERBF work and objectives + short presentation of AdviceHub (as a basis for the whole training course and additional information)
* capacity review (updated in each training course) & presentation of constraints
* introduction of other arenas: lab and collections + emphasize the importance of connecting arenas, perhaps indirectly activate volunteers for other arenas (or outside of breeding season - e.g. helping in the museums with carcasses, collecting pellets etc.)
* a presentation of the whole list of contextual data (very briefly)
* explanation of selected focus species and entry level population contextual parameters

**\*\*\* we need lists of equipment + suggestions of protocol forms for each of the methods below:**

1. **Population trend**

* relative abundance/index
* feasible for both species

1. **Breeding productivity**

* breeding phenology (incubation timing, time of fledging) - detailed stages of the young (eg. how long does it take from egg laying to fledgling and all other stages)
* behaviour of the parents (can you recognize the stage of the nest based on the behaviour patterns - especially if you cannot climb or see into the nest?)

1. **Diet**

* how to search for a nest
* identification of prey remnants and pellets
* how to transfer samples & store them
* basic analysis

1. **Setting up a scheme**

Guidelines for complete beginners:

* how to set up goals
* how to chose collaborators (how to step in contact with institutions with shared interests - universities, labs, Nature conservation societies etc.; e.g. collection of carcasses; suggest an agreement of coordinators with veterinary laboratories/museums to get a part of samples - part of liver/some feathers/stomach content)
* how much money and people do I need, where to find funding
* selecting species (for starters: Buzzard and TO)
* selecting feasible monitoring schemes (sampling units: points, transect, polygon), population contextual data + methods (we will give more information on this in other sections)
* how to involve volunteers (select them, train them) - e.g. outreach to universities and utilize students and university facilities, NGOs, Environmental educational centers, Nature Protection societies, secondary schools/technical high schools focused on environmental studies/conservation, Biology teacher associations, hunters associations (?), forestry industry and managers, farmer associations, boy scouts … \*\*\* recommendation for ethical and sensitive data managing agreement with volunteers/organizations
* how to gather and analyze data
* outreaching the results

**The participants will have 2 hours to prepare a "business plan" for setting up a scheme in their country/region.**

**PRACTICAL PART**

Partly for demonstration of survey methods and getting to know both focus species, partly for showing best practices in capacity building. The exact plan will probably slightly differ depending on the location of the training and local experts (e.g. is the visit of Tawny Owl nest-boxes possible? Is there a local expert with a permit on climbing Buzzard nests? Is the coordinator of the existing scheme in the area cooperating with e.g. local museums? etc.).

Ideas for:

1. **indoor activities:** species identification (visual - by photos/videos, vocal - sex and age differences), nest identification (+ finding them), pellets (safety measures, finding them, identification & basic analysis - main prey groups by bone/fur: mammals, birds, invertebrates, amphibians, reptiles), feather identification
2. **field activities in the evening/night:** TO survey count demonstration, looking for a TO nest (listening to & counting the chicks by sound), TO & CB prey availability survey methods (termocamera transects, setting up live-traps for small mammals + safety measures!)
3. **day time:** demonstration of safety measures around the nest (of both TO and CB) - safety distance, safety equipment for the climber & bird & everyone else; observing adult buzzards in territories, searching for/visiting buzzard nests, trying to count the chicks in the CB nest / counting the fledglings close to the nest, searching for feces/pellets (TO & CB), collection of unhatched eggs (TO nests), diet: collecting pellets (+ safety measures!)
4. **unrelated to the field:** visiting a lab/museum (see the specimens of both species)/rehabilitation centre etc. (an organization which collaborates with the existing coordinator of the host country of the training course;

**Schedule**

With applications: survey of experience and knowledge of participants (adjust the plan accordingly)

1. day:
   1. 1. section: introduction
   2. indoor practicum: species identification (visual - by photos/videos, vocal - sex and age differences), nest identification (+ finding them)
2. day:
   1. 2. section: population trend
   2. 3. section: breeding productivity
   3. field (evening/night): TO survey count demonstration, looking for a TO nest (listening to & counting the chicks by sound)
3. day:
   1. field (morning): demonstration of safety measures around the nest (of both TO and CB) - safety distance, safety equipment for the climber & bird & everyone else; observing adult buzzards in territories, searching for/visiting buzzard nests, trying to count the chicks in the CB nest / counting the fledglings close to the nest, searching for feathers/feces/pellets (TO & CB), collection of unhatched eggs (TO nests), diet: collecting pellets (+ safety measures!)
   2. 4. section: diet
   3. indoor practicum: pellets (safety measures, finding them, identification & basic analysis - main prey groups by bone/fur: mammals, birds, invertebrates, amphibians, reptiles), feather identification
4. day:
   1. 5. section: setting up a scheme (theory)
   2. visiting a collaborator/inviting a speaker (a volunteer/coordinator etc.) to share their experience about constraints and solutions
   3. field (evening/night): pellets (safety measures, finding them, identification & basic analysis - main prey groups by bone/fur: mammals, birds, invertebrates, amphibians, reptiles), feather identification
5. day: 5. section (practicum): writing a “business plan”
   1. they write a draft (1 - 2 hours)
   2. proof of their business plans by best-practice business plan we give them later
   3. discussion about remaining problems and constraints

**Videos we might need**

* species identification: photos + video of the individuals from close up & from a far, video of flight, display, hunting and other behavioral patterns,
* visiting the nest: safety measures, climbing, handling adults & chicks, phases of chicks, sexing and aging, measurements of birds
* diet: field & lab methods - finding pellets, identification, storing, analysis, identification of prey items
* full equipment presentation for volunteers (covering all contextual parameters)