

# A best practice guide for monitoring illegal killing and taking of birds

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# Monitoring - connections

National Action Plan

- Vital underpinning for effective National Action Plan
  - Monitoring plan under NAP multistakeholder committee, results helping guide actions and prioritisation
  - Can engage other stakeholders with expertise in planning, delivery, analysis of monitoring (Universities, research institutes, NGOs)
  - Monitoring can help with tracking progress in implementation of NAP
- Can help answer scoreboard questions
- Can help monitor progress towards 50% reduction in IKB in RSP

Indicator	Indicator Group
1. Status and scale of IKB	
2. Number and distribution of illegally killed, trapped or traded birds (data)	A. National monitoring of IKB (data management of scope and scale of IKB)
3. Extent of IKB cases known to justice	
4. Number of IKB cases prosecuted in the last year (data)	

**ROME STRATEGIC PLAN  
2020-2030:**

**Eradicating Illegal Killing, Taking and Trade in  
Wild Birds in Europe and the Mediterranean  
region**

# What kind of monitoring is needed?

- To understand scale or trend over time in IKB:
  - Systematic
  - Repeated periodically
  - Using same replicable methods
  - Standardising as much as possible – sample units, observer effort etc
  - Comparing results between months/ years/ sites
  - Consider who could engage in monitoring (national parks staff, enforcement authorities, NGOs, volunteers) and what work already underway it could build from (eg/ could national parks staff include some IKB monitoring?)



# Without systematic monitoring

- Action prioritised for more visible/ best known IKB problems
- Action at the best known hotspots and an emerging or shifting IKB problem may not be detected
- Effectiveness of actions at addressing IKB not measurable
- Limited resources may not be deployed to maximum impact
- Stakeholders may not be convinced there's a problem that needs to be addressed
- Central finance, other ministries or potential donors may not be convinced that funding needs to be released to address IKB



# Best practice guide

- Workshop to shape guidelines in 2015—BirdLife, CMS, AEWA, FACE, IMPEL, EuroNatur
- [https://flightforsurvival.org/wp-content/uploads/2022/06/Guidelines-for-IKB-monitoring\\_UPDATED\\_2022.pdf](https://flightforsurvival.org/wp-content/uploads/2022/06/Guidelines-for-IKB-monitoring_UPDATED_2022.pdf)
- Provides a checklist of the minimum steps that should be considered in monitoring the illegal killing and taking of birds.
- Presents relevant sampling design and survey method considerations.
- Describes recommended methods and detailed case studies with examples of protocols currently implemented



