Choice of indicator species

Robert Luttik

Risk assessment of spray applications

Choice of indicator and focal species

Indicator species

is not a real species but, by virtue of its size and feeding habits it is considered to have higher exposure than (i.e. to be protective of) other species that occur in the particular crop. It has a high food intake rate, and consumes one type of food which in turn has high residues on/in it.

Used in screening step of risk assessment

e.g. small herbivorous mammal or small insectivorous bird

Choice of indicator and focal species

Generic focal species

is, again, not a real species, however it is considered to be representative of all those species potentially at risk. It is based on ecological knowledge of a range of species that could be at risk. It may consume a mixed diet rather than just one as for the indicator species. However it is not tried to mimic the diet as good as possible.

Used in first tier assessment

e.g. small granivorous bird (finch)

Choice of indicator and focal species

Focal species

is a real species that actually occurs in the crop when the pesticide is being used. The aim of using a 'focal species' is to add realism to the risk assessment.

Could be used in higher tier assessment

e.g. the Robin

Choice of indicator and focal species

Plant material is eaten by voles and voles are found all over Europe, but not each vole species can be found in the whole of Europe.

Choice of indicator and focal species

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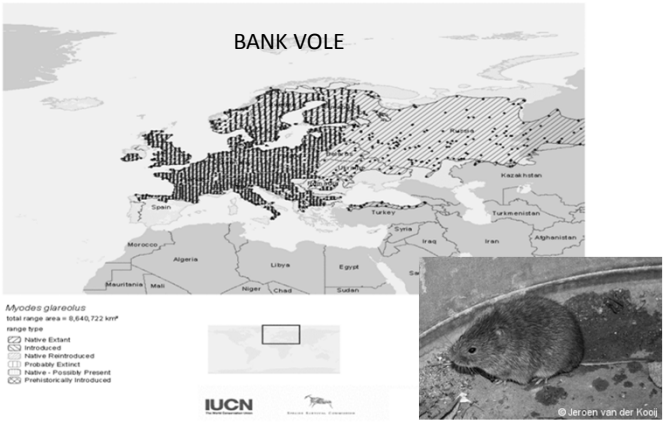
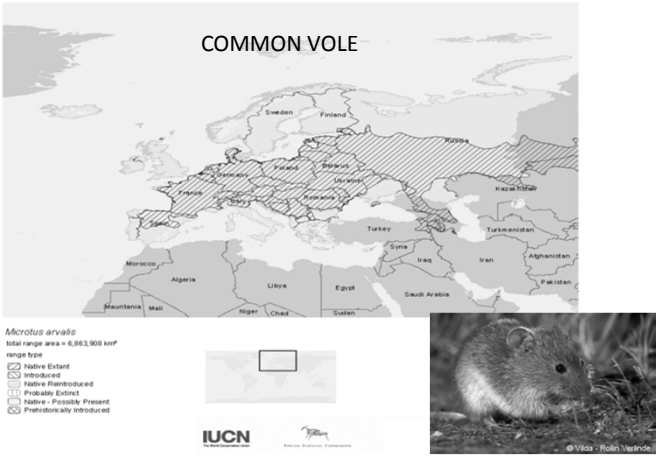
BANK VOLE



