HERITAGE SHEEP

THE SHEEP TRUST

Conservation and sustainability of Heritage Sheep Breeds

Work Package 1

Objective

Collate information to characterise and evaluate HSB genetic resources across the partner countries, in order to develop the means to prioritise conservation activities

Breeds

France 10	UK 15	Holland 11	Greece 4	Slovenia 4
Basco Béarnaise, Bizet, Causses du Lot, Corse, Grivette, Limousine, Manech Tête Noire, Manech Tête Rousse, Mourerous, Rava	Brecknock Hill Cheviot, South Country Cheviot Clun Forest, Dalesbred, Derbyshire Gritstone, Devon Closewool, Exmoor Horn, Herdwick, Lonk, Romney, Rough Fell, Shetland, South Welsh Mountain, Southdown, Welsh Hill Speckled Face	Black Blazed, Blue Texel, Drenth Heath, Flevolander, Mergelland, North Holland, Schoonebeek, Swifter, Texel, Veluwe Heath, Zeeland Milksheep	Boutsiko (Orino), Frizarta, Kefallinias, Sfakia	Bela Krajina Pramenka, Bovec Sheep, Istrian Pramenka, Jezersko – Solcava

France 13	UK 24 /16	NL 13	Greece 7	Slovenia 4
Tarasconnais Velay Black Merinos d'Arles	North Country Cheviot	Kempen Heath Friesian Milksheep	Anogeiano Kalarritiko Mytilini	
	Southdown			
	Dorset Horn, Badger Faced Welsh Mountain, Blue Faced Leicester, Swaledale, Black Welsh Mountain, Jacob, Lleyn, Blackface			

THE SHEEP TRUST

Conservation and sustainability of Heritage Sheep Breeds

Questionnaire

- Numbers and Trends
- Threats
- Values
- Current Situation and Future Trends

Information entered onto database

Numbers and Trends

- Estimate of number of sheep
- Number of members
- % of sheep in associated region
- Decreasing or increasing
- Estimate of breeders aged over 60 years

THE SHEEP TRUST

Conservation and sustainability of Heritage Sheep Breeds

Threats

Social	Political	Disease	Climate
Farms ceasing to farm animals	Removal of Headage payments	SheepScab	Reduced availability of water
Urbanisation	Environmental schemes	Haemonchus	Reduced availability of grazing
Ageing population of farmers	Need to increase farm productivity	Ticks	Reduced availability of winter fodder
Lack of skilled labour	Need to make management easier	Tickdiseases	Increased requirement for housing
Inability to hand on skills	Deceasing area of farmed land	Scrapie	Reduced availability of bedding
Environmental changes	Increasing use of inputs	Blue tongue	Change in average rainfall
Lack of training facilities	Going organic	Contagious Agalactia	
	Diversification to non farming activities	Brucella ovis	
	Ceasing farming altogether	Liver Fluke	
		Enzootic Abortion	
		Maedi Visna	
		Brucella Melitensis	
		Caseous Lymphadenitis	
		Worm resistance	

THE SHEEP TRUST

Conservation and sustainability of Heritage Sheep Breeds

Values

- Adaptation to local environment
- Adaptation to extensive farming
- Contribution to environment
- Contribution to local community
- Contribution to local economy

THE SHEEP TRUST

Conservation and sustainability of Heritage Sheep Breeds

Current situation/Future trends

- Promotional activities
- Marketing strategies
- Breed improvement
- Health plans

Top 5

- Top 5 threats
- Top 5 characteristics

General information

- Breed description
- Characteristics
- Origin and History

Scoring by country

	Total	France	UK	NL	Greece	Slovenia
Farms ceasing to farm animals	25/44	9	4	6	2	4
Urbanisation	8/44	4	1	1	2	0
Ageing population of farmers	32/44	7	10	7	4	4
Lack of skilled Labour	18/44	2	10	3	1	2
Inability to hand on skills	13/44	4	8	0	1	0
Environmental changes	20/44	4	8	5	1	2
Lack of training facilities	12/44	1	2	2	4	3

