

## **APPENDIX C**

### **Lincolnshire Wolds NA Farm Profiles**

**(Number of sides - 20)**

## HIGHFIELD FARM

<b>Size:</b>	412 hectares
<b>Ownership type:</b>	tenanted
<b>Full time:</b>	yes
<b>Enterprise type:</b>	large mixed holding
<b>Land in intensive use:</b>	100% (arable 89%, permanent pasture 11%)
<b>Land in extensive use:</b>	none
<b>Woodland:</b>	none (not in tenancy)
<b>Common land:</b>	none
<b>SSSI:</b>	none
<b>Schemes entered into:</b>	none

### Summary Description

Highfield Farm is located towards the east of the Lincolnshire Wolds, centred around the Cadwell Park racing track which was once part of the farm. In character the farm divides into three main areas - the scarp slope, the plateau top and the dip slope.

The scarp slope is primarily under semi-improved but relatively poor sheep-grazed grassland with few boundary features present. In some areas hawthorns, the remnant of hedgerows, have been allowed to grow on as trees. Within this area the farmer retains a small nature reserve with two ponds, scrub and controlled grazing; here the grassland is more species-rich.

On the plateau top, fields are large and open and given over to arable production, with remnant flailed hawthorn hedgerows and isolated copses. The hedgerows lack a base flora, and the secondary woodland copses include ash, beech and conifers with a limited ground flora.

The land to the west slopes away more gradually and is largely under permanent set-aside. In the mid part of this slope is an area of mature secondary woodland, mixed in with a variety of conifer species. A stream running through this wood has been dammed, causing the water to back up into the woodland forming a large pond. Adjacent to this woodland is an area of scrub with patches of open grassland over an old graveyard. The most recent gravestone here dates from 1874.

Within the wider area of set-aside a number of drainage ditches are present, the sides of which are dominated by coarse grasses.

The farm has been occupied by the same family for many years. The family also own a small farm in North Yorkshire from which, in the past, cattle were wintered and young stock grazed. The main enterprise is arable cropping, with winter cereals, peas and spring barley. About 40ha of hay is also cut, mostly for sale. Poorer quality arable land is in permanent set-aside, under the grassland option. Changes to the farm since 1975 include:

- the sale of much of the North Yorkshire farm led to the scaling down of the beef enterprise. Cattle numbers have fallen from 200 suckler cows to 50 heifers. These will also soon be sold;
- there is a small flock of 27 ewes, kept for the farmer's own personal interest;
- the proportion of winter cereals has increased and the use of grass leys has ended. Fertiliser and spray rates have increased.

The increase in the farm's arable area has been at the expense of grass leys. A significant amount of permanent pasture remains, and the farmer's interest in sheep farming would seem to assure the future of this area. As on most farms, the increase in winter cereals leading to the reduction in winter stubbles, will have been to the detriment of bird populations (see Rothwell Estate, paragraph 6). Increasing applications of fertilisers and, especially, sprays in tandem with cultivation to the field boundary will have led to a reduction in floral diversity and to a further reduction in the available food resource for farmland birds.

The farmer is sympathetic to nature conservation and has retained the remaining grassland purely for its intrinsic landscape and conservation interests. He would also consider sympathetic management of difficult areas for cropping, such as the land currently in set-aside. However, new planting under the WGS would not be undertaken, due to the perceived inflexibility of the scheme's rules.

### **Examples of Good Practice**

- Trees planted
- Ponds constructed
- Reduced use of sprays

## HOPEVILLE FARM

<b>Size:</b>	11.5 hectares
<b>Ownership type:</b>	part owned, part rented
<b>Full time:</b>	yes
<b>Enterprise type:</b>	small mixed farm
<b>Land in intensive use:</b>	approx. 45% (arable)
<b>Land in extensive use:</b>	approx. 55% (permanent pasture)
<b>Woodland:</b>	none
<b>Common land:</b>	none
<b>SSSI:</b>	none
<b>Schemes entered into:</b>	none

### Summary Description

This small farm possesses both arable and grazing components, and is spread over six locations around the village of Binbrook. The discontinuous hedgerows are dominated by hawthorn and are generally managed by flailing, although some, mainly surrounding grassed areas, are unflailed and are more intact. In arable areas where cultivation reaches to the hedge bottom, the base flora is poor, although it is better in hedges bounding grassland areas.