## A best practice guide for monitoring illegal killing and taking of birds

2<sup>nd</sup> edition



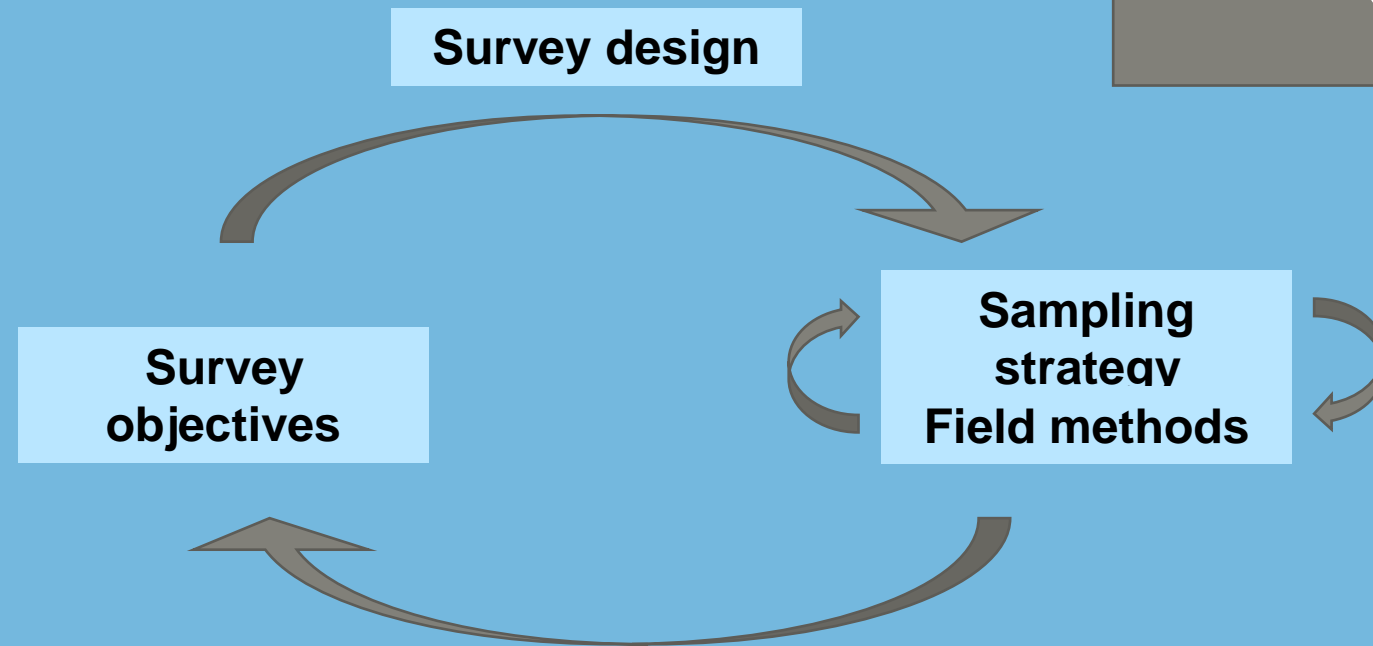
Partnership for  
nature and people



# Good survey design matters

- Clarify **objectives** and review **resources/ practicality**
  - **Sampling strategy** (= choosing where to count)
  - **Field method** (=how to count)

Standardise the things you can standardise (often observer effort, size of sample unit, method) and record things that you can't (eg/ weather conditions)



Use what is already known about the IKB problem in designing survey and sampling strategy

# Which questions do you want to answer with monitoring?

- How many individuals are illegally killed?
- What is the trend in IKB over time?
- Where are the worst locations?
- Which species are involved?
- Which illegal methods are used?
- Who is involved?
- How effective is law enforcement?
- How successful have actions been?
- What are the root causes?

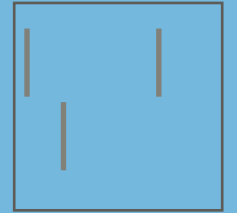


Design appropriate monitoring strategy to answer your questions, set survey objectives, suit local situation/ IKB problem/ staff capacity/ budget and link with NAP (but consider future scaling up)

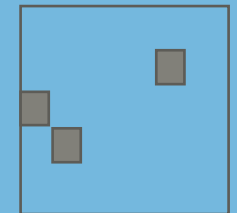
# Some key decisions

- **Direct or indirect measures**
- If sampling, **number**, **location**, **size** and **type** of sample units (regular and representative)
- Regular, random or semi-random sampling, stratified random sampling
- What **field method** is appropriate?
- **Periodicity of monitoring** (throughout year, during certain months)
- **Frequency of monitoring** (weekly, monthly, 3 monthly etc)
- Who will **collate**, **store** and **maintain** the data
- How will you **analyse** the data?
- What kind of results do you want to **report** and to whom?

