From focal species to effects studies: important points for the revision of the EFSA Guidance Document on B&M

tier3 solutions
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Need to know for a higher tier risk assessment

Focal species (FS) selection

→ Which are the relevant species for crop/BBCH/zone?

PT

→ What is the **P**roportion of diet obtained in a PPP-**T**reated crop?

PD

→ What is the **P**roportion of different **D**iet types?

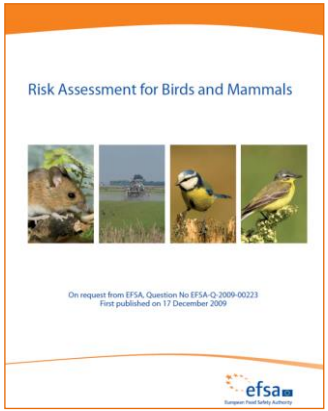
Need to know for a higher tier risk assessment

Focal species (FS) selection

→ Which are the relevant species for crop/BBCH/zone?

Field Effects Studies

→ What effects can be observed under realistic field conditions?



Focal Species

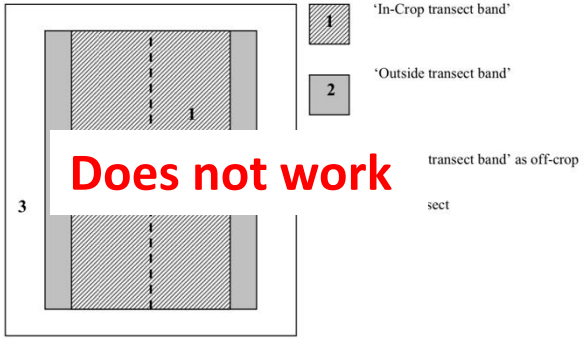
Basic requirements:

→ FS occurs in the crop during (and after) the PPP application

→ FS is representative for all other species of the feeding guild

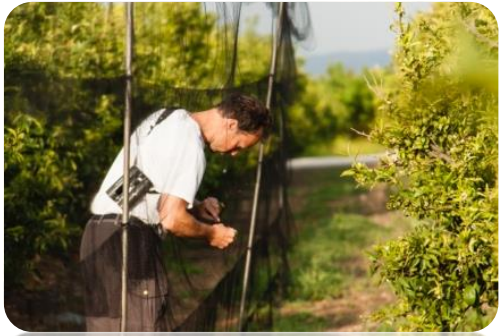
Focal Species

B&M GD recommends:



Transect count method
Birds must be **visible/audible** from the line transect and **stay** until detected.

Alternative methods:



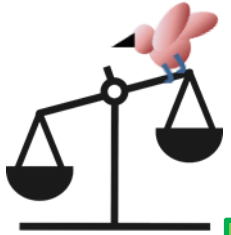
Mist netting
of birds in orchards (and other high crops)

Scan sampling
for low BBCH stages

Focal species

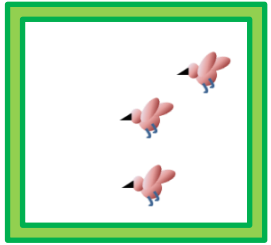
What‘s more relevant? Body weight or Frequency of Occurrence?

Species 1



light

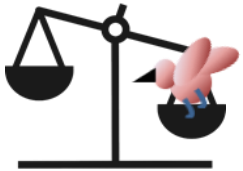
less frequent



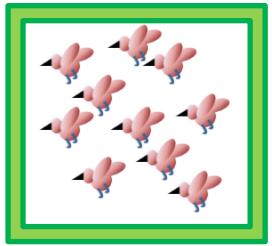
Body weight is more protective!

Alternatively, conduct a PT study covering both species

Species 2



heavy



frequent

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SETAC Europe Helsinki 2019

PT

Proportion of an animal's daily diet obtained
in a PPP-**T**reated habitat

How can we know?

By a well-accepted approximation:
time spent active in treated area ≈ amount of food obtained there

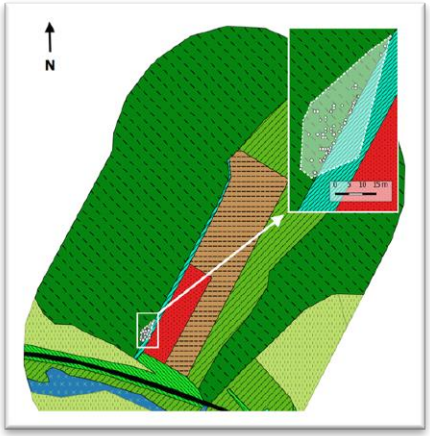
PT ≈ **P**roportion of **T**ime in the crop

