Figure 4.1

Exceedance of empirical critical loads for soils by FRAME calibrated 1970 acid deposition

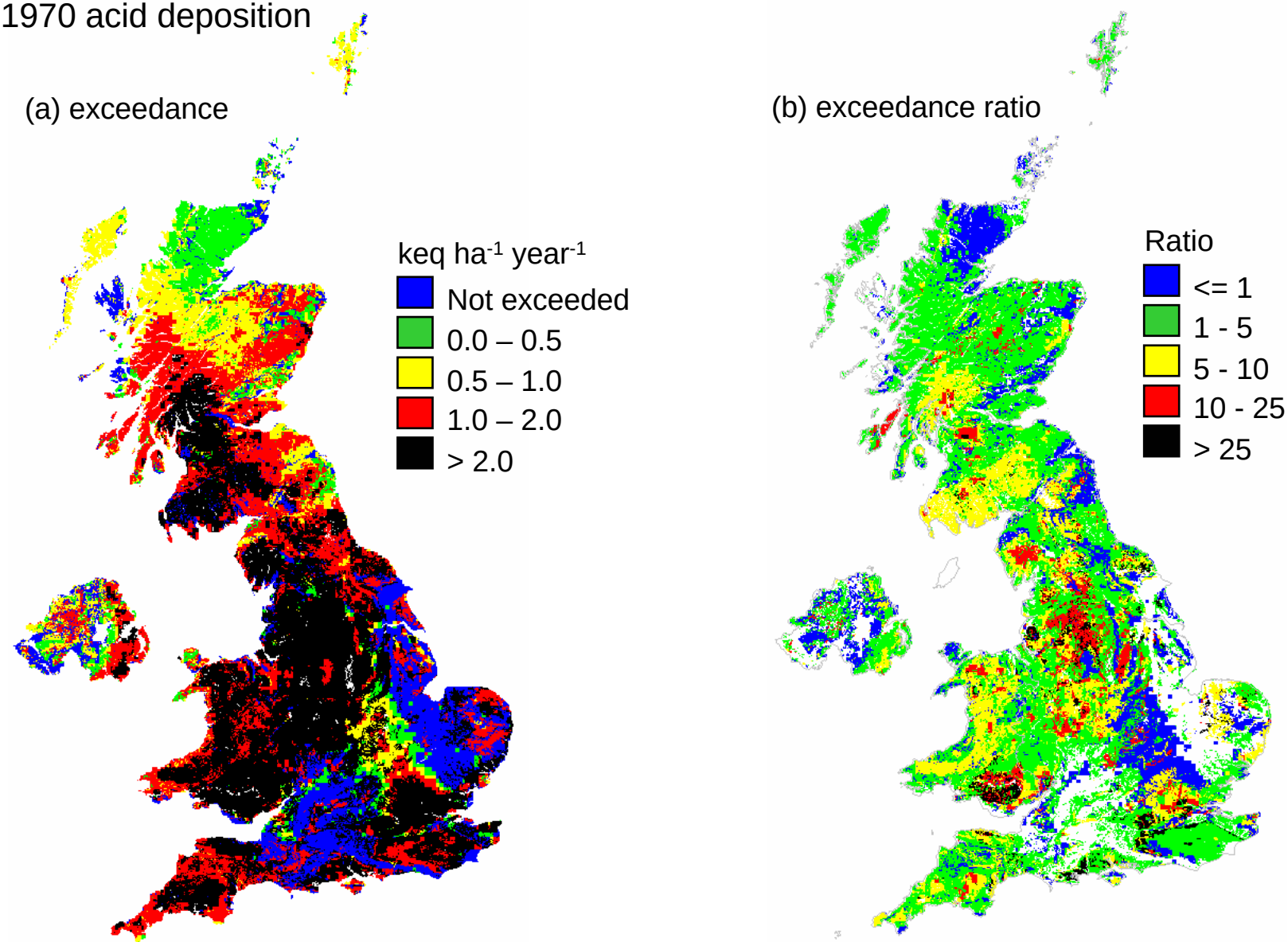


Figure 4.2

Empirical critical loads of acidity for soils (February 2003)

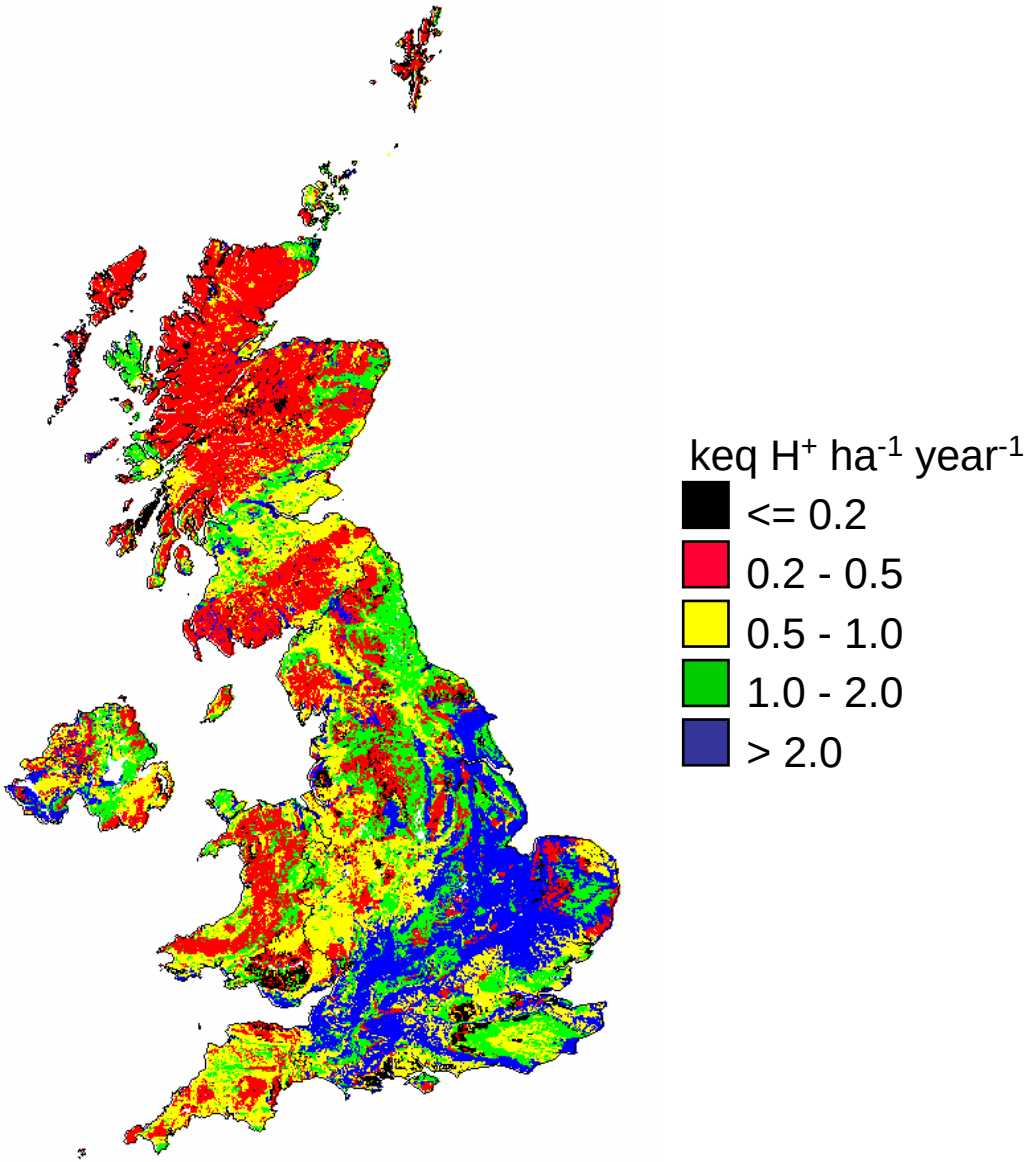


Figure 4.3

FRAME calibrated 1970 deposition

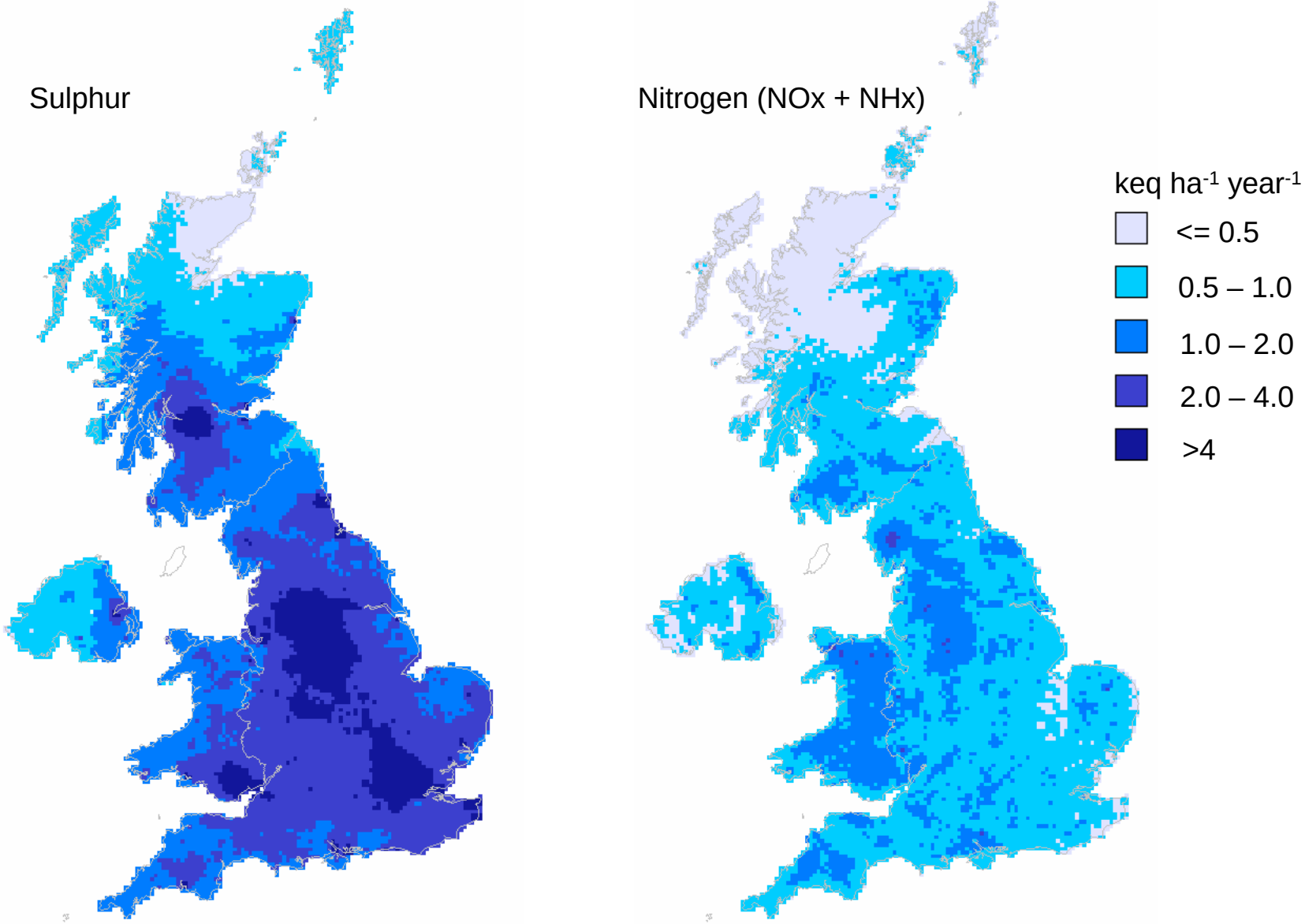


Figure 4.4

Dominant soil types for 1km squares (selected soil associations) where critical loads habitat is dwarf shrub heath and empirical acidity critical loads are exceeded by FRAME 1970 acid deposition