The grasslands are semi-improved, tightly grazed and have considerable bryophyte cover in places. One of a pair of fields to the east of Binbrook has a stream running through it and is damper in places.

The disjointed nature of this farm makes it difficult to gain an overall impression, as each field possesses its own character. The small fields of semi-natural grassland are reminiscent of a less intensively farmed landscape, whilst those under arable production are much the same as others in the area.

Hopeville Farm has been farmed by the same family for 60 years. The farmer is near retirement and used to do work off the farm to supplement his income. The farm is one of the few small, mixed holdings left in the Wolds. Enterprises include spring barley for malting and a small beef enterprise. The farmer cuts verges in the area for hay, although grass keep has been increasingly difficult to get as more land in the area is cultivated. Changes since 1975 include:

- a change in rotation from a traditional four course rotation to continuous spring barley or malting barley. This, and the ending of the pig and sheep enterprises has been due to arable profitability and greater ease of management;
- the remaining grassland area was retained as it was difficult to cultivate, and is used for a 15 suckler cow and beef rearing enterprise.

Perhaps as a result of the proximity of the farmer to retirement, and the small size of the farm, little in the way of intensification has occurred, allowing features of nature conservation interest to survive. Whilst the loss of sheep from the farm has led to the loss of grassland area, the growing of spring barley has meant that areas of winter stubble remain, to the benefit of farmland birds (see Rothwell Estate, paragraph 6). The remaining grassland is managed in an extensive, largely organic manner, allowing for a much wider floristic diversity.

The farmer intends to end the suckler enterprise prior to retiring. Retirement may allow opportunities for extensification around the holding.

**Examples of Good Practice**

- Extensive management of grassland

## LOW FARM, CAISTOR

<b>Size:</b>	69 hectares
<b>Ownership type:</b>	owned
<b>Full time:</b>	yes
<b>Enterprise type:</b>	dairy
<b>Land in intensive use:</b>	100% (arable 23%, grass leys 77%)
<b>Land in extensive use:</b>	none
<b>Woodland:</b>	0.5%
<b>Common land:</b>	none
<b>SSSI:</b>	none
<b>Schemes entered into:</b>	none

### Summary Description

Low Farm lies at the foot of the scarp slope of the Lincolnshire Wolds and is laid out to either side of the farm access track. The land is flat and fields are small to medium in size, given over largely to grass leys and divided by gappy hawthorn hedgerows, with scattered mature hedgerow oaks.

Generally there is a scarcity of habitats of interest on the farm. The flora at the base of hedgerows is poor and they are managed by flailing. There is one small fenced area of recent secondary woodland, dominated by oak, sycamore and alder and a pond that is regular in shape and depth and grazed to its margins. The primary feature of wildlife interest is a small stream that follows one boundary of the farm. The stream course is natural in form with meanders and a pool/riffle sequence. The range of marginal plants is small, and it is fringed by willows and alder.

Low Farm has been farmed by the same family since the late 1950's. It is primarily a dairy holding, with an additional 15 hectares taken on as grass keep and about 16ha of winter barley grown for farm use. The farm is one of the few predominantly livestock holdings in the Wolds. It has increased in size wherever opportunities have presented themselves.

Since 1975 there have been a number of significant changes:

- cattle numbers have increased from 80 cows in 1975, to 100 in 1996, although before the imposition of milk quotas there had been 130 cows on the holding;
- silage has been introduced to the farm;
- the farm is located in the Nitrate Vulnerable Zone (NVZ) and there are concerns over the long term impacts this may have on cattle numbers and the disposal of slurry;
- new slurry storage facilities were erected in 1992, which allow for the storage of slurry instead of weekly applications.

The overall increase in the number of cattle on this small farm has meant that pressure on the grassland has intensified. The amount of slurry generated is cause for concern, and its disposal may have knock on effects on water quality in nearby water courses.

The taking of a silage crop is likely to have adversely affected ground nesting birds although it is unlikely to have affected the botanical composition of the already highly modified grass leys. However, pressure on the land is further increased, because more cuts may be taken and more nutrients in the form of biomass are being removed. This results in fertiliser rates being raised to compensate for. Chemicals used in silage preservation, and silage run-off can also present a considerable pollution risk.