THE SHEEP TRUST

Conservation and sustainability of Heritage Sheep Breeds

	FRANCE	UK	HOLLAND	GREECE	SLOVENIA	TOTAL
SOCIAL						
Farms ceasing to farm	0.82	0.44	0.56	0.50	0.95	0.65
Urbanisation	0.46	0.24	0.25	0.60	0.40	0.39
Ageing of farmers	0.68	0.73	0.53	0.85	0.95	0.75
Lack of skilled labour	0.34	0.60	0.33	0.35	0.45	0.41
Inability to hand on skills	0.42	0.53	0.22	0.45	0.20	0.36
Changes to the enviroment	0.44	0.49	0.53	0.50	0.35	0.46
Lack of training facilities	0.32	0.35	0.33	0.65	0.55	0.44

THE SHEEP TRUST

Conservation and sustainability of Heritage Sheep Breeds

Scoring by threat

- 1 least important
- 5 most important
- Threats – reducing sheep numbers
- Standardised for each breed
- Each breed per country compared
- Highest scoring breed per country highlighted yellow

BREED NAME	Farms ceasing to farm	Urbanisation	Agein of farmers	Lack of skilled labour	Inability to hand on skills	Changes to the enviroment	Lack of training facilities	Standardised	Standardised cease issue	Standardised Urbanisation
Basco Béarnaise	4	2	4	1	1	2	2	2.29	175.00	87.50
Bizet	4	1	4	2	4	3	1	2.71	147.37	36.84
Causses du Lot	5	1	2	4	3	3	1	2.71	184.21	36.84
Corse	4	3	4	4	3	3	3	3.43	116.67	87.50
Grivette	3	3	2	1	1	2	1	1.86	161.54	161.54
Limousine	5	1	5	1	5	1	1	2.71	184.21	36.84
Manech Tête Noire	4	2	4	1	1	2	2	2.29	175.00	87.50
Manech Tête Rousse	4	2	4	1	1	2	2	2.29	175.00	87.50
Mourerous	4	5	2	1	1	3	1	2.43	164.71	205.88
Rava	4	3	3	1	1	1	2	2.14	186.67	140.00
Average	0.82	0.46	0.68	0.34	0.42	0.44	0.32			

THE SHEEP TRUST

Conservation and sustainability of Heritage Sheep Breeds

	France	UK	NL	Greece	Slovenia
Farms ceasing to farm animals	Rava	Dalesbred	Blue Texel Schoonebeck Drenthe Heath	Frizarta Kefallinias	Bela Krajina Pramenka
Urbanisation	Mourerous	Southdown	Black Blazed	Frizarta Kefallinias	
Ageing population of farmers	Limousine	Brecknock Romney	Texel	Boutsiko	Bela Krajina Pramenka
Lack of skilled Labour	Causses du Lot	Romney	Mergelland	Sfakia	Bela Krajina Pramenka
Inability to hand on skills	Limousine	Sth Welsh Mountain		Boutsiko	
Environmental changes	Mourerous	Welsh Hill Speckled	Texel	Boutsiko	Istrian Pramenka
Lack of training facilities	Rava	Rough Fell	Mergelland	Sfakia	Istrian Pramenka

Method 1

FRANCE	Basco Béarnaise	Bizet	Causses du Lot	Corse	Grivette	Limousine	Manech Tête Noire	Manech Tête Rousse	Mourerous	Rava
95%	1		1	1			1	1		
Decreasing		1	1		1		1	1	1	1
Farmers over 60										
Social			1			2			2	2
Political	1		1	2	1	3	1	1	1	
Disease	1	1	1	2	1	1	1	1	3	1
Climatic	1	1		2		1	1	1		1
	4	3	5	7	3	7	5	5	7	5
Estimated total	80000	9000	106000	100000	12000	40000	120000	270000	36255	40000