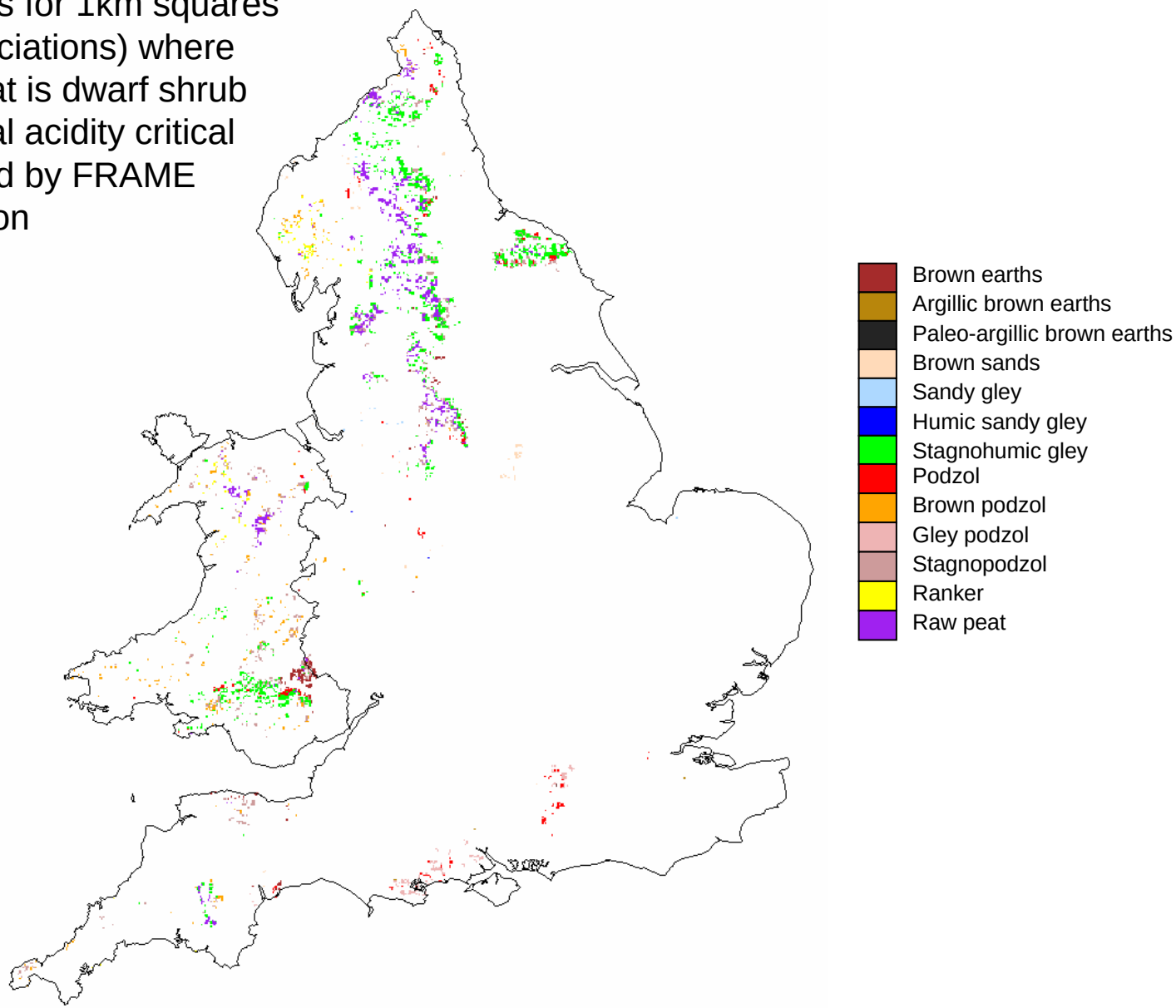


Figure 5.1

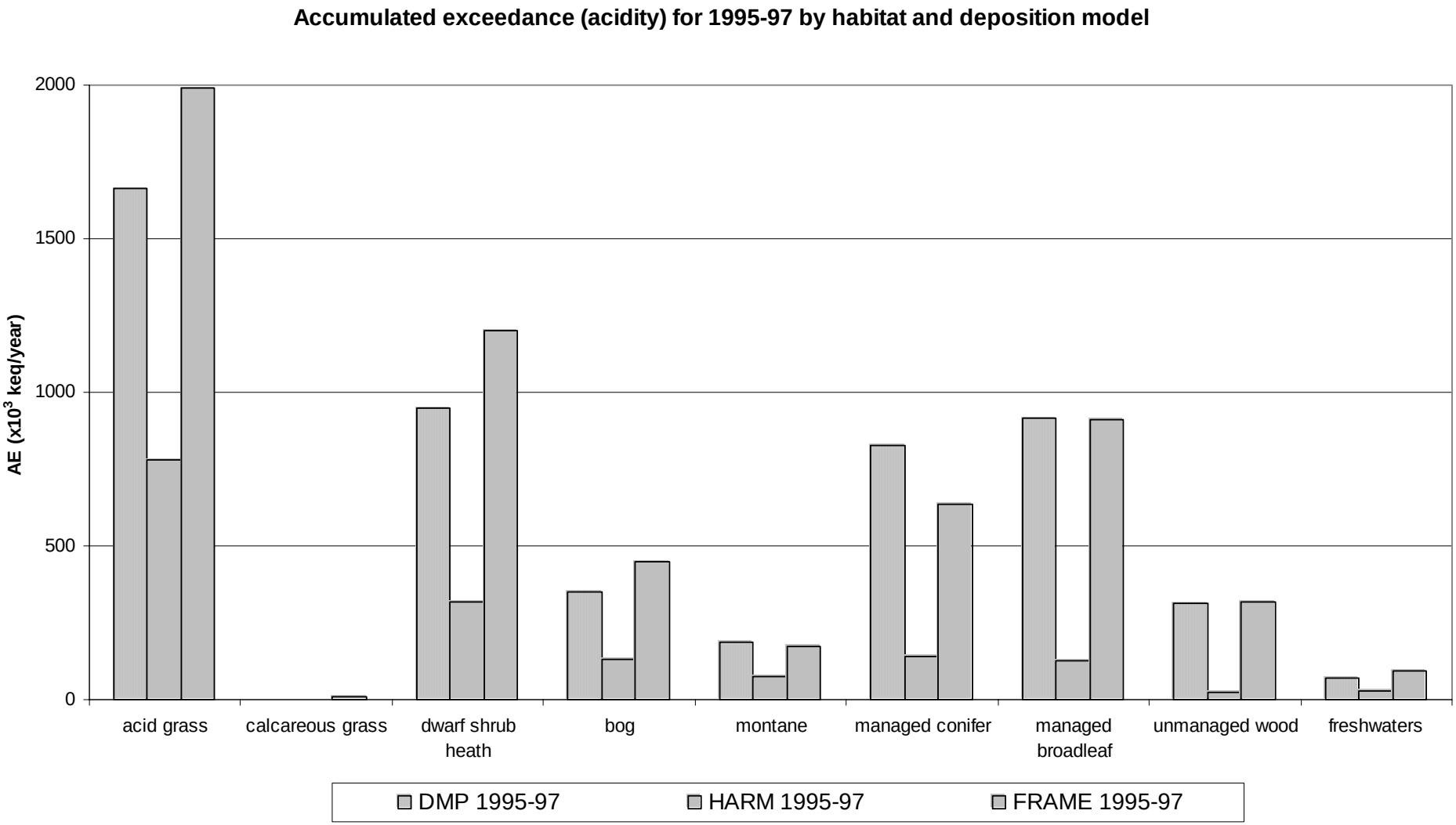

Accumulated exceedance (acidity) for 1995-97 by habitat and deposition model
AE (x10³ keq/year)
2000
1500
1000
500
0
acid grass
calcareous grass
dwarf shrub heath
bog
montane
managed conifer
managed broadleaf
unmanaged wood
freshwaters
DMP 1995-97
HARM 1995-97
FRAME 1995-97