The farmer is very aware of the changes in wildlife since 1975, such as the fall in number of farmland birds. However, economic pressures are likely to take precedence over nature conservation over much of the farm. The future impact of the NVZ is still unclear, although it may lead to reduced stocking. The management of existing features is likely to remain a secondary concern, although such management would greatly increase the nature conservation interest on the farm. In particular, there is scope to encourage more sensitive hedgerow management which might also double as a stock proof barrier.

### **Examples of Good Practice**

- Slurry storage facilities

## LOWFIELD FARM

<b>Size:</b>	77 hectares
<b>Ownership type:</b>	owned
<b>Full time:</b>	yes
<b>Enterprise type:</b>	small cropping farm
<b>Land in intensive use:</b>	approx. 99% (arable)
<b>Land in extensive use:</b>	none
<b>Woodland:</b>	approx. 1%
<b>Common land:</b>	none
<b>SSSI:</b>	none
<b>Schemes entered into:</b>	none

### Summary Description

Lowfield Farm is situated on the western edge of the Lincolnshire Wolds, on relatively flat topography. The northern boundary is formed by the A631, and the western boundary by areas of woodland, known as Broom Covert and Dog Kennel Wood. The eastern boundary is farmland of a similar type to Lowfield Farm itself, and rises to the east. The flat topography and large fields, combined with closely flailed remnant hedgerows with occasional gorse, create an open character. One hawthorn hedge running alongside a farm track has recently been planted.

There is little flora at the base of hedgerows, and woodland is limited to a small area of secondary woodland at the centre of the farm. This is dominated by oak, sycamore and ash, with a sparse understorey of hawthorn and conifers. The ground flora is dominated by coarse grasses. The drainage ditches running through the farm are generally steep-sided and deep, with mown sides dominated by coarse grass species. A variety of ditch plants are sparsely present, and include greater willowherb, soft rush and meadow-sweet.

Lowfield Farm has been farmed by the same family since 1953. It is an arable holding, with crops including winter cereals, spring wheat and sugar beet. Arable area payments contribute a major proportion of farm income. Significant changes since 1975 include:

- the ending of the beef and sheep enterprises in 1991, due to poor profitability. As a result no grassland remains on the farm;
- winter cereals are now grown more than spring varieties, while the use of grass leys has ended;
- although labour has remained the same since 1975, the use of contractors has grown.

The ending of the beef and sheep enterprises have led to the loss of all of the farm's grassland. The small size of the holding has led to increasing intensification in a quest to remain profitable. Winter cereals are the predominant crop, resulting in a decrease in food resources for farmland birds (see Rothwell Estate, paragraph 6). In combination with intensive agricultural techniques which take cultivation to the field boundary, this farm has little to offer wildlife.

The economic pressures on this farm reduce the opportunities for management sympathetic to nature conservation. However, management of the small woodland and hedgerows may be considered. The impact of the Nitrate Vulnerable Zone is too early to assess, although in combination with rotational vegetation management, it should benefit water quality.

### **Examples of Good Practice**

- Hedgerow planted
- Reduced use of sprays and fertilisers

## ROTHWELL ESTATE

<b>Size:</b>	1,360 hectares
<b>Ownership type:</b>	owned
<b>Full time:</b>	yes
<b>Enterprise type:</b>	large, predominantly cropping farm
<b>Land in intensive use:</b>	approx. 95% (arable 85%, permanent pasture 9%)
<b>Land in extensive use:</b>	none
<b>Woodland:</b>	approx. 6%
<b>Common land:</b>	none
<b>SSSI:</b>	none
<b>Schemes entered into:</b>	NSA, CSS, WGS

### Summary Description

The Rothwell Estate lies at the northern end of the Lincolnshire Wolds above the steep west facing scarp slope. The estate is centred around the village of Rothwell, which lies in a valley in the middle of the flat topped plateau, largely given over to very large fields in arable production. The slopes of the valley support semi-improved sheep-grazed pasture.

Hedgerows are hawthorn-dominated and of a variety of ages and stages of management and repair. The key landscape elements, however, are coniferous shelter belts which double as game cover and include non-native shrub species. One woodland block in the north-east of the estate (Badger Hills) is dominated by larch, beech, sycamore and ash, with an understorey of elm and sycamore and groundcover of bramble.

Water courses are present in the form of drainage ditches around much of the arable area. A number of ponds are present and vary from the ornamental type through to those more natural in appearance, and are mainly located around the Rothwell area.

