



RAPTORS  
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# Saker Falcon Task Force, Objective 8 Working Group Report

A review and synthesis of current  
Saker Falcon (*Falco cherrug*) field  
monitoring and research activities

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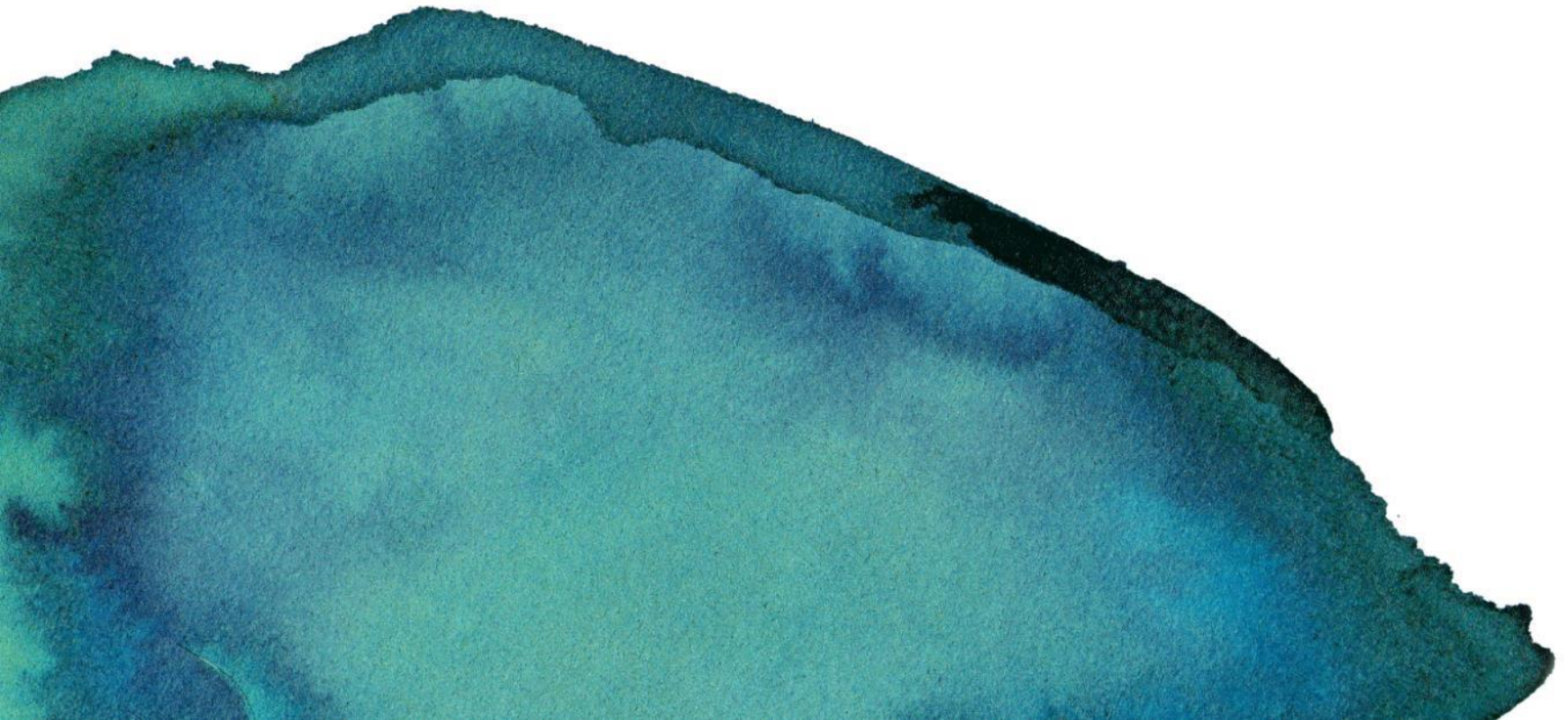
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# Introduction



# Introduction

The aim of the Objective 8 Working group was **to plan and implement fieldwork.**

The following Objectives of the working group were agreed on:

- 8.1 Utilize best practice to design a monitoring plan and potential monitoring methods applicable in key range countries at different scales and sufficient to ensure that information about the status of the Saker Falcon populations is available to inform conservation decisions.
- 8.2 Provide assistance in setting up and maintaining population monitoring systems.
- 8.3 Promote and support research planning and field research on the conservation of the Saker Falcon.
- 8.4 Facilitate active collaboration between researchers, falconers, trappers (where possible) and local administration involved in Saker studies.
- 8.5 Explore the possibility of monitoring the impact of pollutants on the Saker Falcon.