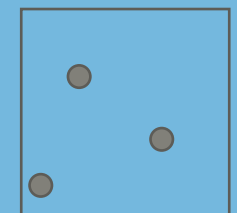
## Line transects



## Sample plots



## Point counts





# Direct or Indirect measures of scale or trend in IKB

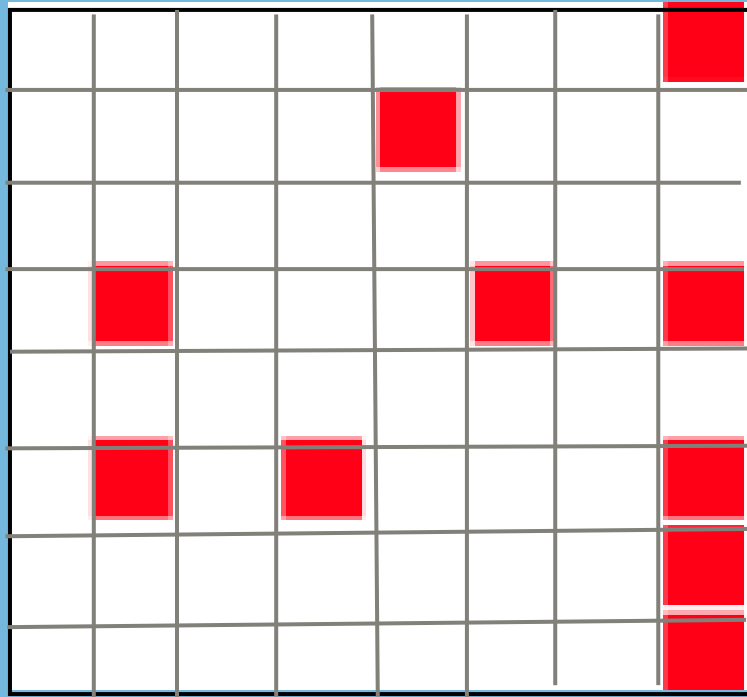
- **Direct (or absolute) measures**, where the target being monitored is itself measured (e.g. no. of birds found in a mist-net, no. of illegally killed or taken birds for sale in a market or offered for sale online), valuable data
- **Indirect (or relative) measures or indices**, where feature related to the target is measured (e.g. no. traps on a transect, no. of shots heard in an hour from a location).
- An **index** may be less time consuming to measure than direct measures, but **must reflect short-term changes** in the target and **provide a direct relationship to it**. e.g. if fewer traps are counted, fewer birds are being trapped.
- A measure like number of **prosecutions for IKB in a year may provide a good index of enforcement effort, but a poor index of scale or trend in IKB**, because it is not a direct relationship. Prosecutions going up could result from IKB increasing or from more enforcement staff being trained and doing an effective job (and IKB might be staying the same or decreasing)
- A measure like number of illegally shot or poisoned birds being brought to a rehab centre in a year might be a better index of scale or trend in IKB.

# Indices or estimates of IKB scale and trend

- Ideal to have several indices (ideally covering different types of IKB) so you can see if they all point to the same trend
- If you are only interested in trend (like Option B in the Baseline & Methodology paper) – is IKB getting better or worse then this is all you need
- However if you want to understand scale of IKB (like Option A in the paper) you can extrapolate estimated absolute numbers being killed from an index, if you know the relationship between the two. To ‘calibrate’ the index, for a short period or at a subset of sample units you simultaneously measure:
  - Both the index/ proxy (e.g. number of shots fired, number of traps found)
  - And the actual numbers of birds killed/trapped (e.g. from direct observation, bag checks, cameras) e.g. as a result of those shots fired
- Then, number of birds killed can be estimated from other sample units in which only indices have been obtained.