Pink denotes breeds most at risk

THE SHEEP TRUST

Conservation and sustainability of Heritage Sheep Breeds

Method 2

FRANCE	Basco Béarnaise	Bizet	Causses du Lot	Corse	Grivette	Limousine	Manech Tête Noire	Manech Tête Rousse	Mourerous	Rava
95%	1		1	1			1	1		
Decreasing		1	1		1		1	1	1	1
Farmers over 60										
Social			1			2			2	2
Political	1		1	2	1	3	1	1	1	
Disease	1	1	1	2	1	1	1	1	3	1
Climatic	1	1		2		1	1	1		1
	3	2	3	6	2	7	3	3	6	4
Estimated total	80000	9000	106000	100000	12000	40000	120000	270000	36255	40000

Pink denotes breed most at risk

THE SHEEP TRUST

Conservation and sustainability of Heritage Sheep Breeds

Endemism

- The Sheep Trust conducted a survey to determine the distribution and flock size of 16 regional native sheep breeds to determine their degree of concentration
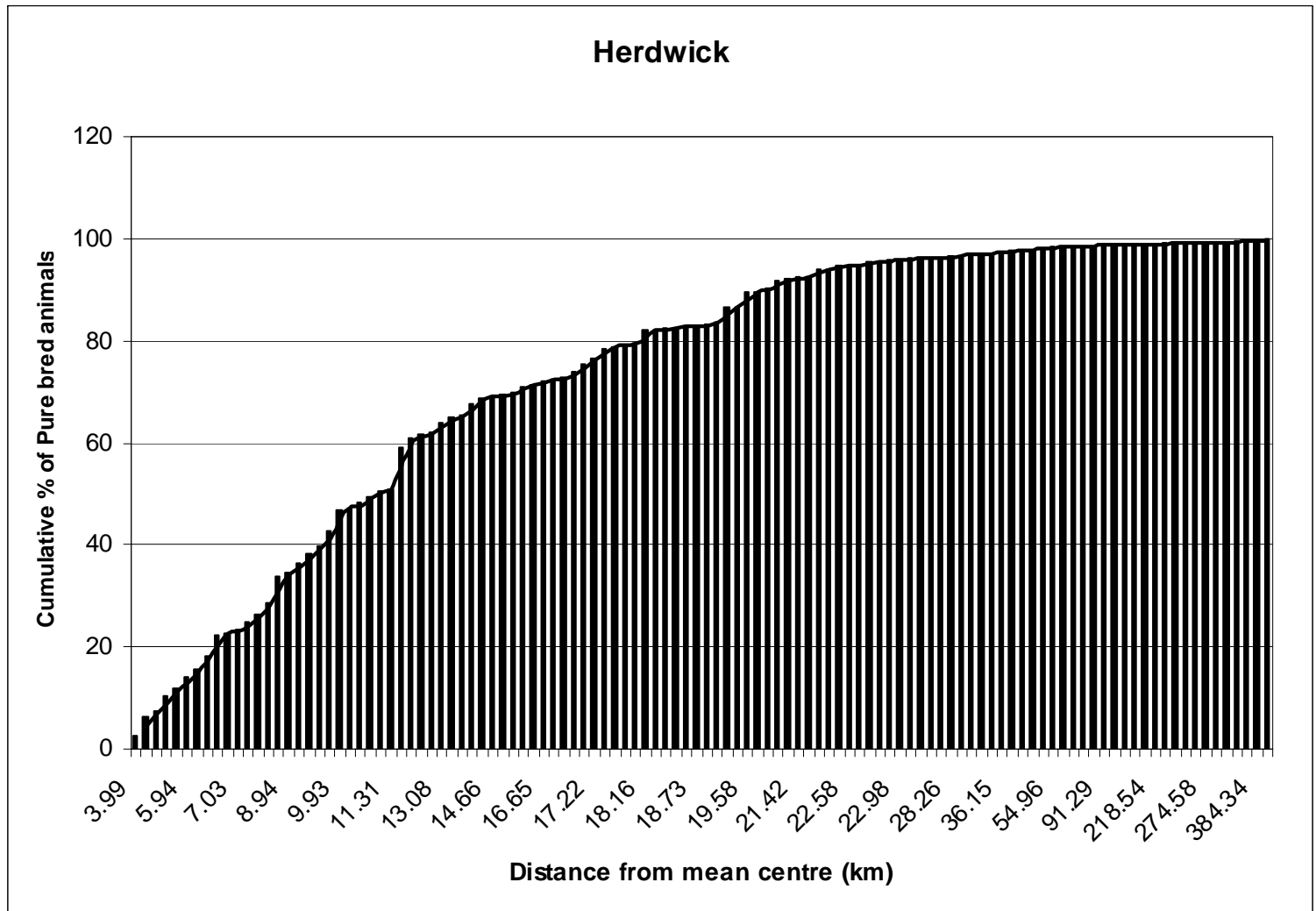
Herdwick

