

Health status of animals tagged in PT studies: the importance for regulatory acceptance

MEET US AT BOOTH 109!



INTRODUCTION

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In the revised guidance on 'Risk Assessment for Birds and Mammals' by EFSA^[1], it is mentioned among the requirements and conditions for valid **PT studies**, that only **healthy individuals should be tagged**. The Critical Appraisal Tool (CAT) for the evaluation of ecological field studies (Annex F of the EFSA Guidance Document^[1]) provides instructions for the reliability of a study in this regard, evaluating whether the general health and/or conditions of the animals studied are measured, described and reported. In order to fulfil this criterion, the field protocols and documentation of field studies must consider the well-being of the tagged individuals.

We have developed and used score sheets to describe the health status of the trapped individuals and further handling for animal welfare purposes since several years. The score sheets used in our studies, are in constant improvement under consideration of German animal welfare authorities. We use them to assess and document the general condition and the distress of captured individuals for both birds and mammals studies.



Score sheet for birds

Monitoring	Observations (more than one choice per section can be picked)	Score
I General condition of captured bird (only birds in good condition are further handled; all others are going to be released immediately after extraction from the trap or carefully observed (e.g. in a box) if required for recovery)	Captured animal in good condition, shiny feathers, orifices clean, eyes clear and bright	1
	Captured animal in bad condition, dull and sticky feathers, bird is not able to keep itself clean, sign for disease	10*
	Obvious parasite infestation (e.g. ticks, bird lice, louse fly)	10*
	Wet and cold due to weather conditions	10*
	Strong emaciation	10*
	Leg abnormalities (e.g. caused by papillomatosis and cnemidocoptosis)	10*
	Leg broken	15*
	Attacked by predator while caught in the net or trap	5 - 25**
	Escaped before handling	-
	Calm and no obvious signs of stress	1
II Handling and measuring	Signs of stress while handled (convulsive respiration)	5
	Very high level of stress (e.g. gasping for breath, uncontrolled eye movements)	15*
	Injured during handling (e.g. broken leg; air sacs damaged etc.)	5 - 25**
	Released or escaped during handling	-
	Ring applied	1
III Marking (Ring and/or radio tag)	Applying the tag-harness	3
	Signs of increasing stress while tagging (e.g. convulsive respiration, cries of fear)	8
	Very high level of stress (e.g. gasping for breath, uncontrolled eye movements)	15*
	Injured during handling (e.g. broken leg; air sacs damaged etc.)	5 - 25**
	Sum	
Evaluation and actions		
degree of distress 1 = low distress; careful observation		1 - 9
degree of distress 2 = moderate distress; long rest period; careful observation		10 - 19
degree of distress 3 = profound distress; termination; long rest period and careful observation		20 - 24
degree of distress >3 = humane killing of the animal		25 and higher

*no tag applied or tag removed; release after careful observation; **depending on the severity of the injury

Examples:

- captured animal in good condition (1) → calm during handling (1) → ring and radio tag applied (1+3) = perfect handling and marking (Sum = 6; low distress level)
- captured animal in good condition (1) → stressed during handling (5) → ring and radio tag applied (1+3) = almost perfect handling and marking (Sum = 10; moderate distress)
- captured animal in good condition (1) → stressed during handling (5) → signs of increasing stress while tagging (8) = careful observation in e.g. a box and released after recovery (Sum = 14; moderate stress level)
- captured animal in good condition (1) → signs of stress while handled (5) broken leg due to handling (15) = treatment, careful observation in e.g. a box and released after and recovery (Sum = 21; profound distress)



Score sheet for mammals

Monitoring	Observations (more than one choice per section can be picked)	Score
I General condition of the trapped animal (smallest possible score = 1 due to the initial stress of the individual being unable to leave the trap)	Animal caught in a trap, shiny fur, orifices clean; eyes clear and bright	1
	Fur damage, small skin lesions (abrasion or similar)	3
	Animal wet and cold due to weather conditions	5
	Light injuries (e.g. bloody snout or feet, caused by attempts to escape)	5
	Infestation with (visible) ectoparasites (e.g. botfly larvae, ticks, etc.)	2-8*
	Severe injuries (e.g. caused by predator or other trapped animals)	10
	Fatal injuries (e.g. caused by predator or other trapped animals)	25
	Released or escaped before handling	0
	Calm and no obvious signs of stress while handled	1
	Stress by handling: from just obvious stress (e.g. convulsive respiration, eyeballs enlarged) to a very high level of stress (e.g. animal passed out)	3 - 15**
II Handling and measuring	Fatally injured during handling (e.g. broken leg or similar)	25
	No marking applied	0
	Fur cut applied	1
	PIT (i.e. transponder) injection	2
	Accidentally penetrating the skin twice while injecting a PIT	5
III Marking	Mounting a radio/GPS tracking devices like a collar – only healthy animals should be tagged (general condition score 1 and none or low score (max. 2) ectoparasites)	5
	Fatally injured during marking (e.g. broken leg or similar)	25
	Sum	
Evaluation and actions		
degree of distress 0 = no distress		0
degree of distress 1 = low distress; careful observation; release		1 - 9
degree of distress 2 = moderate distress; long rest period; careful observation; release		10 - 19
degree of distress 3 = profound distress; termination (no further handling steps); long rest period and careful observation; release if ok		20 - 24
degree of distress >3 = humane killing of the animal		25 and higher

* depending on estimated handicap caused by parasites (from low = 2 to very high = 8)

Examples:

- animal captured in good condition (I: 1) → calm during handling (II: 1) → fur cut and PIT applied (III: 1+2) = perfect handling and marking. Sum = 5; low distress level
- animal captured in good condition (I: 1), escapes after sexing (II: 1), before PIT injection (III: 0). Sum = 2; low distress level
- animal cold and wet in the trap, heavy rain during trapping (I: 5) → decision to release the animal in favour of the animal welfare (II: 0) → no marking (III: 0). Sum = 5; low distress level
- animal with little injuries in the trap (I: 5) → signs of stress during handling (II: 5) → PIT injection (III: 2). Sum = 12; moderate distress level. Careful observation before release

The score sheets contain a list of possible situations and corresponding distress scores within three main sections:

I) General condition of trapped animal



II) Handling and measuring



III) Marking and tagging



Additionally, symptom-orientated aid measurements are given to support the recovery of the trapped individual if required. Clear criteria of symptoms are defined that excludes an individual from being tagged

The overall individual's well-being is therefore evaluated, supporting the selection of individuals suitable for tagging



Healthy individuals tagged

CONCLUSIONS

The revised Guidance Document requires that only healthy individuals are to be tagged. Our established way to use animal welfare scores to document the general condition as well as the distress of captured and tagged individuals for both birds and mammals field studies fulfils these requirements.

The well-being of the marked animals is recorded, filed as raw data and can be presented in the reports.

With the recording of the health status available, it is transparent for the evaluator that this relevant criterion for the reliability of a study is met.

References:

[1] European Food Safety Authority (2023). Guidance Document on Risk Assessment for Birds & Mammals on request from EFSA