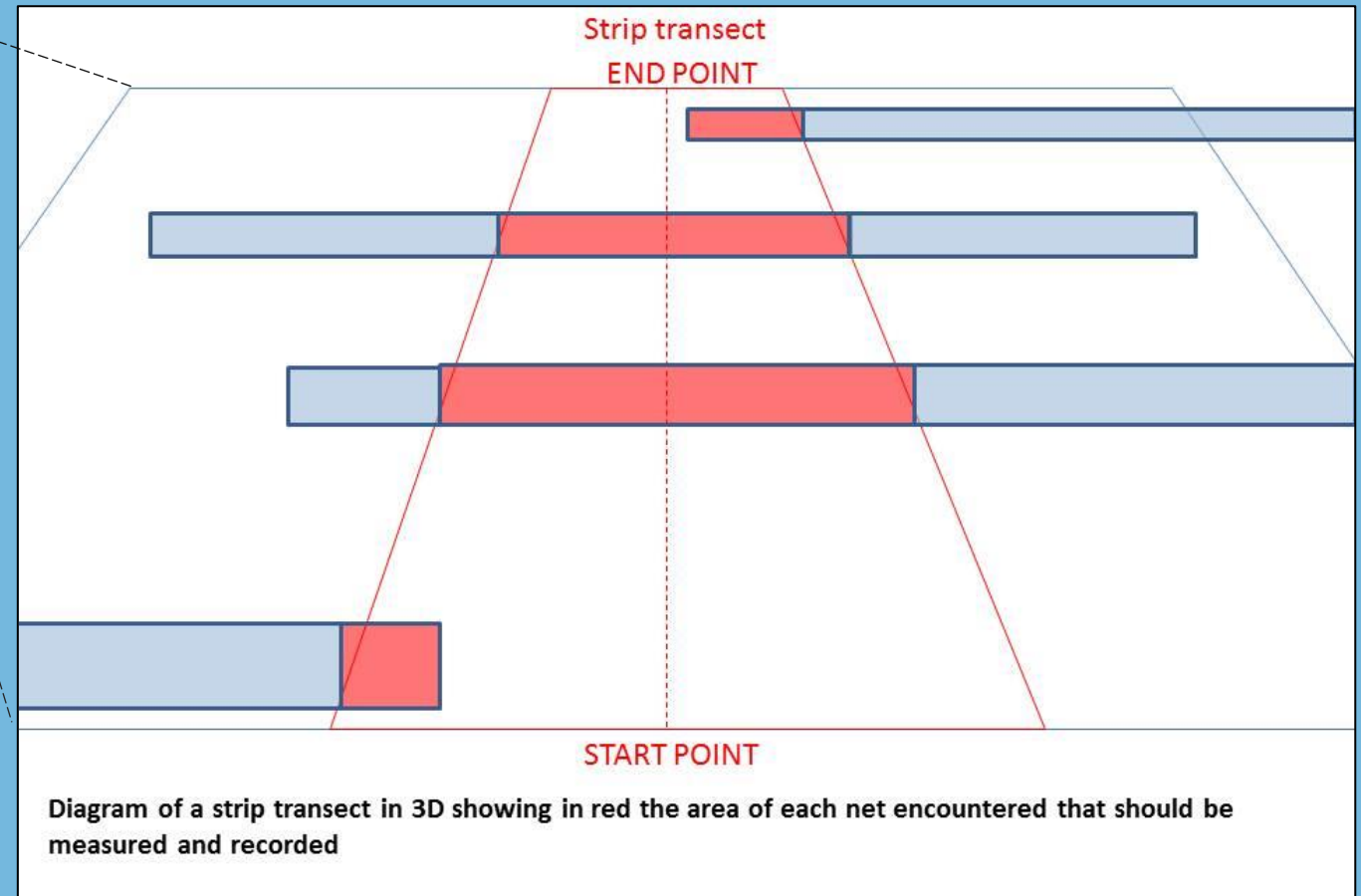
# Strip transect for monitoring nets and traps