Figure 5.2

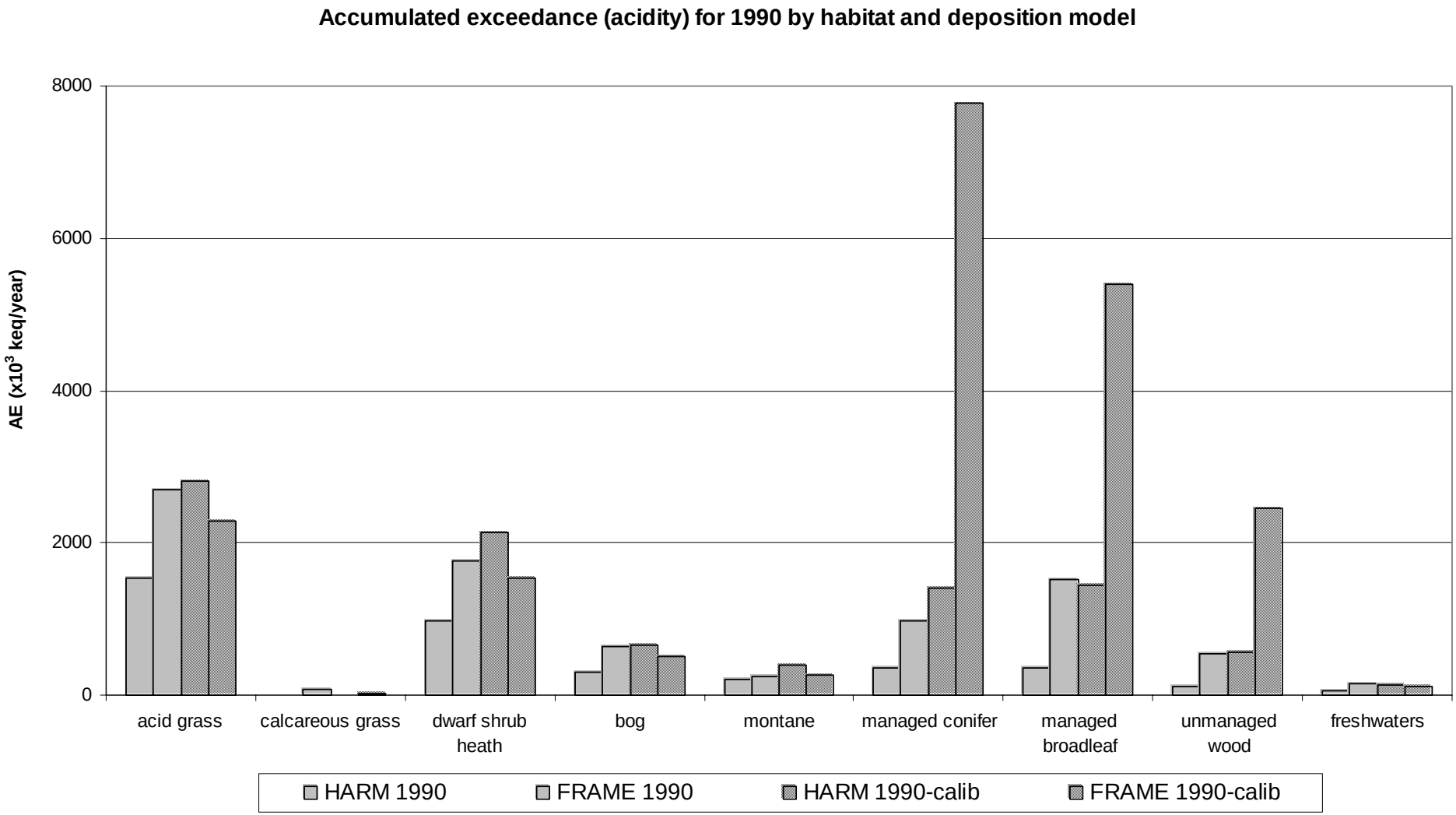

Accumulated exceedance (acidity) for 1990 by habitat and deposition model
AE (x10³ keq/year)
8000
6000
4000
2000
0
acid grass
calcareous grass
dwarf shrub heath
bog
montane
managed conifer
managed broadleaf
unmanaged wood
freshwaters
HARM 1990
FRAME 1990
HARM 1990-calib
FRAME 1990-calib

Figure 5.3

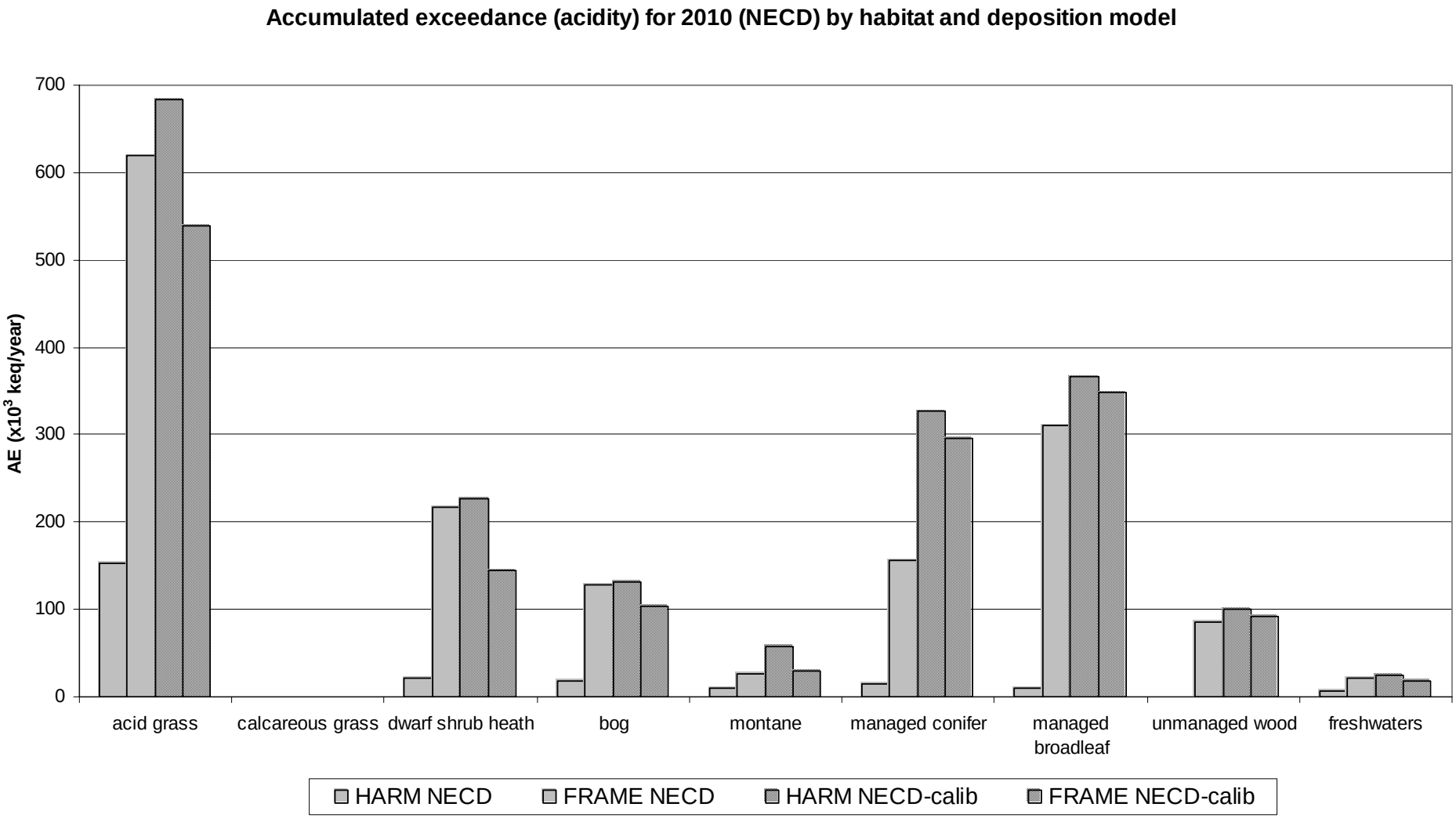

Accumulated exceedance (acidity) for 2010 (NECD) by habitat and deposition model
AE (x10$^3$ keq/year)
700
600
500
400
300
200
100
0
acid grass
calcareous grass
dwarf shrub heath
bog
montane
managed conifer
managed broadleaf
unmanaged wood
freshwaters
HARM NECD
FRAME NECD
HARM NECD-calib
FRAME NECD-calib

Figure 5.4

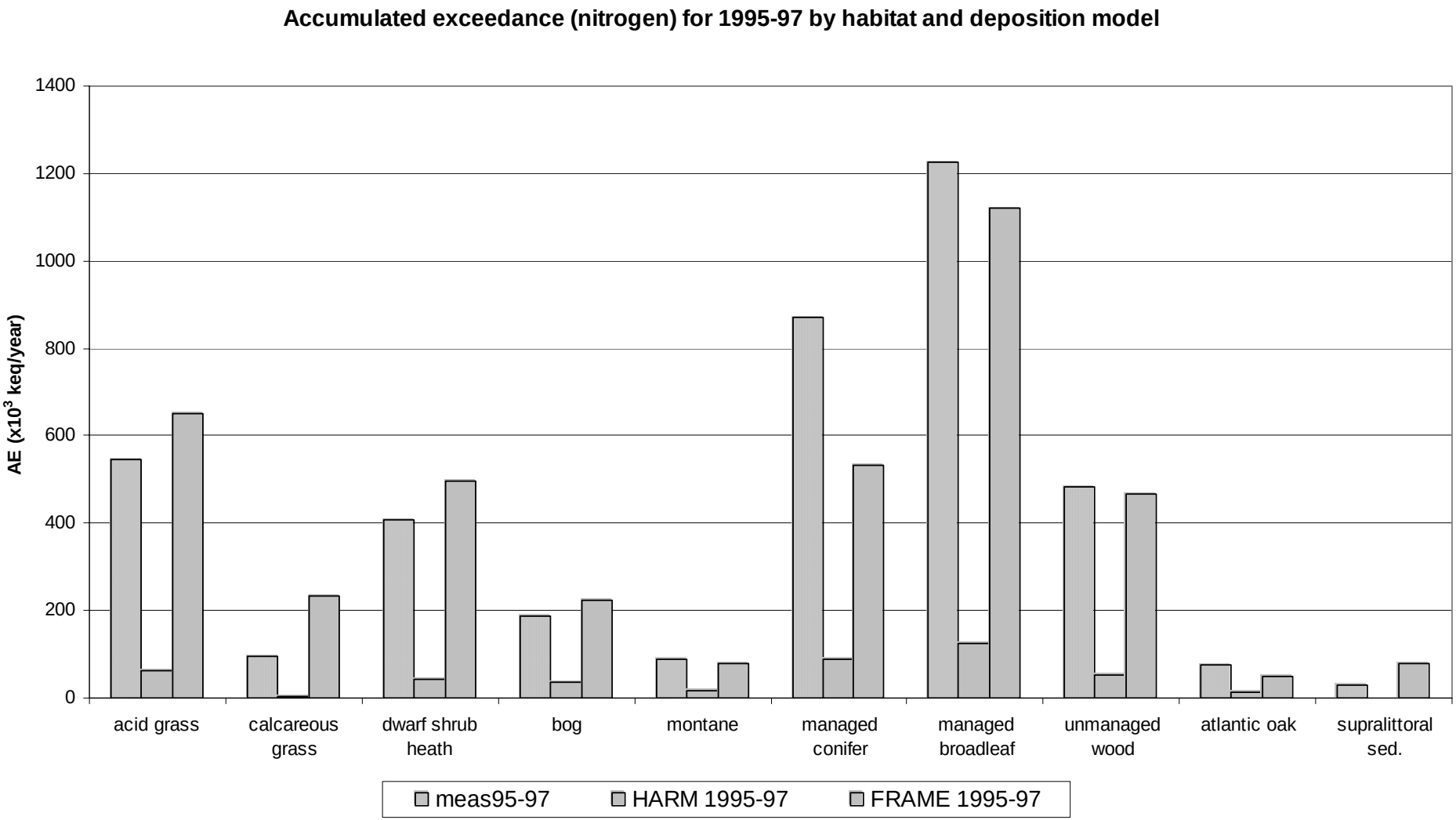

Accumulated exceedance (nitrogen) for 1995-97 by habitat and deposition model
AE (x10³ keq/year)
1400
1200
1000
800
600
400
200
0
acid grass
calcareous grass
dwarf shrub heath
bog
montane
managed conifer
managed broadleaf
unmanaged wood
atlantic oak
supralittoral sed.
meas95-97
HARM 1995-97
FRAME 1995-97