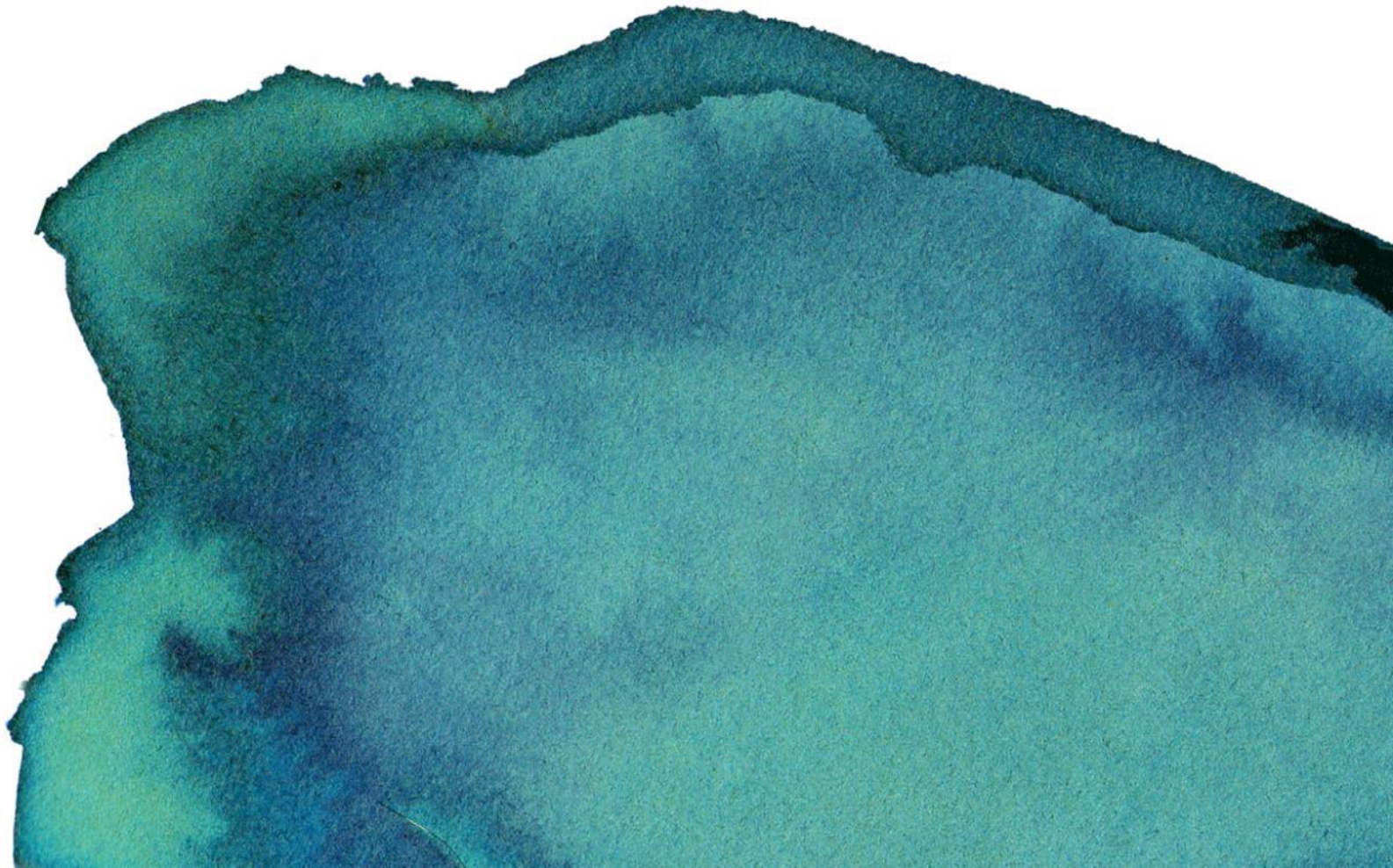
There is no comprehensive overview of global field work and monitoring efforts for the Saker Falcon. The first step to advance towards these objectives is therefore to compile a body of knowledge of how and what field and monitoring work has been conducted until now in the different range states.