Breed	No of members	Replies	reply rate	no Flocks	Ewes for breeding Purebred replacements	Ewe Lambs < 1 Year	Total female sheep	Rams	Total	Breed estimate
Herdwick	176	129	73%	113	31137	12020	48102	1306	49408	50000

- greater than 90% (44596 sheep) of the breed located with in a radius of 20 Km

- greater than 95% (47212 sheep) within a 22.6 Km radius

- North West of England in the Lake District.

THE SHEEP TRUST

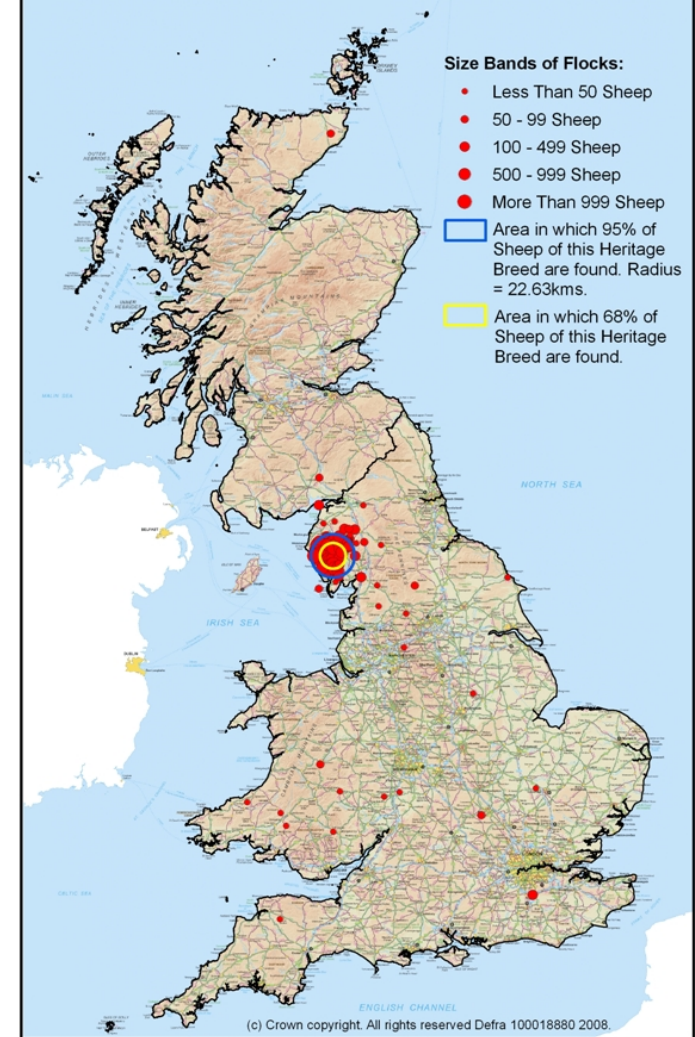Conservation and sustainability of Heritage Sheep Breeds