GIS grid of 1km squares over survey area



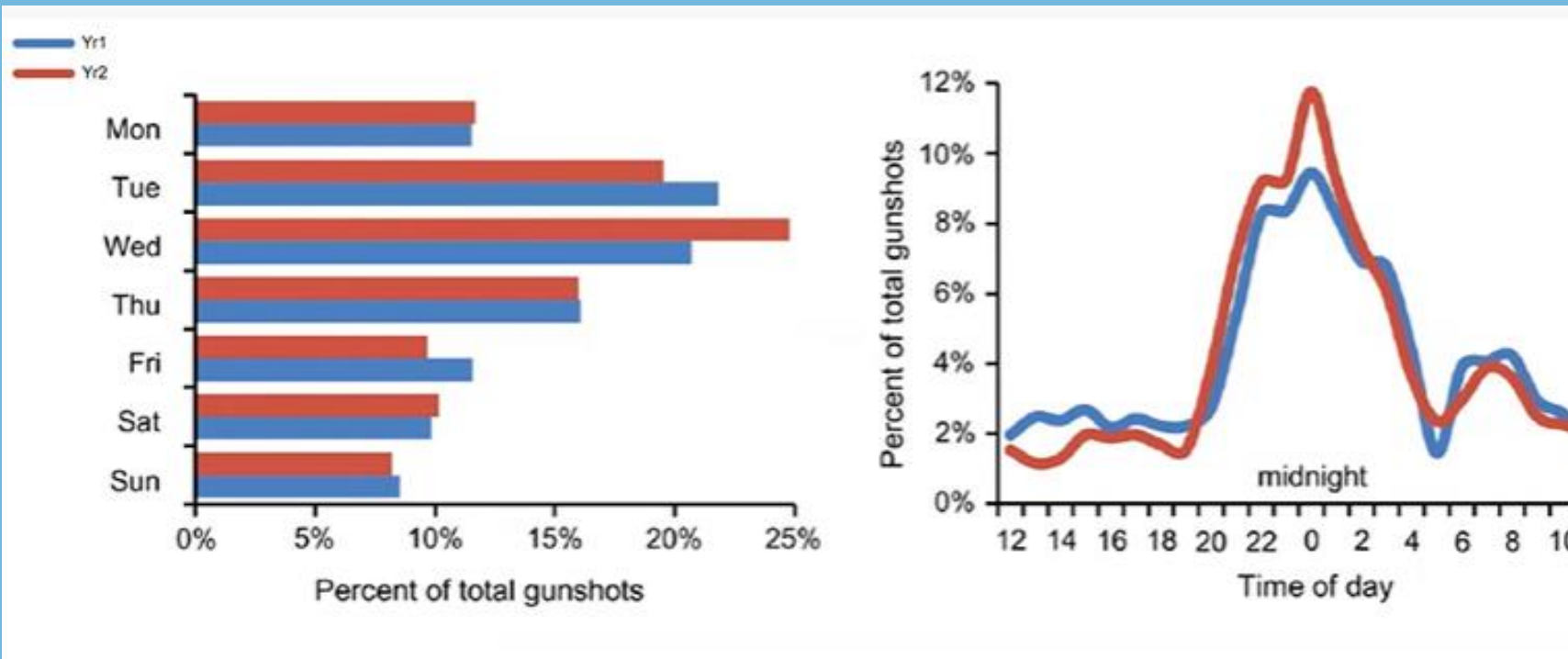
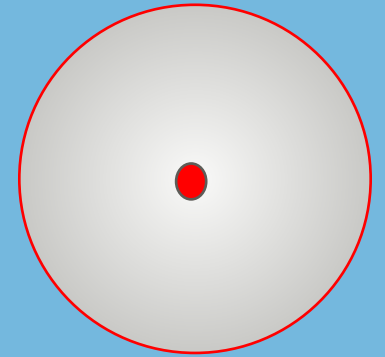
Random selection of 10 survey squares

Record m<sup>2</sup> of net within strip transect area and count other traps



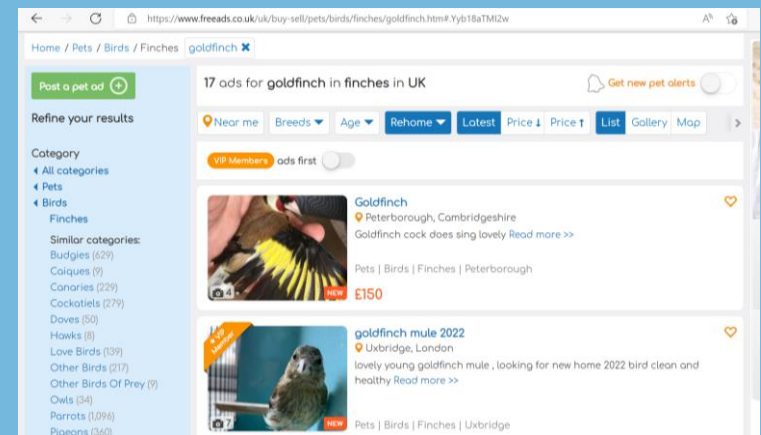
# Monitoring illegal shooting

- Road transects
- Observer point counts from vantage point
- Passive acoustic monitoring devices –up to 3 months battery