South of the main body of the estate is a separate area of sheep grazed pasture on the west facing scarp slope, dominated by grassland which has received little in the way of improvement. This retains a traditional character. The underlying substrate is sandy in places, whilst in others rabbit grazing has produced a finer turf. A number of spring lines exist along the foot of the scarp, adding to the diversity of habitats.

The Rothwell Estate developed as the original owners gradually purchased surrounding farmland, resulting in its present size. The farm is now managed on behalf of the family trust and there are no tenant farmers. Past enterprises have included Cotswold Pigs, Cherry Vale ducks and a major seed enterprise (Nickerson Seeds). The farmland is currently used mainly for arable cropping, including winter cereals, spring barley, oilseed rape, peas, potatoes and sugar beet. The estate retains an interest in shooting, but this has been reduced since 1975 due to commercial pressures.

Other significant changes since 1975 include:

- the proportion of winter cereals has increased and the use of grass leys has ended;
- fertiliser and spray rates have fallen to reduce costs and sprays are used more selectively;

- the suckler enterprise was ended and the sheep enterprise reduced from 1,500 to 970 ewes due to poor profitability and labour problems;
- set-aside is concentrated on poorer cropping areas and managed as long-term grassland, wild bird cover or used for game cover crops;
- full-time labour has halved to about 10 workers.

As a result of an increase in winter cereals, the amount of winter stubble has declined. This has been to the detriment of wintering birds, as a large quantity of spilt grain, weed seeds and invertebrates used by a wide range of farmland birds is no longer available. Cultivation to the maximum extent in arable areas has led to decreases in the quality of hedgerows and the flora at their bases. This has also had knock on effects for birds, as it removes both a nesting site for game birds, and overwintering areas for invertebrates. Furthermore, associated intensive hedgerow management, makes hedges unsuitable as nest sites for farmland passerines. Whilst applications of fertilisers and sprays have fallen, this has not been of obvious benefit to wildlife although it will have benefited the wider environment. The reduction in grazing enterprises and the replacement of grassland with arable have gone hand in hand in many areas. On the Rothwell estate, poorer quality cropping areas have been entered into NSA or set-aside and are managed as long-term grassland or wild bird cover. This will have gone some way to mitigating for grassland loss, although its value to wildlife is limited. The large area of grassland on the scarp slope to the south of the main estate is perhaps the most significant feature of ecological interest on the estate. The combination of its inaccessibility to machinery, and the retention of the estates grazing capability would seem to make its immediate future safe.

The Estate's policy of finding alternative management options for its poorer quality arable land and its uptake of various schemes (such as Stewardship for hedgerow management and WGS for woodland management and planting) provides possible opportunities for nature conservation. Enhancement and creation of habitats on long term set aside could be considered, possibly involving uptake of Habitat Schemes.

#### **Examples of Good Practice**

- Hedgerows cut and laid (in places)
- Woodland planted
- Woodland managed
- Ponds managed to a plan
- Reduced use of sprays and fertilisers
- General management for game-birds
- No fertiliser inputs to grassland to south of estate

## SKIRBECK

<b>Size:</b>	260ha
<b>Ownership type:</b>	owned
<b>Full time:</b>	yes
<b>Enterprise type:</b>	medium sized, mainly cropping farm
<b>Land in intensive use:</b>	approx. 97% (arable 85%, permanent pasture 12%)
<b>Land in extensive use:</b>	none
<b>Woodland:</b>	approx. 3%
<b>Common land:</b>	none
<b>SSSI:</b>	none
<b>Schemes entered into:</b>	CSS, WGS, FWPS

### Summary Description

Skirbeck Farm lies on the western side of the Lincolnshire Wolds, on gently undulating topography. It is bisected by a road that runs north-east to south-west, and a stream meanders along the southern boundary. The majority of the farm is given over to arable agriculture.

Hedgerows are dominated by hawthorn and possess a poor base flora. Some have been recently layed but the majority have not, and are discontinuous and managed by flailing. Most fields are cultivated to their margins, but some possess wide, grassed margins destined for planting with trees, with others having been already planted. These margins, and the grassland surrounding other newly created features is dominated by *Lolium* sp. However, an enclosed area of ridge and furrow grassland toward the southern end of the farm appears to be less improved.

Existing woodland areas are mainly to be found along the western boundary of the farm and are dominated by ash. An area of woodland to the north of the reservoirs is sycamore dominated. The understorey of these woodlands contains elder and hawthorn and their ground flora is dominated by ivy and bramble.