Herdwick

Cumulative % of Pure bred animals

Distance from mean centre (km)

THE SHEEP TRUST

Conservation and sustainability of Heritage Sheep Breeds

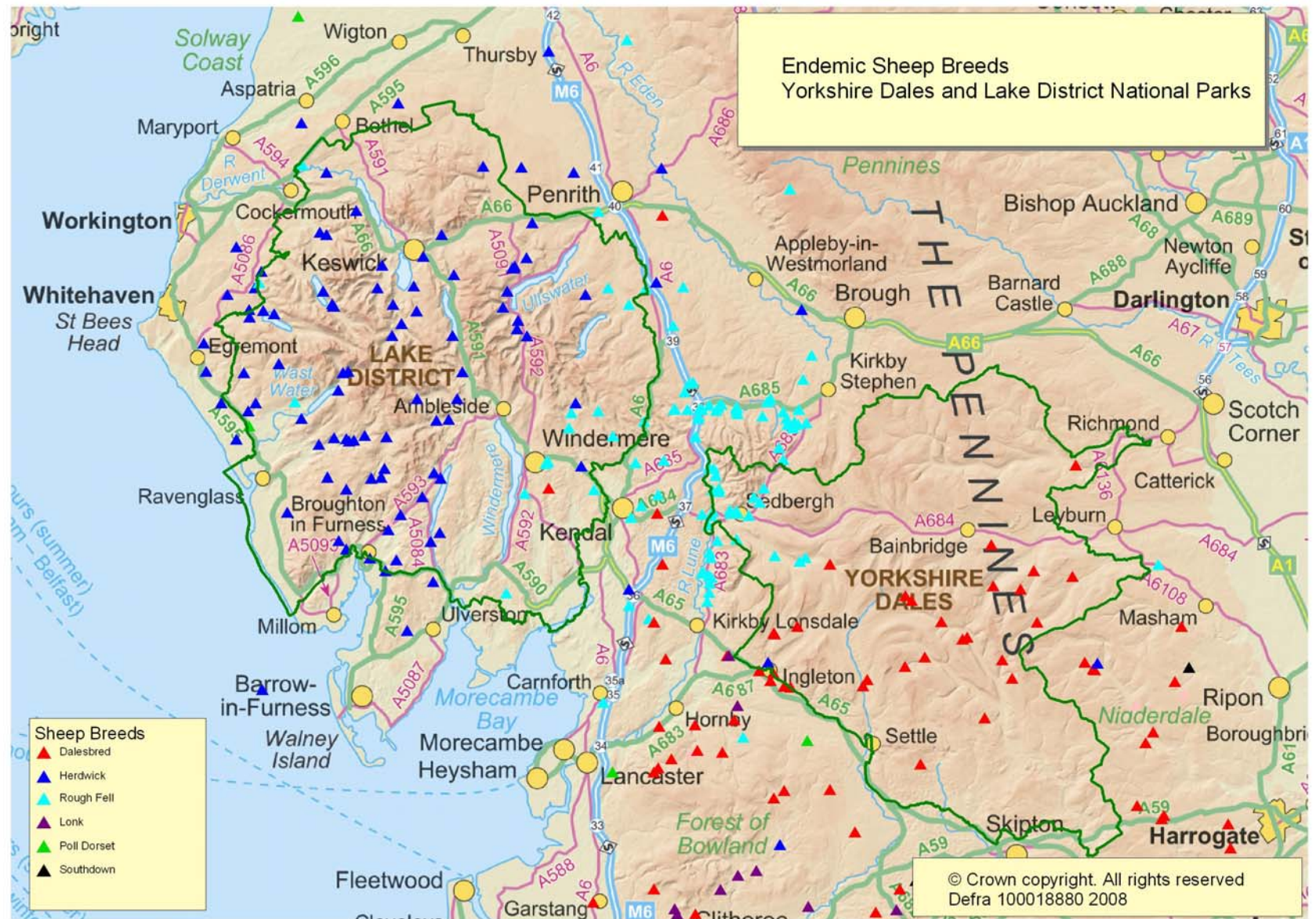Geographical Distribution of Herdwick Flocks in Great Britain, by Flock Size Band, as at 2007.