Figure 5.5

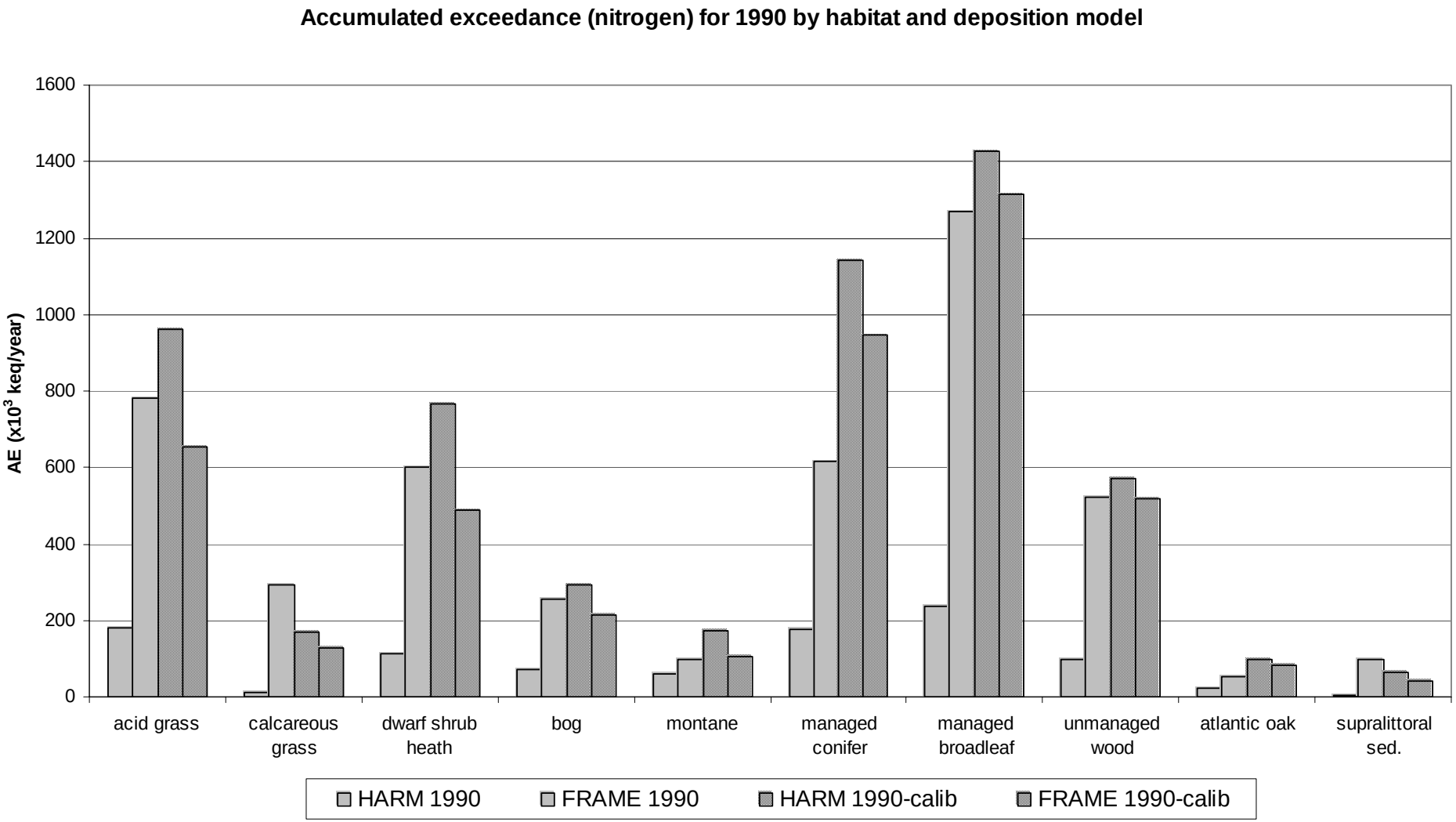

Accumulated exceedance (nitrogen) for 1990 by habitat and deposition model
AE (x10³ keq/year)
1600
1400
1200
1000
800
600
400
200
0
acid grass
calcareous grass
dwarf shrub heath
bog
montane
managed conifer
managed broadleaf
unmanaged wood
atlantic oak
supralittoral sed.
HARM 1990
FRAME 1990
HARM 1990-calib
FRAME 1990-calib

Figure 5.6

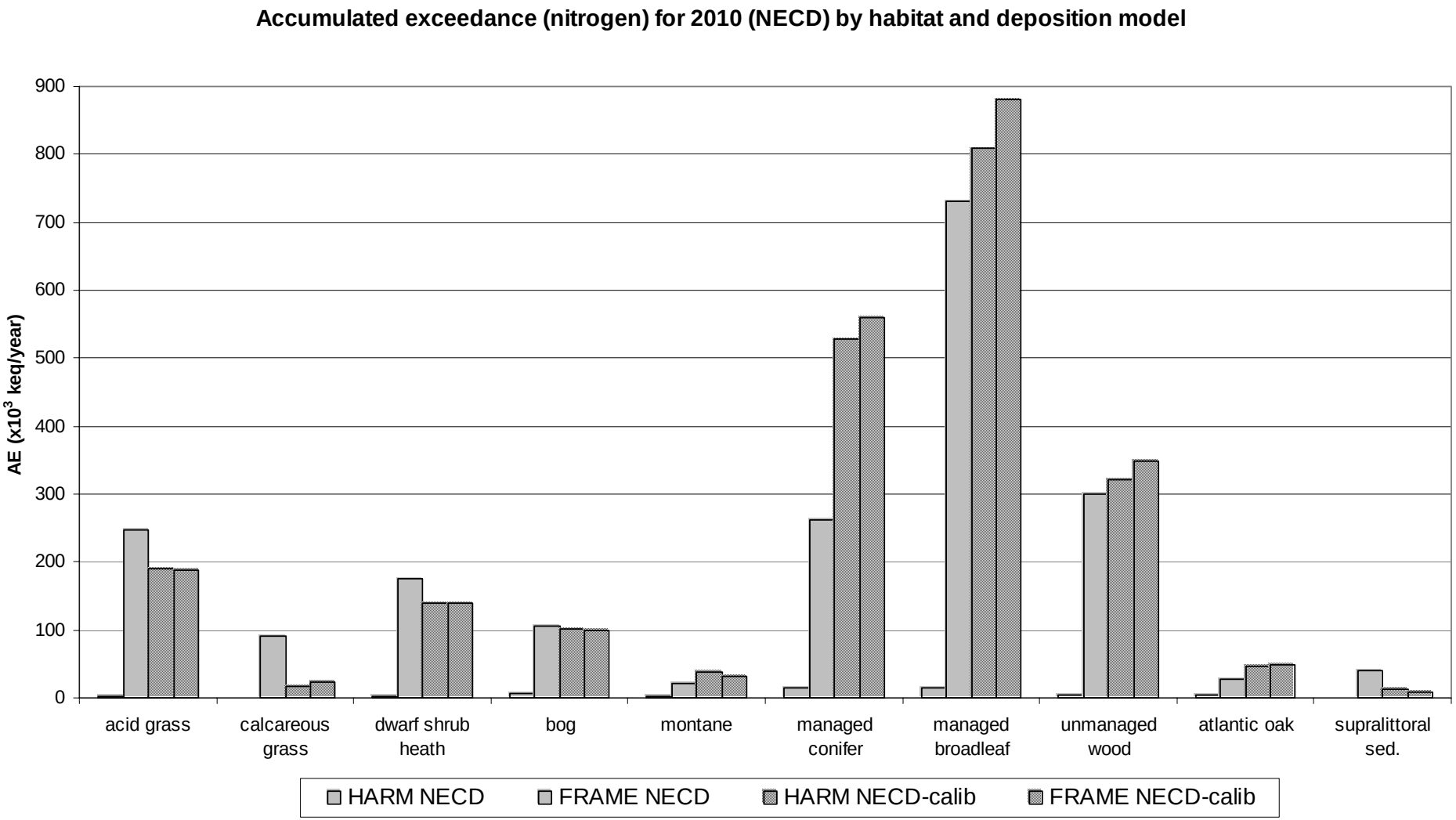

Accumulated exceedance (nitrogen) for 2010 (NECD) by habitat and deposition model
AE (x10³ keq/year)
900
800
700
600
500
400
300
200
100
0
acid grass
calcareous grass
dwarf shrub heath
bog
montane
managed conifer
managed broadleaf
unmanaged wood
atlantic oak
supralittoral sed.
HARM NECD
FRAME NECD
HARM NECD-calib
FRAME NECD-calib

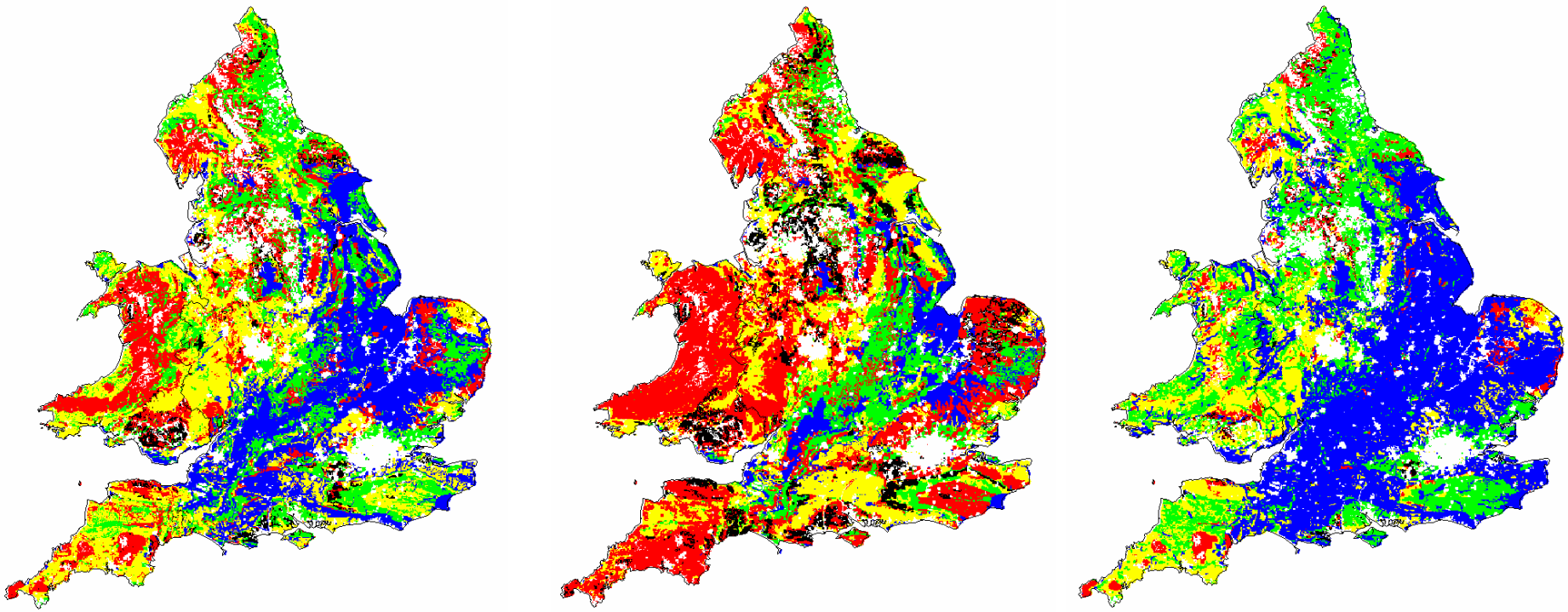
Figure 6.1

Empirical maps of critical loads for acidity based on:

(a) Dominant soil

(b) Most sensitive soil

(c) Least sensitive soil

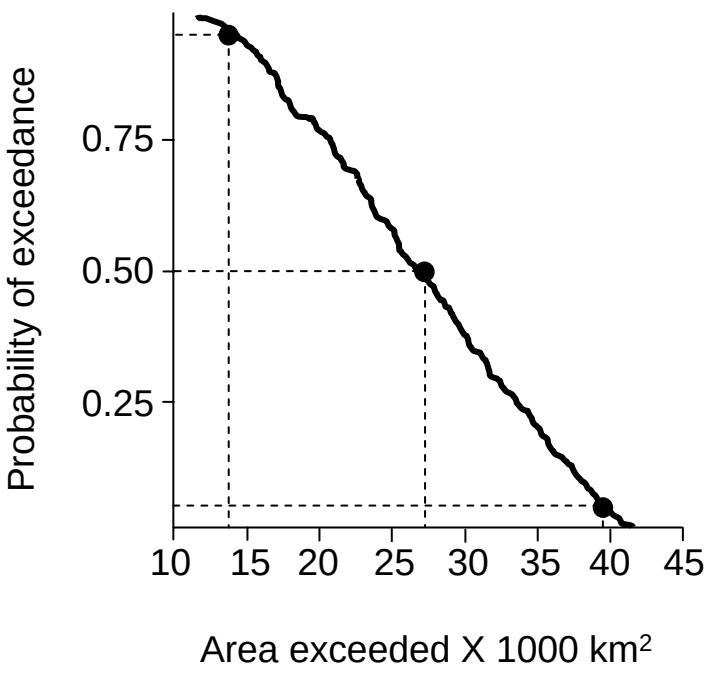



NB. Dominant map differs from both February 2001 and February 2003 data

Figure 6.2

Probability of exceedance curves for modelled 2010 deposition data

(a) Area exceeded




(b) Accumulated Exceedance

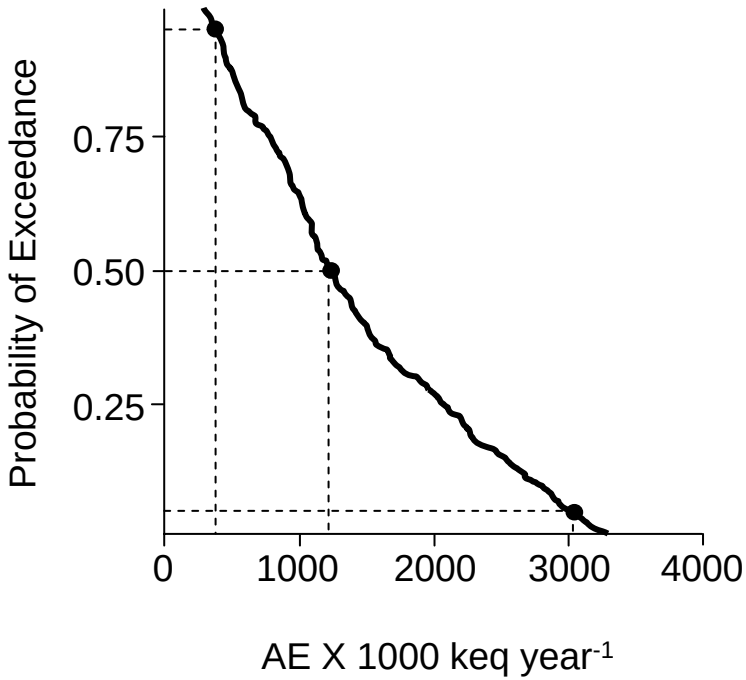


Figure 6.3

10km maps of area of ecosystems where acidity critical loads are exceeded by:

(a) 5th percentile deposition
ie, 95% probability of exceedance

(b) 50th percentile deposition (deterministic case), i.e. 50% probability of exceedance

(c) 95th percentile deposition
ie, 5% probability of exceedance

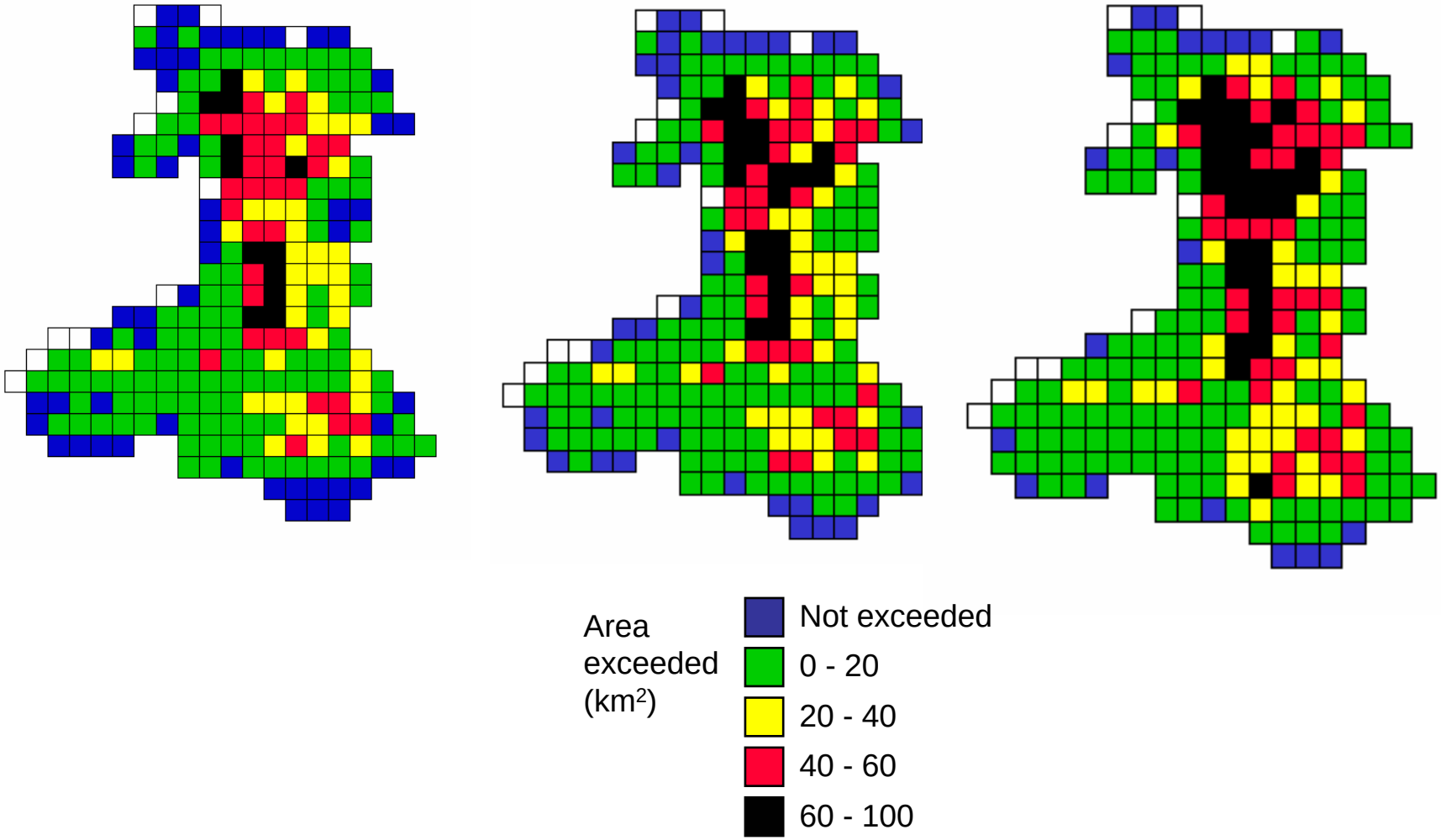


Figure 6.4

10km maps of accumulated exceedance where acidity critical loads exceeded by:

(a) 5th percentile deposition
ie, 95% probability exceedance

(b) 50th percentile deposition (deterministic case), i.e. 50% probability of exceedance