# Monitoring illegal trade

- Market surveys – can be done in repeatable way periodically with same no. observers
- If trade relatively open, may be possible to combine with interview techniques for sellers and/ or buyers
- Can be done covertly, observing what is for sale in what numbers or posing as a buyer to investigate prices
- Monitoring online trade – can use new techniques to ‘scrape’ data from relevant websites and build a picture



# New techniques facilitating monitoring



David Tipling

Eastern Imperial Eagles tagged in Hungary © MME

- Already mentioned acoustic monitoring, internet data scraping
- Drones to monitor habitats difficult to cover for signs of IKB
- Mortality of satellite tracked birds – identify location of threats
- DNA bar-coding for traded bird parts, cooked specimens or individuals that can't be ID'd on morphology
- Covert surveillance – use of hidden cameras
- Social science techniques like Unmatched Count Technique

Card C

Livestock herding



Farming



Trading



Teaching



Card T

Livestock herding



Farming



Trading



Hunting



Teaching



# Case studies

- Mobilising **volunteers** for IKB monitoring in Lebanon (SPNL/BL Lebanon)
- Removing **poaching infrastructure** in Croatia (Association BIOM/ BL Croatia)
- Briefing volunteers at bird camp in Malta (BirdLife Malta)
- Developing a volunteer network to monitor **quail poaching** in Croatia (Association Biom/BLCroatia)
- Monitoring illegal **mist-nets** in Cyprus (BirdLife Cyprus)
- Surveillance for illegal use of **poison** in Spain (SEO/BL Spain)
- **Acoustic Recording** Units to detect **shooting** in Greece (Hellenic Ornithological Society/BL Greece & FRI)
- Monitoring illegal take in **hunting bags** in Croatia (Croatian Society for Bird and Nature protection)
- Monitoring illegal **shooting** during migration in France (LPO/BL France)
- Use of **dogs** for monitoring illegal **poisoning** and **managing IKB data** in Hungary (MME/BL Hungary)
- **Satellite transmitters**, prevention of poisoning & **DNA** sampling of Eastern Imperial Eagles in Hungary. (MME)
- Monitoring a **bird market** in Jordan (RSCN/BirdLife Jordan & RMCSJ)
- Using monitoring results to **change attitudes** on IKB (LIPU/ BL Italy)
- Collecting information from **hunters/trappers** in Egypt (NCE/ BL Egypt)
- Protocol for recording **incidental IKB observations** in the UK (RSPB/ BL UK)
- Addressing **raptor persecution** protocol in Ireland (BirdWatch Ireland/ BL in Ireland)
- Using **drones** to combat the illegal **trapping** in Malta (BirdLife Malta)
- **Drones** for **nest protection** peregrine falcons in Northern Ireland
- **DNA barcoding** of bird species in Cyprus and **Using covert surveillance** (BirdLife Cyprus).
- **Analysing magnitude of raptor shooting** (Batumi/ BL Georgia)

# Moving forward with monitoring IKB

Cost

Capacity

Skillset

- Can start small and build up over time
- Make use of work already going on in field
- Use well designed sampling strategy to minimise capacity required
- Use modern technology to gather useful data remotely
- Build on experience of other countries and share skills
- Harness skillsets of other national stakeholders eg/ those in NAP committee
- [https://flightforsurvival.org/wp-content/uploads/2022/06/Guidelines-for-IKB-monitoring\\_UPDATED\\_2022.pdf](https://flightforsurvival.org/wp-content/uploads/2022/06/Guidelines-for-IKB-monitoring_UPDATED_2022.pdf)