Size Bands of Flocks:
- Less Than 50 Sheep
- 50 - 99 Sheep
- 100 - 499 Sheep
- 500 - 999 Sheep
- More Than 999 Sheep
- Area in which 95% of Sheep of this Heritage Breed are found. Radius = 22.63kms.
- Area in which 68% of Sheep of this Heritage Breed are found.

(c) Crown copyright. All rights reserved Defra 100018880 2008.

THE SHEEP TRUST

Conservation and sustainability of Heritage Sheep Breeds

Endemic Sheep Breeds
Yorkshire Dales and Lake District National Parks

Sheep Breeds
- ▲ Dalesbred
- ▲ Herdwick
- ▲ Rough Fell
- ▲ Lonk
- ▲ Poll Dorset
- ▲ Southdown

THE SHEEP TRUST

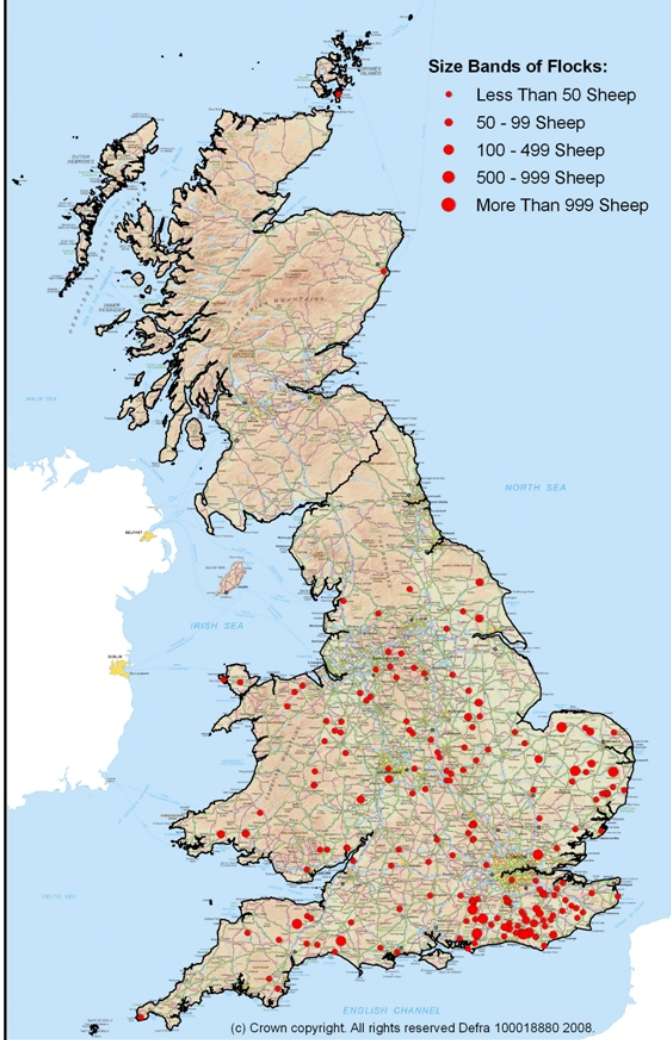Conservation and sustainability of Heritage Sheep Breeds

Thirteen breeds were found to have 95% of their breed numbers concentrated within a radius of 71 Km from the mean centre of each breed. The three breeds that appeared visually dispersed had 95% of their numbers located between 130 and 230 Km.