(c) 95th percentile deposition
ie, 5% probability of exceedance

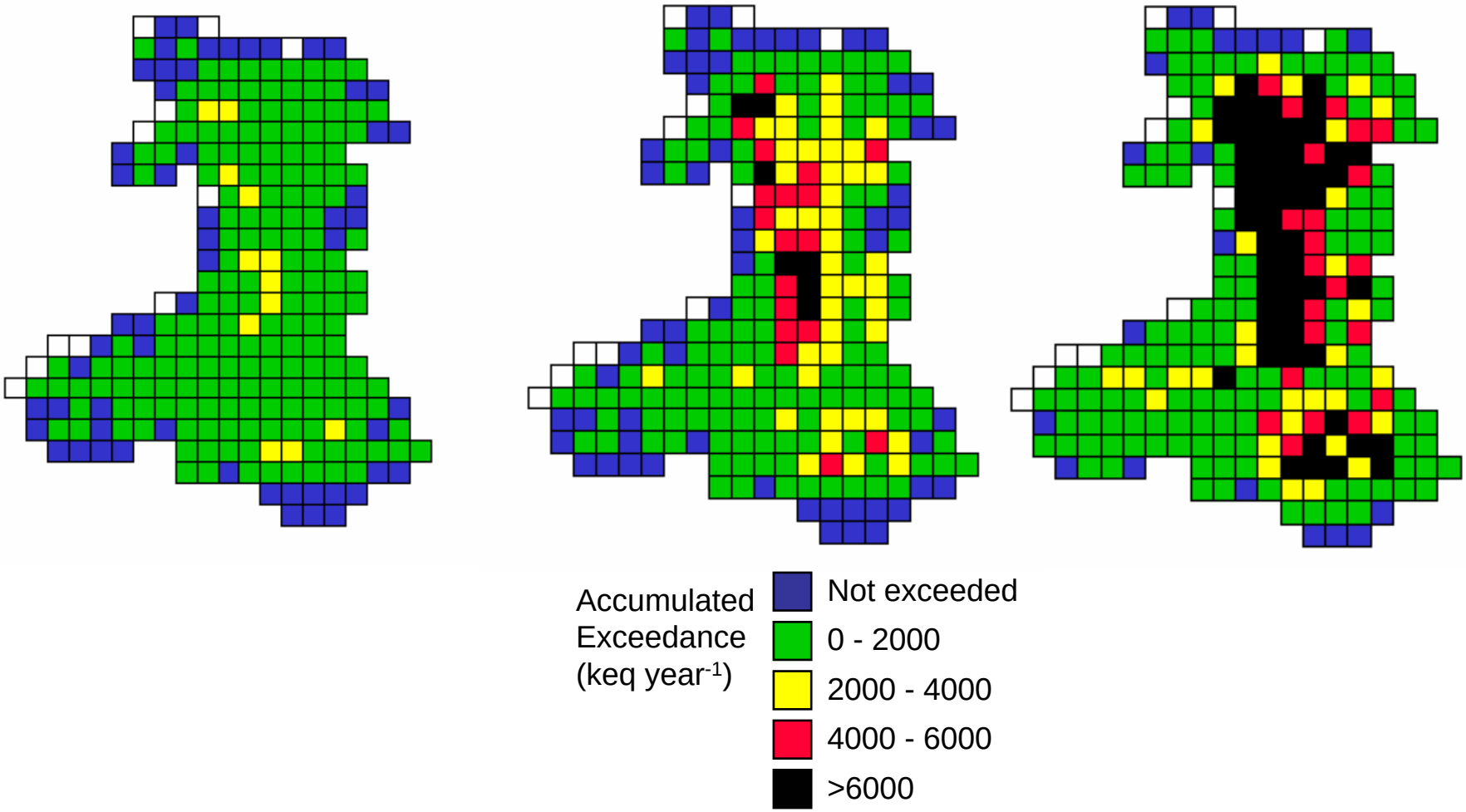
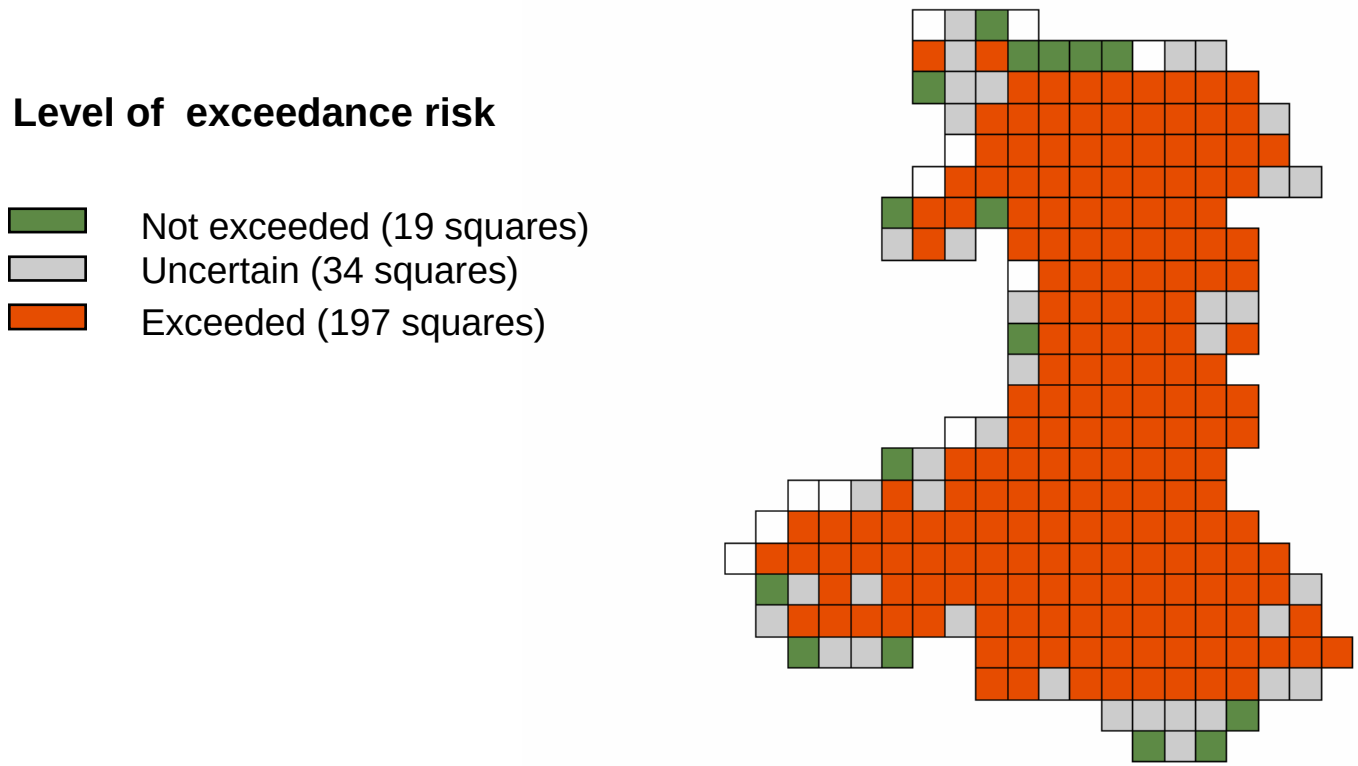


Figure 6.5

10km map of Wales showing three categories of acidity exceedance risk for 1995



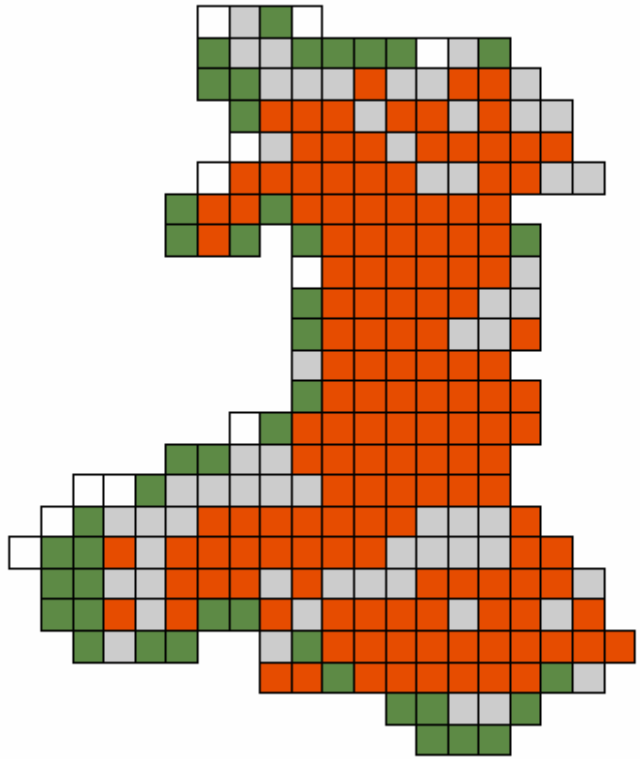

White areas denote (coastal) squares that do not contain habitats sensitive to acidification

Figure 6.6

10km map of Wales showing three categories of acidity exceedance risk for 1995 for managed coniferous woodland only

**Level of exceedance risk**

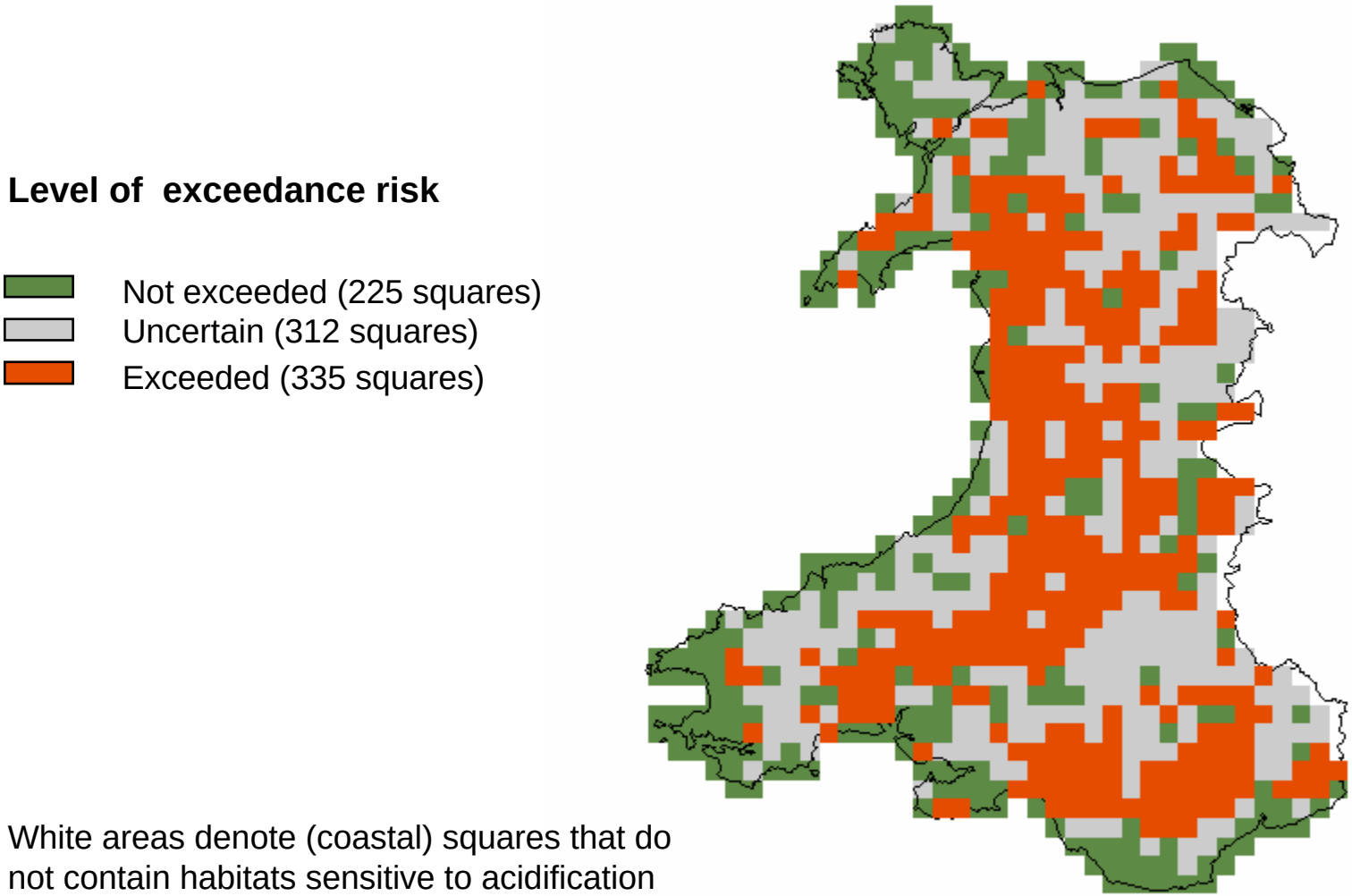
- Not exceeded (44 squares)
- Uncertain (60 squares)
- Exceeded (146 squares)