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# Methods/Approach



# Methods/Approach

## Country Prioritization

- Criteria: breeding population size, population trends, key user countries etc
- The countries with **critical priority** are: **China** and **Russia**.
- Countries with **high priority** are **Hungary, Kazakhstan, Mongolia and Saudi Arabia**.
- Countries with **medium priority** are **Afghanistan, Bahrain, Kuwait, Kyrgyzstan, Pakistan, Qatar, Syria, Turkmenistan, Ukraine and Uzbekistan**

# Methods/Approach

## Questionnaire

- Please indicate to which country/countries the information you provide is applicable.
  - Which data is collected for monitoring Saker Falcons?
  - How is the data collected? Which methods are used?
  - How often is data collected? At which time of the year?
  - How many people are involved in data collection? How much time are they dedicating on average?
  - Are the data collection efforts coordinated at national level? If so, by whom?
  - Are there differences in data collection between different areas/ecosystems (e.g. in the kind of data collected, or methods used)?
  - Is there a standardized field monitoring protocol? (If so, could you share it with the working group?)
  - Does the data collected allow for monitoring the impacts of pollutants?
- **Responses for Croatia, Hungary, Kazakhstan (& Northern Kazakhstan), Mongolia, Romania, Russia, Slovakia & Ukraine**

# Methods/Approach

## Analysis of Monitoring Protocols

- **Mongolia**
- **Hungary** (also applied in **Croatia, Slovakia & Romania**)





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# Results





# Results

## Design of Monitoring Plan I

- **Common elements** of current Saker Falcon Monitoring protocols are:
  - Monitoring of previously known nests
  - Determination of nest occupancy & brood size
  - Definition of Age/Growth stages
  - Some convention concerning tagging/identifying individuals
  - Interaction rules to limit disturbance of bird
- However the methods and definitions behind these common elements **still vary strongly between the countries and harmonization is necessary.**

# Results

## Design of Monitoring Plan II

- The global Saker Falcon population is not continuous, but fragmented into several meta-populations. Prioritization of the conservation efforts of the various meta-populations would be important to maximize resource use efficiency. However, first a **relatively accurate geographical mapping of meta-populations and connections between them is necessary**. To this end, a base-line field survey, monitoring of some selected sample areas, as well as satellite-tracking of individuals of meta-populations are needed.
- As only parts of populations are monitored, up scaling the data collected in the field through modeling is necessary.
- For information on reproduction, data on occupied nests, brood size and productivity needs to be collected. Another parameter on which good information is needed is survival/mortality.

# Results

## Design of Monitoring Plan III

The following sources of data are not used but could potentially provide useful information:

- Trapping Data
  - Official records by authorities (e.g. confiscation)
  - Compilation of Data published in Raptor Conservation Journals and similar sources
  - regular monitoring of pylons of electric power lines in the breeding/wintering area (e.g. data on mortality)
  - Data from existing Marking/Reporting Networks (e.g. breeders, veterinaries in falconry hospitals and during ringing chicks in some regions).
- **This report recommends developing a common standard monitoring protocol, by agreeing on a minimum set of parameters to be collected in each range state, using comparable methods and common definitions.**



## Results

### Assistance in setting up and maintaining monitoring systems

- Of the countries not directly covered in our survey replies, gathering information on and providing assistance to China has the highest priority.
- Engaging more countries in which key users live and trapping takes place should also be a priority. **For trapping those would be Afghanistan, Pakistan and Syria, for key users Bahrain, Kuwait and Qatar.**
- Based on these considerations, **this report clearly identifies a need for a better understanding of monitoring efforts**, if existent, especially in the following countries: **China, Afghanistan, Bahrain, Kuwait, Pakistan, Syria, and Qatar.**
- Where no monitoring system exists ways to provide assistance to setting up and maintaining monitoring systems should be explored. This applies, inter alia, to **Saudi Arabia, where setting up a monitoring systems or integrating trapping data should have a high priority as well.**

# Results

## Promote and support research planning

- Inputs from other working groups **highlight the need to increase data quality** on population size, trends and range/habitat as well as on survival and migration routes.
- Several suitable methods are presented and discussed in this report to meet these needs. E.g.:
  - Better knowledge on population sizes and trends could be achieved by **extended marking/tagging at nests and collection of DNA samples** combined with a standard protocol and a common data and DNA sample repository.
  - **The possibility of using different kinds of data**, e.g. trapping records and/or official records to monitoring population size and trends should be explored.
  - **Better knowledge on habitat use** could be gathered by including data collection on habitats and prey species into monitoring plans of field research activities.