A number of new ponds have been created adjacent to the stream. These are irregular in outline and depth and are potentially of high quality for wildlife. Existing ponds adjacent to the enclosed ridge and furrow are somewhat overgrown and in need of management. The banks of the stream itself are unmanaged, and are dotted with willows, some of which have collapsed with old age and lack of management. Two large new fish ponds have also been created adjacent to the north-south farm track. Overall, the farm is very ordered, and everything seems to have a place. New habitats appear to have been created with great enthusiasm, although existing habitats have been neglected.

Skirbeck Farm has been farmed by the same family for 56 years. However, farm size has been reduced since 1975 due to its division between family members. A further 300 hectares are contract farmed and it is intended to increase farm area to spread fixed costs. Arable cropping is the main enterprise, in particular the growing of cereals for seed. Crops include winter cereals, spring cereals (reintroduced for seed), rape, peas, potatoes and sugar beet. A number of diversified enterprises have been introduced including contracting, off-road driving and fishing lakes.

Changes to the farm's management include:

- grass leys were ended due to relatively poor profitability;

- a beef rearing enterprise (circa 200 cattle) was introduced and has allowed the retention of the remaining grassland areas. Sheep left the farm following its division.

The farm's diversified enterprises, plus its uptake of grant schemes (Countryside Stewardship and woodland schemes) together with the provision of land for educational access have been to the overall benefit of the farm. A wide range of habitats have been created, ranging from open water, through to new woodland plantings. Whilst a number of features are directly linked to the various enterprises, the fringe benefits for wildlife are large. The beef rearing enterprise seems to assure the future of the remaining grassland areas, although the conversion of grass leys to arable, and the use of winter cereals will have had some negative effect on the wildlife of the farm, particularly bird populations, (see Rothwell Estate, paragraph 6). The growing of cereals for seed is perhaps the most damaging enterprise on the farm, as in order to ensure purity of the crop, large amounts of pesticides are applied, including spraying into the hedge bottom.

The farmer intends to increase the farm's size, in order to reduce fixed costs. Improving the farm's conservation and amenity values are also a major farm management policy.

### **Examples of Good Practice**

- Woodland planted
- Hedgerows laid (in places)
- Woodland managed
- Ponds constructed
- Streamside vegetation managed
- Provision of educational access
- Reduced use of fertilisers on some grassland areas

## SOTBY FARM

<b>Size:</b>	425 hectares
<b>Ownership type:</b>	owned
<b>Full time:</b>	yes
<b>Enterprise type:</b>	large cropping farm
<b>Land in intensive use:</b>	approx. 98% (arable)
<b>Land in extensive use:</b>	approx. 1% (permanent pasture)
<b>Woodland:</b>	approx. 1%
<b>Common land:</b>	none
<b>SSSI:</b>	yes (Sotby Meadows)
<b>Schemes entered into:</b>	none

### Summary Description

Sotby Farm is located on the western edge of the Lincolnshire Wolds. The majority of the farm is situated to the south of the east-west road that passes through the village of Sotby. The land rises towards this road then, to the north, falls away again to the farm's northern boundary, which is marked by a stream fringed by rank vegetation and sporadic willows.

The farm is predominantly under arable cultivation, although woodland, grassland and open water habitats are present in small pockets. These are often widely separated from one another, leading to a very fragmented collection of areas of nature conservation interest. Hedgerows bounding the large fields are discontinuous, flailed and are hawthorn dominated. As a result of cultivation to the field boundary they possess a poor base flora.

Sotby Meadows SSSI is an area of permanent pasture in the southern part of the farm. It is approximately 4 hectares in extent and is managed as a grassland reserve (grazed by ancient breed sheep) by the Lincolnshire Trust for Nature Conservation under a management agreement.

The primary habitats on the farm are:

- a small block of broad-leaved woodland in the western part of the farm dominated by sycamore and ash, with elder and hawthorn understorey, and a conifer plantation further to the east with an understorey of sycamore and elder. Ground flora in both woodland areas is dominated by bryophytes, nettle and ivy;
- an area of rank grassland dominated by coarse grass species, creeping buttercup and dock;
- two square, deep, steep sided reservoirs, the retaining banks of which are dominated by broad-leaved grasses, and planted with a variety of native tree species. Three smaller ponds are also present, to the west of Sotby Meadows SSSI, and are steep sided with little depth variation;
- drainage ditches generally contain greater willowherb, common reed and figwort. Sides are swiped in places and dominated by the same species plus coarse grasses.