White areas denote (coastal) squares that do not contain habitats sensitive to acidification

Figure 6.7

5km map of Wales showing three categories of acidity exceedance risk for 1995 for managed coniferous woodland only




White areas denote (coastal) squares that do not contain habitats sensitive to acidification

Figure 6.8

Cumulative probability distribution of acidity exceedance for a 1km grid square of managed coniferous woodland

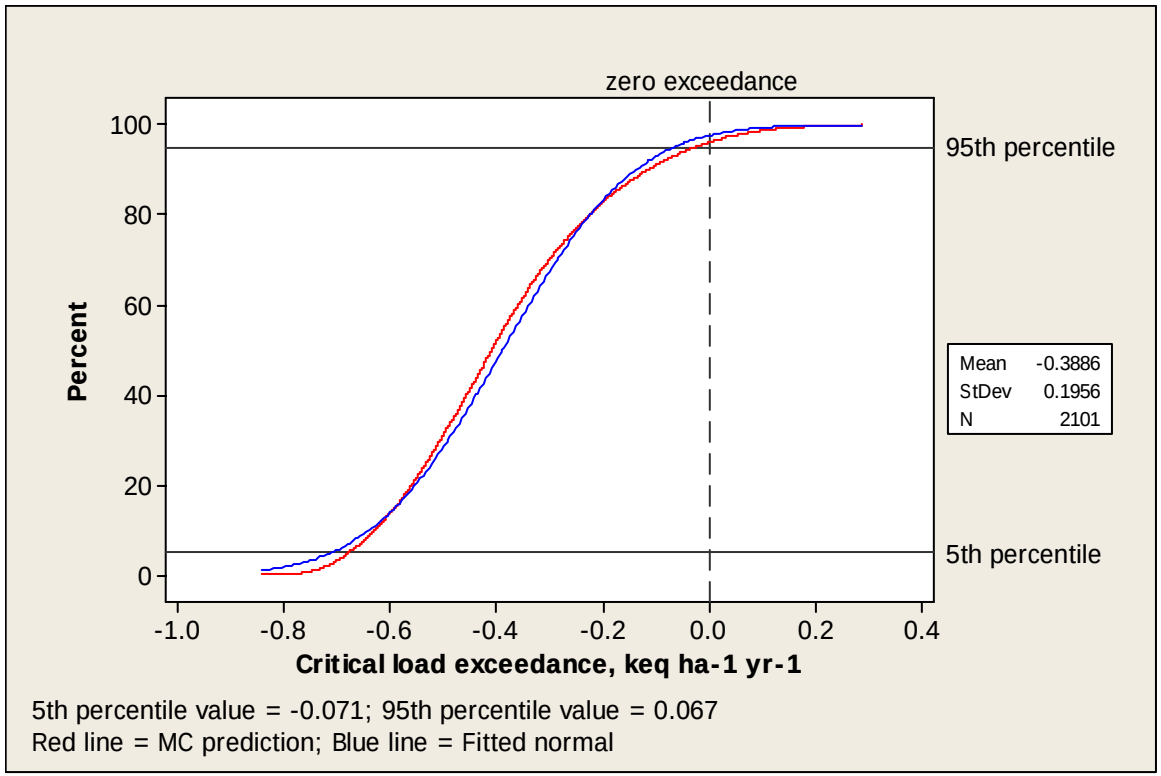
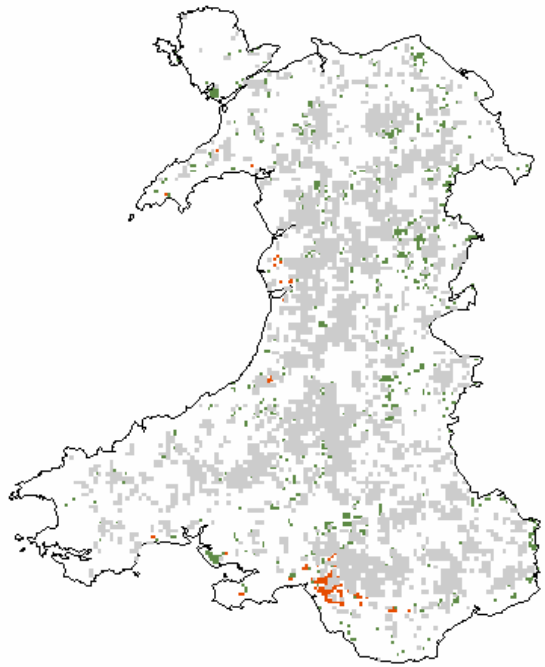


Figure 6.9

1km map of Wales showing three categories of acidity exceedance risk for 1995 for managed coniferous woodland

**Level of exceedance risk**

- Not exceeded
- Uncertain
- Exceeded

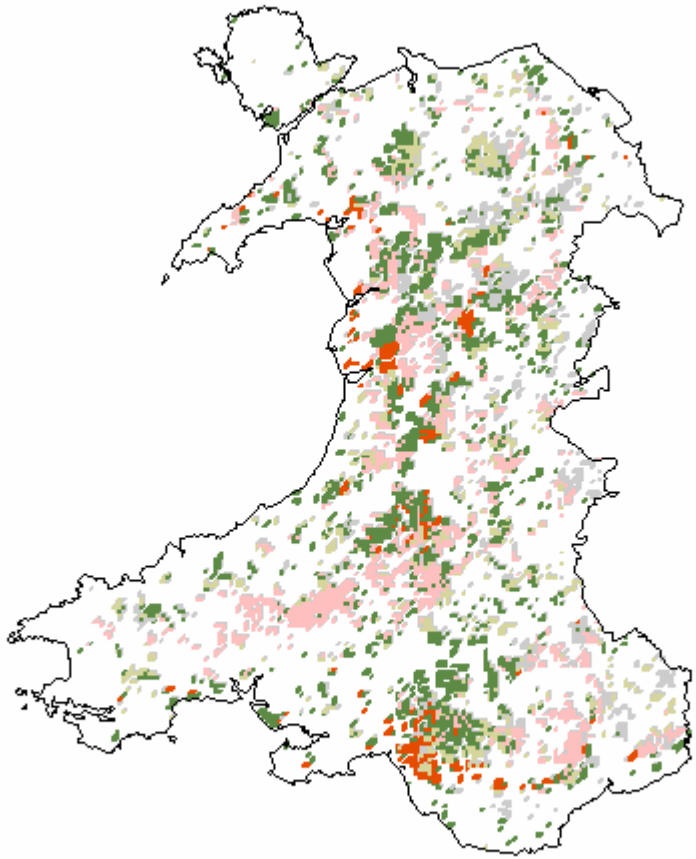


White areas denote squares that do not contain habitats sensitive to acidification

Figure 6.10

1km maps of Wales showing the probability of acidity exceedance for 1995 for managed coniferous woodland

| Probability of Exceedance | Area (km2) |
|---|---|
| < 5% | 130 |
| 5 – 25% | 280 |
| 25 – 75% | 258 |
| 75 – 95% | 275 |
| > 95% | 86 |

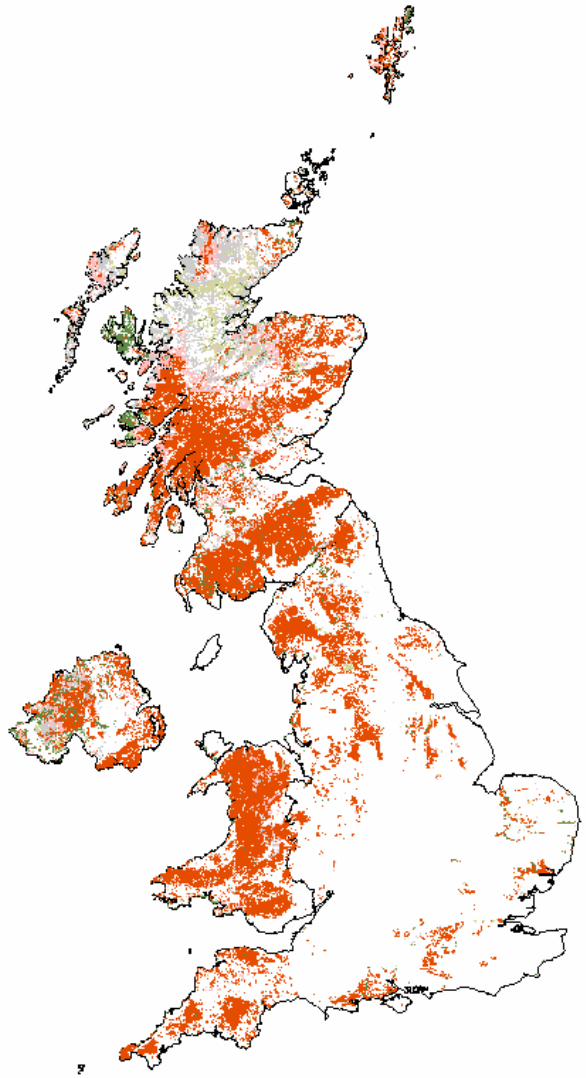


White areas denote squares that do not contain habitats sensitive to acidification

Figure 6.11

1km map showing the probability of acidity exceedance for 1995 for acid grassland

| Probability of Exceedance | Area (km2) |
|---|---|
| < 5% | 653 |
| 5 – 25% | 606 |
| 25 – 75% | 1376 |
| 75 – 95% | 1203 |
| > 95% | 11450 |