# Results

## Promote and support research planning

- To **analyze migration routes**, solid tracking methods would be needed, such as the ones which are already in use in some countries (e.g. Hungary). Improvement could come from advanced tracking technology. This would also lead to better data on survival, as would research on specific sources of attrition, (e.g. electrocution, trapping, pollution). Useful information can also be derived from the available information on recoveries/resightings of ringed Sakers (48 dead recoveries, 70 live encounters in the **EURING Data Bank**)
- To **analyze wintering areas** and wintering numbers, a proposal has been made to WI by the STF to include Saker among the “satellite” species to be monitored during the 2014 IWC. The proposal has been positively accepted and now material will be sent to WI in order to help counters to properly report Saker observations.
- It should be considered whether it is feasible to integrate data collection to address these issues into a regular monitoring plan or whether separate research efforts are to be conducted.



# Results

## Facilitate collaboration

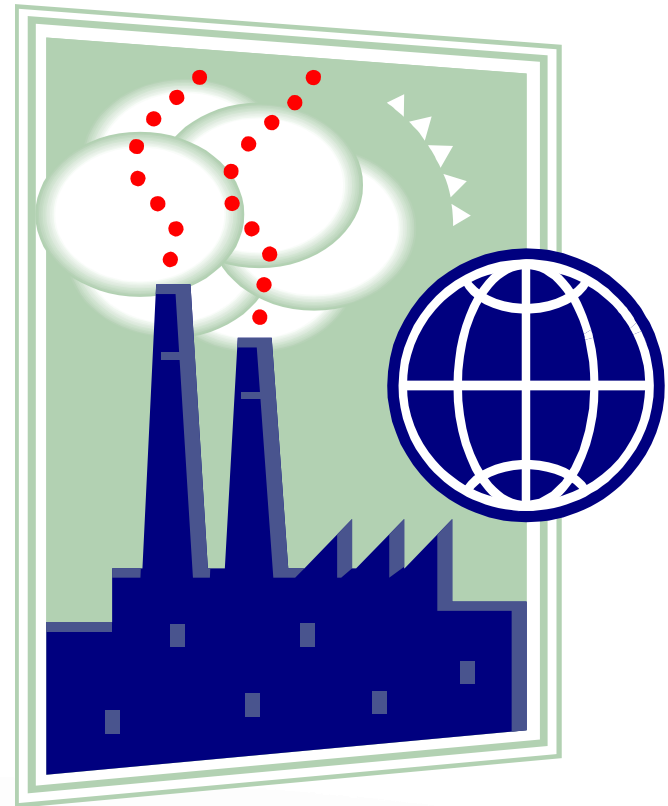
- From the responses to the questionnaire and the monitoring protocols received it becomes evident that already **within the science community among different countries, standards and methodologies differ**.
- **Agreeing on a minimum set of data to collect, common definitions and comparable methods** will be necessary for good collaboration.
- Synergies should be sought when facilitating active collaboration, building trust, collecting data for socio-economic models and possibly exploring new sources of data for Saker population monitoring. Also, a common data infrastructure would be beneficial.

# Results

## Monitoring the impact of pollutants

Croatia, Hungary, Mongolia, Romania and Slovakia collect and analyze feather samples and food remains. Several countries also collect and analyze unhatched eggs.