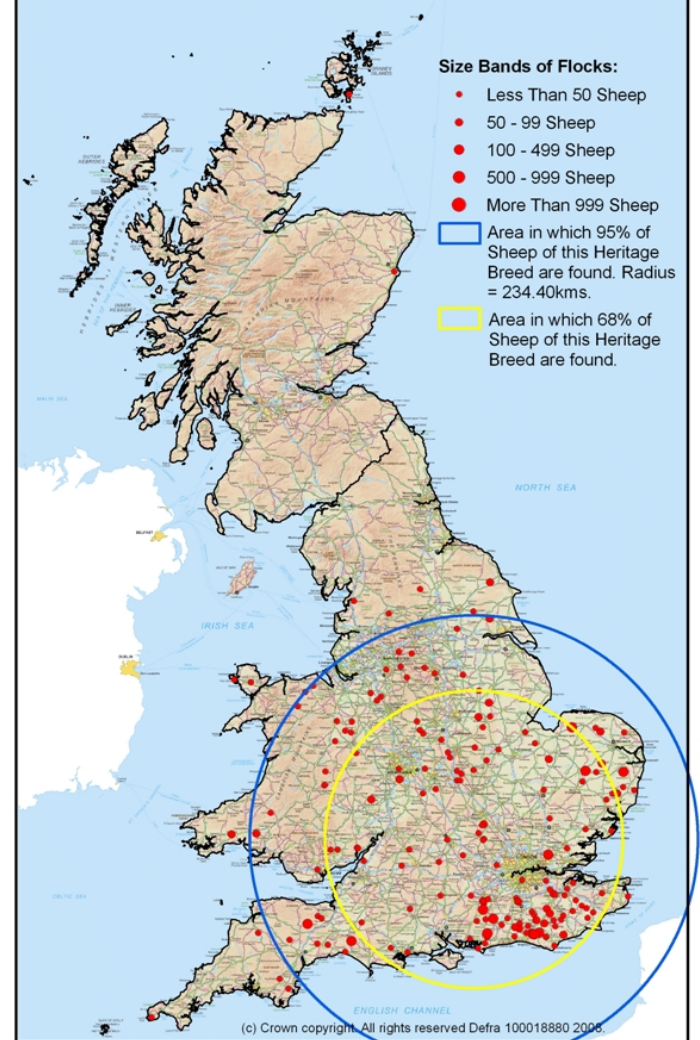**Geographical Distibution of Southdown Flocks in Great Britain, by Flock Size Band, as at 2007.**

Size Bands of Flocks:
- · Less Than 50 Sheep
- · 50 - 99 Sheep
- · 100 - 499 Sheep
- · 500 - 999 Sheep
- · More Than 999 Sheep
- ☐ Area in which 95% of Sheep of this Heritage Breed are found. Radius = 234.40kms.
- ☐ Area in which 68% of Sheep of this Heritage Breed are found.