Interesting fauna on and around the farm include a barn owl which roosts in an abandoned house to the west of the reservoirs, and badgers, the tracks of which were found emanating from an area of scrub adjacent to a worked-out gravel pit on the north-west boundary of the farm. Grey partridge is also present.

The farmer took on the tenancy of Sotby Farm in 1981, buying it from its institutional landlord in 1990. The family also has two other holdings in Lincolnshire which form separate businesses. Sotby Farm is an arable holding, with crops including winter cereals, rape, peas, potatoes and spring barley (when profitable). Contract combining is also undertaken. The farm has experienced a number of major changes since 1975:

- before 1981 the farm had been a mixed holding, with cattle, sheep, spring cereals and large areas of temporary and permanent grassland;
- when the present occupiers took over the tenancy in 1981 the institutional landlord tripled rents. As a result, nearly all grassland was cultivated for arable cropping, and livestock were removed from the farm. In addition, fields were drained and hedges removed;
- spray rates have fallen since 1985 to cut costs and due to the farmer's personal concern over their impact on the environment;
- increased mechanisation and the loss of livestock enterprises have led to a fall in farm labour, from 7 to 4 full-time workers;
- significant investment in farm buildings has been made.

The conversion of the whole farm to arable has led to an overall decrease in its nature conservation value. Large areas of temporary and permanent grassland have been lost, fields drained and hedgerows removed. This will have had drastic effects on both flora and fauna. The growing of winter crops has further reduced feeding opportunities for farmland birds (see Rothwell Estate, paragraph 6), and the increased intensification of an entirely arable unit will have allowed few opportunities for wildlife on the farm in general. The fall in spray rates has probably had little noticeable effect on wildlife, although it will obviously be of benefit in wider environmental terms.

Despite the overall reduction in the farm's nature conservation interest over recent years there are areas which have been managed or created for the benefit of wildlife, such as the management agreement over the SSSI with the Lincolnshire Trust for Nature Conservation, the creation of new ponds and small scale tree planting, the latter two being undertaken at the farmer's own expense. The farmer would wish to plant further trees, but feels current grant rates are not sufficiently attractive and the schemes themselves too complicated.

#### **Examples of Good Practice**

- Pond constructed
- Trees planted
- Reduced use of sprays
- Management agreement with Lincolnshire Trust for Nature Conservation on SSSI

## SYCAMORE FARM

<b>Size:</b>	130 hectares
<b>Ownership type:</b>	owned
<b>Full time:</b>	yes
<b>Enterprise type:</b>	small cropping farm
<b>Land in intensive use:</b>	approx. 99% (arable)
<b>Land in extensive use:</b>	none
<b>Woodland:</b>	approx. 1%
<b>Common land:</b>	none
<b>SSSI:</b>	none
<b>Schemes entered into:</b>	none

### Summary Description

Sycamore Farm is situated in the middle of the Lincolnshire Wolds and is set in rolling topography. A road running north-south along a shallow valley cuts off the western part of the farm from the main body. The farm is completely arable with the exception of an area of woodland on the rise of Limber Hill, on the eastern edge of the farm. This is dominated by sycamore and lesser amounts of ash. Some beech and larch are also present. The understorey is composed of elder and hawthorn, with a sparse ground flora which includes snowdrop.

Flailed hedgerows bounding the large arable fields are dominated by hawthorn, are gappy and possess a poor base flora. Two field corners which are difficult for machinery to access have been planted with a variety of native and non-native tree species.

With the exception of the woodland and the hedgerows, this is a featureless farm with little room at present for nature conservation.

Sycamore Farm has been farmed by the same family since 1920. The farm has changed little since 1975. Arable enterprises are based on the growing of spring and winter malting barley, which reflects the suitability of the soils and the farmer's expertise in this field. Wheat and peas are also grown, while set-aside is used to grow industrial oil-seed rape. Changes since 1975 have included:

- increased mechanisation leading to a fall in the work force from three to two full time men;
- the beef enterprise was ended in the early 70s due to low financial viability and labour problems;
- loss of all of the farm's grassland.