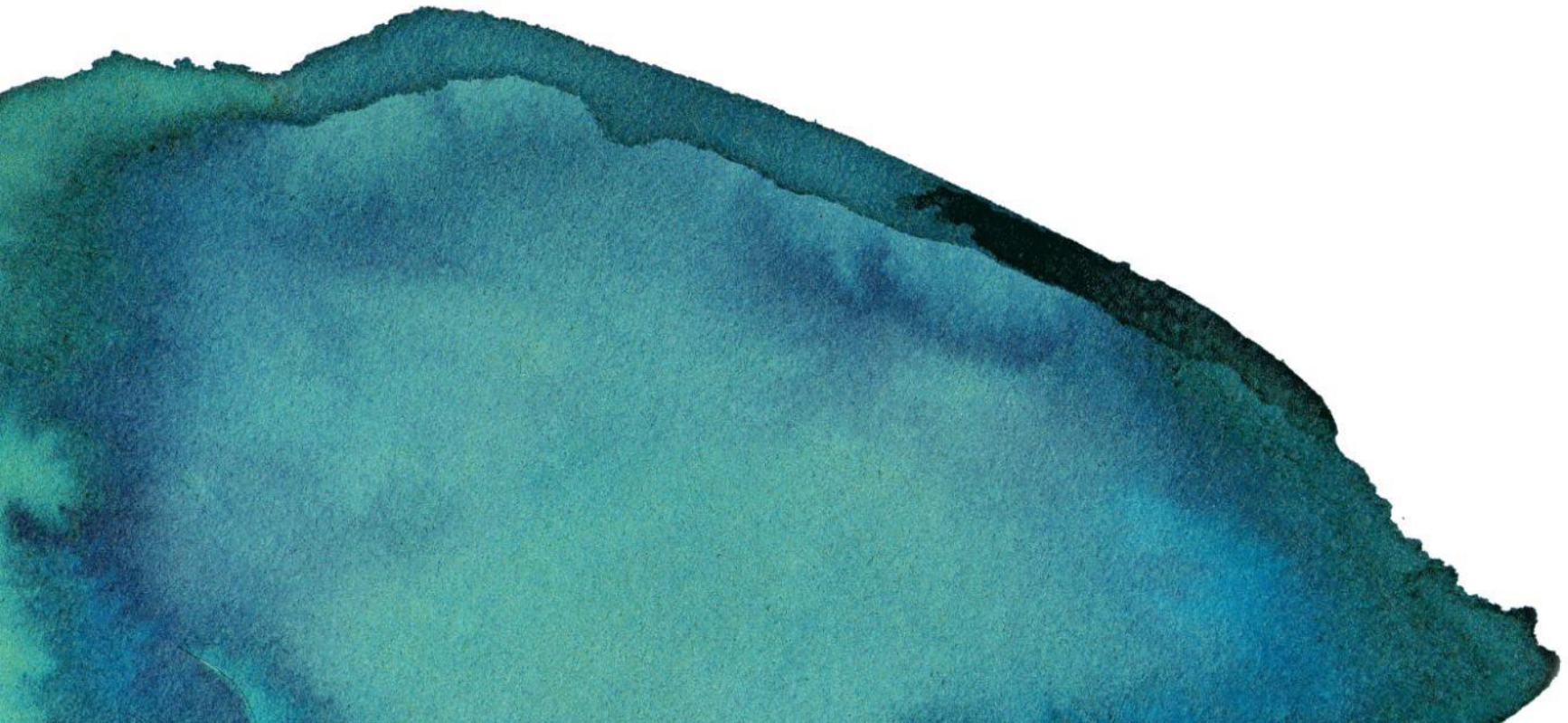
-> **Monitoring of pollutants is feasible and now needs to be implemented in all study areas.**



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# Conclusions





## Conclusions

- **There are very different monitoring methods currently in use.** To facilitate collaboration between countries and ensure efficient use of money and effort, the Working Group recommends developing a common standard monitoring protocol. **Even if existing monitoring plans remain unchanged, an agreement to identify best practice for new monitoring plans is necessary.**
- This could be started **by agreeing on a minimum set of parameters to be collected in each range state**, using comparable methods and common definitions (e.g. age groups). These methods and definitions should be identified as best practice from existing monitoring efforts.

## Conclusions

- It would also be of importance to find and agree on **methods on how to integrate data from different sources**, e.g. trappers or official records with the field data.
- Our access to knowledge on Saker Falcon monitoring systems has gaps, also in the countries with high priority, especially **China. Gathering information on, and if necessary providing assistance in setting up and maintaining monitoring systems in those countries will be a priority.**

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Thank you!