THE SHEEP TRUST

Conservation and sustainability of Heritage Sheep Breeds

Location of Flocks of Endemic Sheep in Wales

KEY: Sheep Breeds & Bluetongue Zones

Endemic Breed
- ▲ Brecknock
- ▲ Caithness
- ▲ Cheviot
- ▲ Closewool
- ▲ Clun
- ▲ Dalesbred
- ▲ Exmoor
- ▲ Gritstone
- ▲ Herdwick
- ▲ Lonk
- ▲ Nelson
- ▲ Polldorset
- ▲ Romney
- ▲ Roughfell
- ▲ Shetland
- ▲ Southdown
- ▲ Speck
- England Restricted Zone
- Wales Restricted Zone
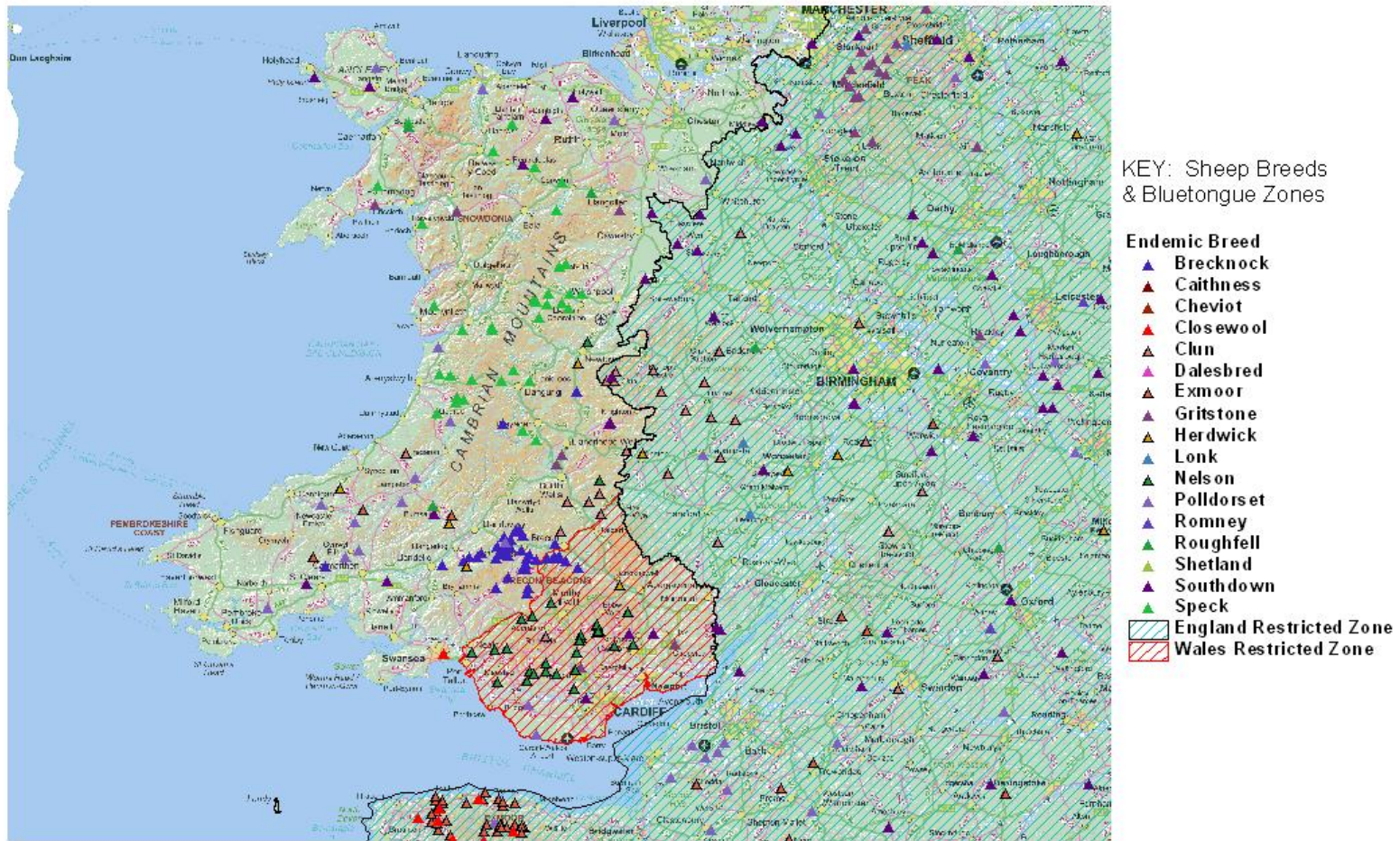
(c) Crown Copyright 2008.
Reproduced from the Ordnance Survey
Defra Licence No. GD272631
Department for Environment, Food and Rural Affairs

THE SHEEP TRUST

Conservation and sustainability of Heritage Sheep Breeds

Summary

- Reducing sheep numbers
- Reduction of genetic diversity within breed
- Geographical isolation
- Identify threats
- Standardise breed society information
- Future monitoring

The database contains a large amount of information that has not yet been evaluated but provides a resource for future studies.

THE SHEEP TRUST

Conservation and sustainability of Heritage Sheep Breeds