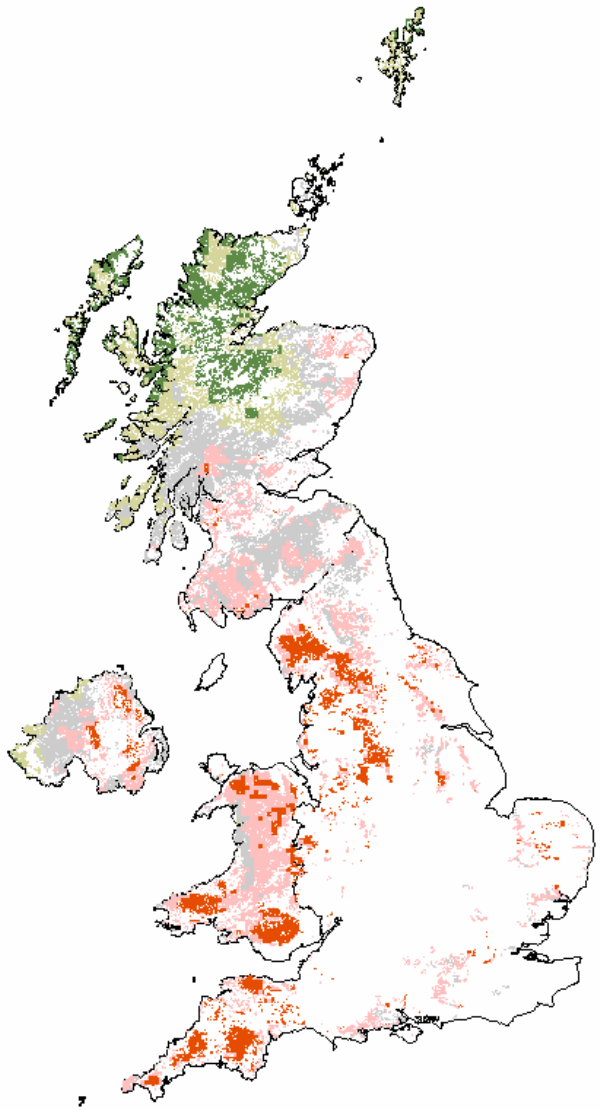


White areas denote squares that do not contain habitats sensitive to acidification

Figure 6.12

1km map showing the probability of nutrient nitrogen exceedance for 1995 for acid grassland

| Probability of Exceedance | Area (km2) |
|---|---|
| < 5% | 1728 |
| 5 – 25% | 2081 |
| 25 – 75% | 4458 |
| 75 – 95% | 4764 |
| > 95% | 2205 |

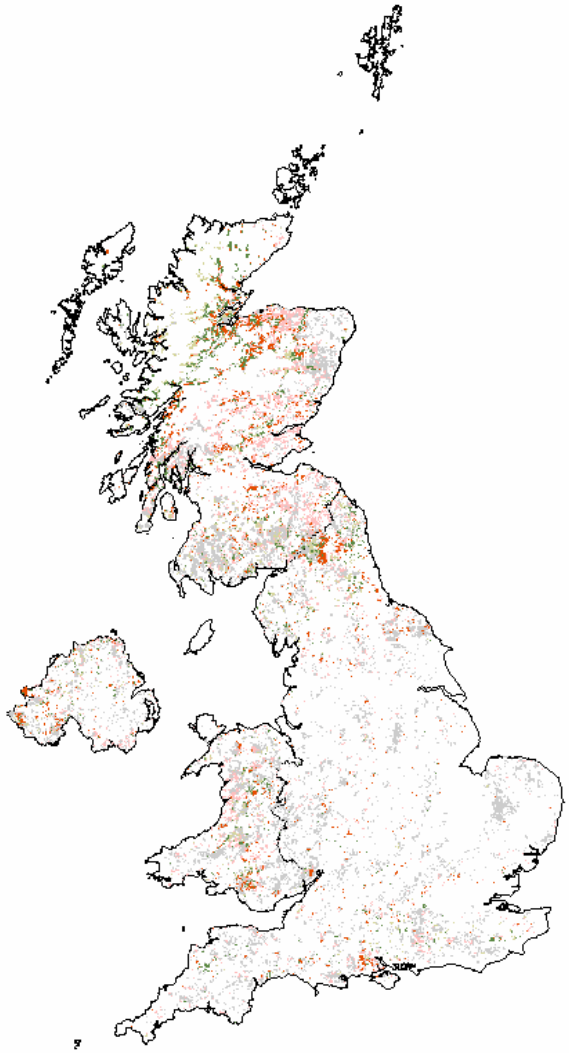


White areas denote squares that do not contain habitats sensitive to acidification

Figure 6.13

1km map showing the probability of acidity exceedance for 1995 for managed coniferous woodland

| Probability of Exceedance | Area (km2) |
|---|---|
| < 5% | 887 |
| 5 – 25% | 729 |
| 25 – 75% | 3817 |
| 75 – 95% | 1582 |
| > 95% | 957 |

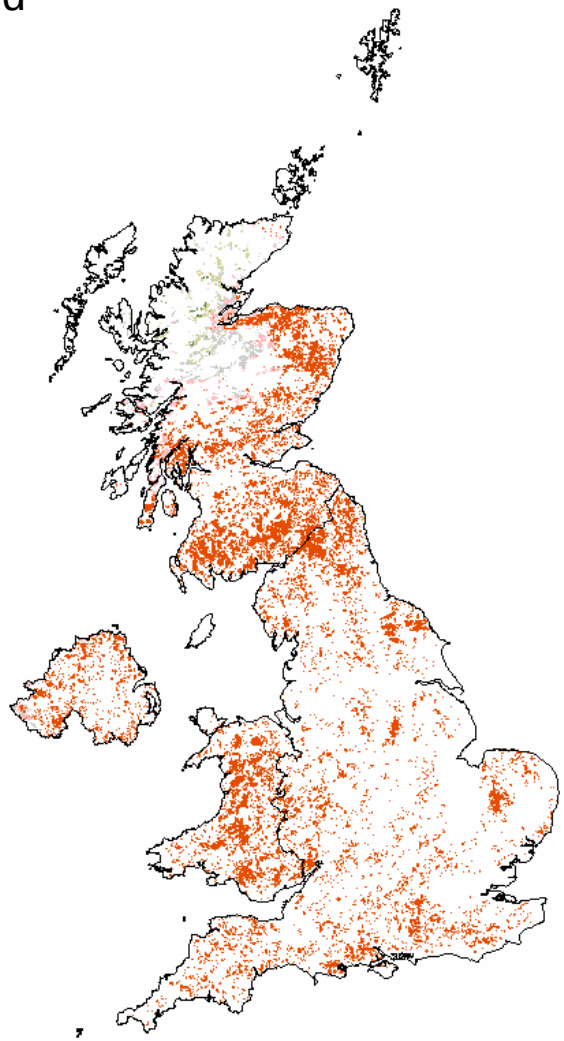


White areas denote squares that do not contain habitats sensitive to acidification

Figure 6.14

1km map showing the probability of nutrient nitrogen exceedance for 1995 for managed coniferous woodland

| Probability of Exceedance | Area (km2) |
|---|---|
| < 5% | 31 |
| 5 – 25% | 242 |
| 25 – 75% | 445 |
| 75 – 95% | 685 |
| > 95% | 6562 |



White areas denote squares that do not contain habitats sensitive to acidification

Figure 6.15

5th-percentile maximum critical loads of sulphur ($CL_{max}S$):

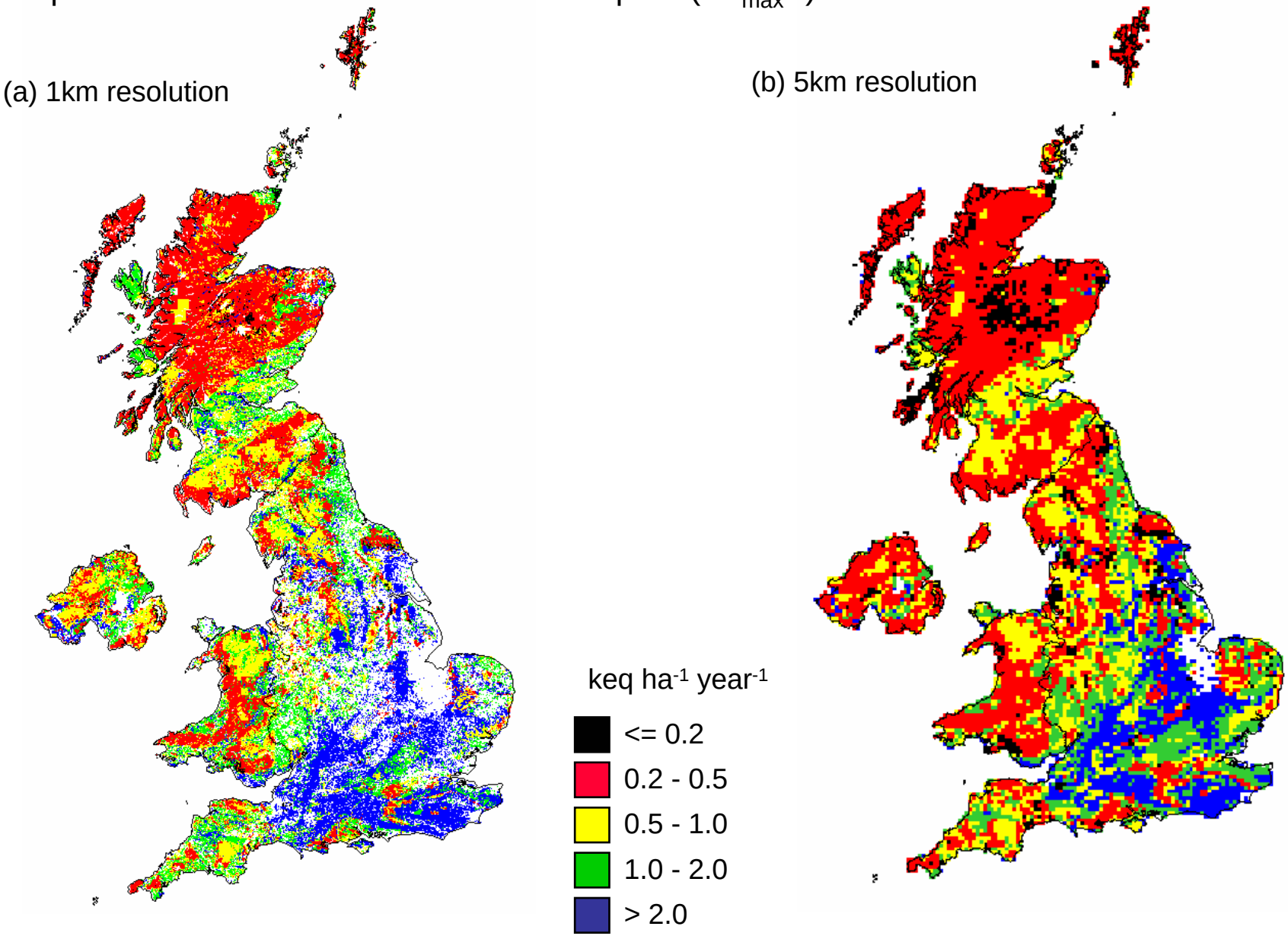


Figure 6.16

Exceedance of 5th-percentile acidity critical loads by acid deposition for 1995-97