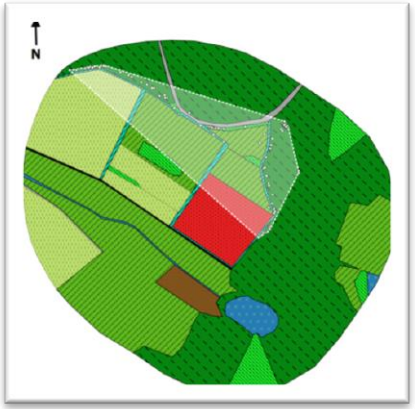
PT

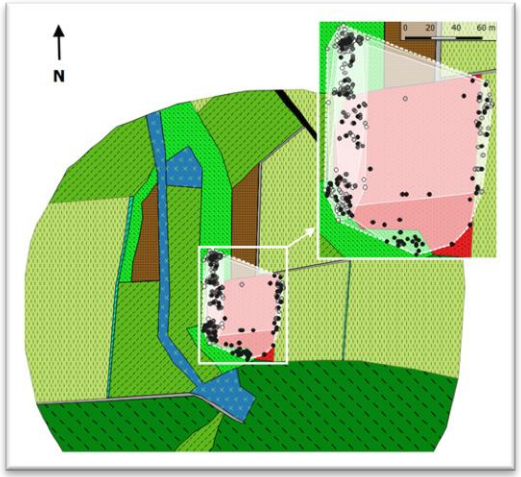
PT is obtained by radio tracking

PT

Which PT value to use?







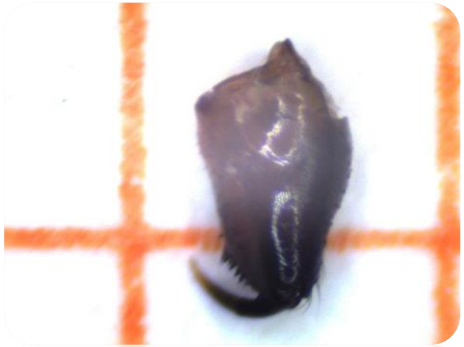
‚All individuals approach‘ (all tracked individuals)

‚Home range approach‘ (consumers + treated crop in their home range)

‚Consumer approach‘ (individual foraged in the crop)

PD

Diet composition is what we ideally want to know for a risk assessment



Keep in mind count of food items in faeces

is NOT

weight of the food items eaten

Use correction factors if available!

Field effects studies

complex

but nevertheless

the most realistic approach

Field Effects Studies

Acute effects

i.e. mortality
can be observed by
suitable field methods

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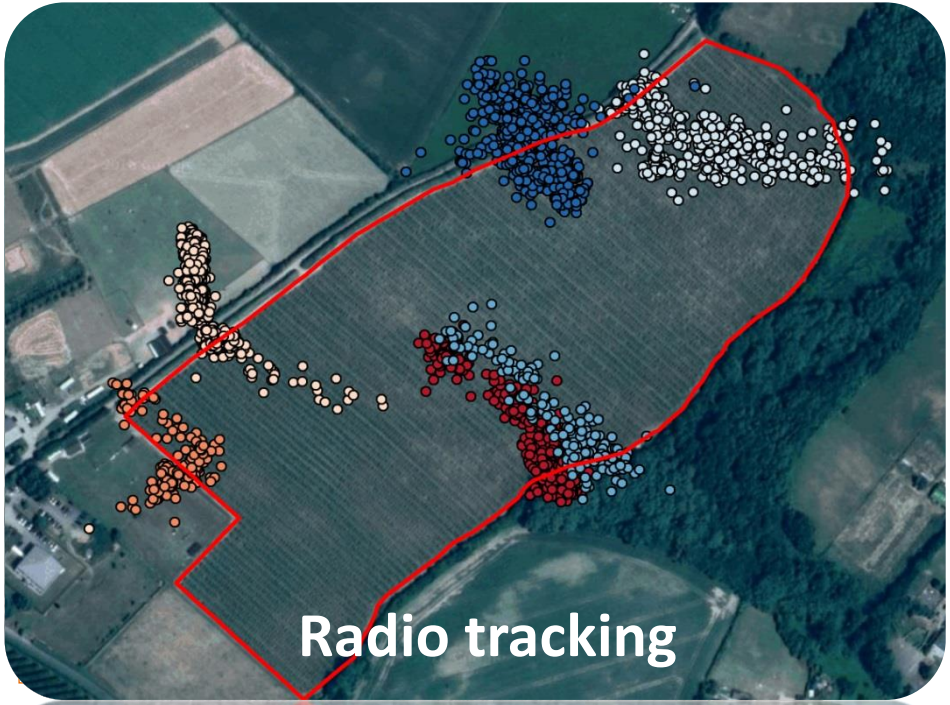


Field Effects Studies

Acute effects

i.e. mortality
can be observed by
suitable field methods

More about nest monitoring Poster TUPC20
Bird nest monitoring studies: standardisation of study designs for the revision of the EFSA guidance document

Field Effects Studies

‘intensive’ approach current
B&M GD 2009:

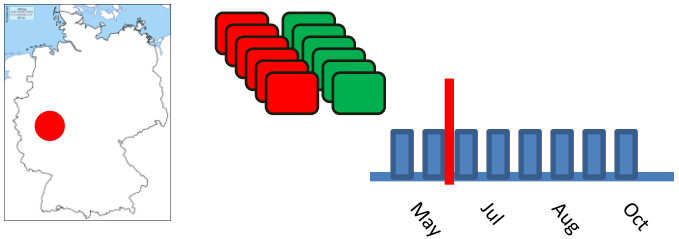
The ‘intensive’ approach on the other hand involves more detailed investigations
but on a smaller number of sites,
or on one site only.