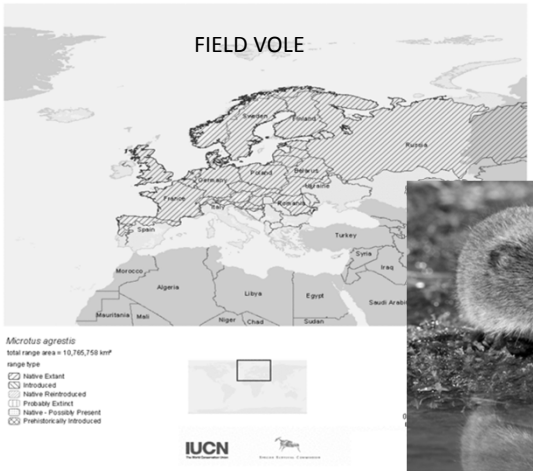
Choice of indicator and focal species

COMMON VOLE



Choice of indicator and focal species

FIELD VOLE



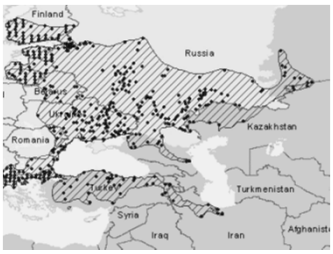
Choice of indicator and focal species

MEDITERRANEAN PINE VOLE

SAVI'S PINE VOLE

THOMAS'S PINE VOLE

EAST EUROPEAN VOLE
OR
SIBLING VOLE



Choice of indicator and focal species

Agricultural habitats in which vole species can be found.

English name	Grassland	Arable land	Pasture	Plantations
Bank vole	-	-	-	-
Field vole	X	X	X	X
Common vole	X	X	X	-
Cabrera's vole	X	-	X	-
Mediterranean pine vole	-	X	X	X
Balkan pine vole	-	X	-	-
Savi's pine vole	X	X	X	X
Sibling vole	-	X	X	-
Thomas's pine vole	X	X	X	-

Choice of indicator and focal species

COMMON SHREW

The common shrew has a wide distribution in the Palaearctic, occurring from Britain through central, northern and eastern Europe and Asia as far east as Lake Baikal and as far north as the Arctic coast.

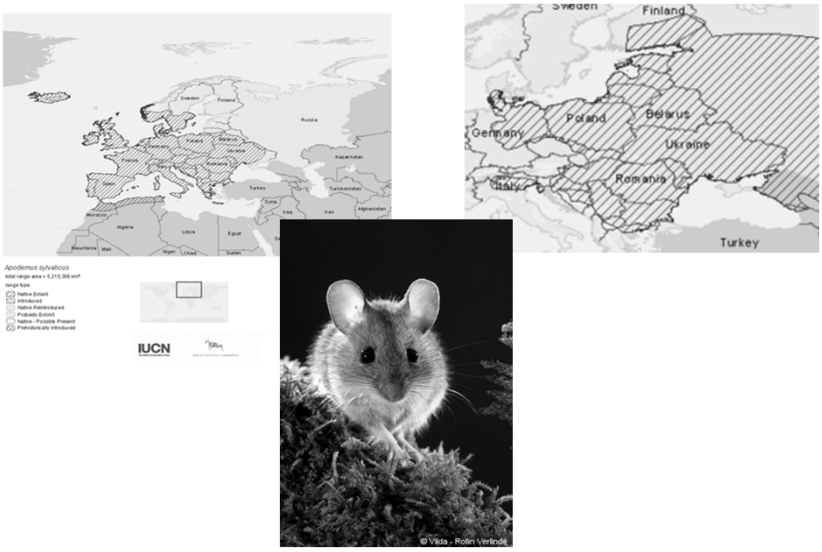
GREATER WHITE-TOOTHED SHREW

BICOLOURED WHITE-TOOTHED SHREW

Choice of indicator and focal species

WOOD MOUSE

STRIPED WOOD MOUSE



Choice of indicator and focal species

For the indicator and for the generic focal species it was proposed to use a body weight of 25 grams (a body weight comparable to the smaller species of voles)
There is no differentiation in food between the screening level and first tier assessment, because voles eat plant material and no other types of food.

The common shrew (9.7 grams) is proposed for insect eating mammals. Again no differentiation possible in food types.

The wood mouse (21.7 gram) is proposed for omnivorous mammals. In the screening level it is assumed that this indicator species will only eat plant material, which will result in the highest exposure. In the first tier it is assumed that the generic version will eat 25% plant material (leaves), 50% seeds and 25% insects.