‘extensive’ approach current
B&M GD 2009:

The ‘extensive’ approach uses simple techniques such as carcass searching and census methods but employs a large number of sites to cover a broad spectrum of use conditions.

Field Effects Studies

‘intensive’ approach updated

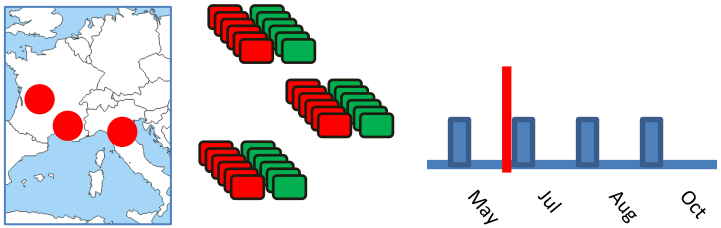


species with small home range
e.g. common vole or rabbit

- one region
- 6 treated + 6 control fields
- frequent trapping (≈ 3 weeks)
- body weight, repro status,…
- optionally in surrogate crop

MDD <20%

‘extensive’ approach updated



species with large home range
e.g. wood mouse or hare

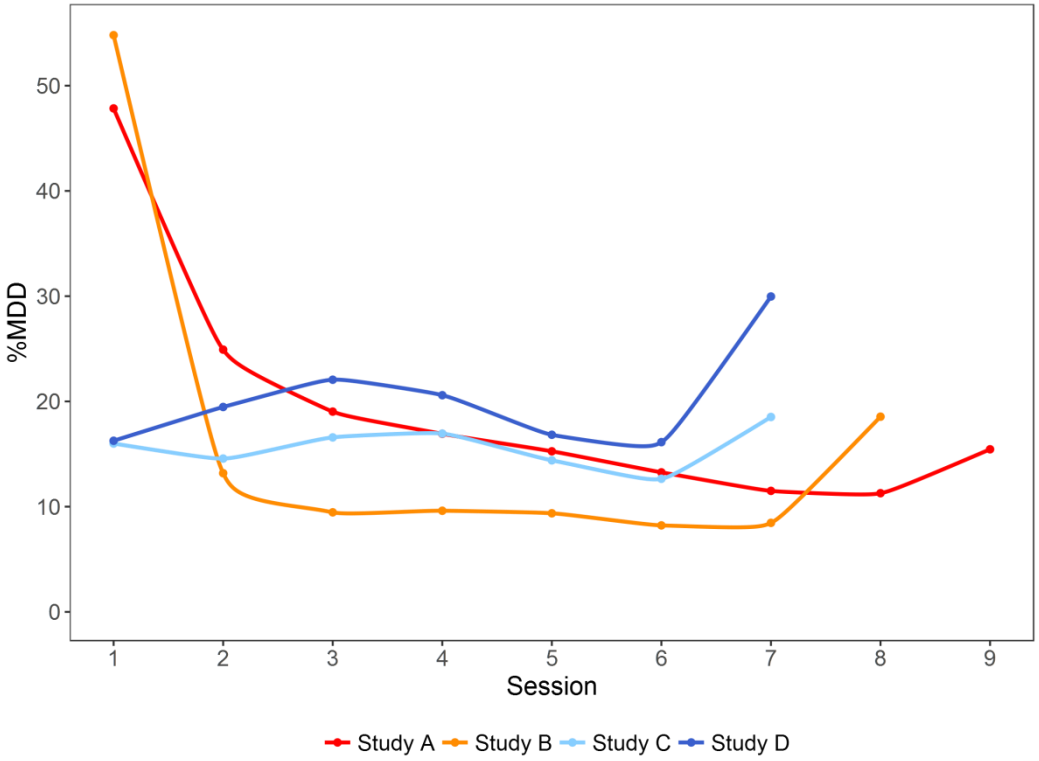
- three regions
- 6 + 6 fields in each region
- 1 pre- + 3 post application trappings
- target crop

Statistical power >80%

Field Effects Studies

More about MDD: Poster TUPC24

The Minimum Detectable Differences
A way to estimate the power of a small mammals field effects study *a posterioir*



Take  home

- The revision of the B&M GD should consider modern field methods
- The GD and regulators should be open for new methods still to come
- Appropriate study design and statistics can deal with natural complexity
- Field studies are the most realistic approach to understand PPP risks

Thank you for your attention!

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