The ending of the beef enterprise in the early 1970s led to the loss of all of the farm's grassland. Both winter and spring malting barley are grown, which require lower fertiliser inputs and are therefore of benefit to the wider environment, although perhaps not obviously to wildlife. The decrease in the area of winter stubbles will have been to the detriment of local farmland bird populations, as will intensive cultivation to the hedge base (see Rothwell Estate, paragraph 6). This farm has little to offer wildlife at present.

With the economic pressures on such a small cropping farm, the farmer would be unlikely to accept measures which would significantly reduce income or limit management flexibility. Management which would benefit game birds and not significantly reduce the cropping area may be acceptable.

### **Examples of Good Practice**

- Lower fertiliser inputs linked to growth of malting barley

# THORGANBY HALL FARM

<b>Size:</b>	324 hectares
<b>Ownership type:</b>	owned
<b>Full time:</b>	yes
<b>Enterprise type:</b>	large mixed farm
<b>Land in intensive use:</b>	approx. 95% (arable 83% , permanent pasture 12 %)
<b>Land in extensive use:</b>	none
<b>Woodland:</b>	approx. 4%
<b>Common land:</b>	none
<b>SSSI:</b>	none
<b>Schemes entered into:</b>	WGS

## Summary Description

Thorganby Hall Farm lies on rolling topography in the middle of the Lincolnshire Wolds. The main farm buildings are located around the original Hall. Beyond these is an area of relatively well grazed parkland, with occasional small to medium-sized estate woodland plantings, both of broad-leaves and conifers. The remainder of the farm is under intensive arable agriculture.

The even-aged, discontinuous hedgerows which bound the large arable fields and, to a certain extent, the area of parkland, are dominated by hawthorn and are managed by flailing. Cultivation is up to the hedge base, resulting in a poor base flora. The woodlands are in part managed for game cover. A good system of rides exists within parts of the woodland, and in open areas extensive carpets of celandine and snowdrop are present. Within the broad-leaved areas, canopy species include ash and beech with an understorey of hazel. Ponds are present within the woodlands, although they are somewhat overgrown by willow and alder. A stream also runs through part of the farm, and is dominated by rank vegetation on its banks.

Overall this is an interesting farm both in terms of landscape and ecology. Although the arable areas are typical of those found throughout the Lincolnshire Wolds, the more historic elements of the landscape, such as the house and the parkland, lend an air of maturity.

Thorganby Hall has been owned and farmed by the same family since the 19th Century. A second farm is also owned by the family but forms a separate unit. The main enterprise is arable cropping, with winter cereal, peas and oilseed rape. There is also a suckler herd and a small pedigree sheep flock. Changes since 1975 include:

- the reintroduction of spring barley (due to profitability of malting quality crops);
- the ending of the use of grass leys;
- the farm's suckler herd increased from 80 to 118 cows in order to justify the retention of a stockman, and to graze the remaining grassland areas;
- silage was introduced to improve fodder quality and reduce dependence on good weather at hay making time;
- increased farm mechanisation has initiated a fall in the labour force.

Although winter cereals are grown on this farm, spring barley is also grown, and so winter stubbles are available to farmland birds (see Rothwell Estate, paragraph 6). Farming is intensive, and this has been to the detriment of hedgerow flora and its associated fauna. The increase in cattle numbers may lead to a decrease in floristic quality of the grassland areas due to increased grazing pressure. Silage cutting also leads to a decrease in the farm's ecological value (see Low Farm, paragraph 4).

The farmer is sympathetic to nature conservation and has planted small areas of woodland under WGS. However, he feels grant rates for conservation schemes are still not sufficiently attractive and that the schemes themselves are too complicated and bureaucratic. He is also frustrated that NSA grants are unavailable in his area, given that the farm lies in a Nitrate Vulnerable Zone (NVZ). The impact of the NVZ is still unclear, although the farmer is worried over its impact on the farm's capital value.

### **Examples of Good Practice**

- Woodland managed
- Woodland planted
- Reduced use of sprays and fertilisers
- Parkland not re-seeded

## WHITEGATE HILL

<b>Size:</b>	88 hectares
<b>Ownership type:</b>	mostly tenanted
<b>Full time:</b>	yes
<b>Enterprise type:</b>	small, mixed farm
<b>Land in intensive use:</b>	approx. 98% (arable 86%, permanent pasture 12%)
<b>Land in extensive use:</b>	none
<b>Woodland:</b>	approx. 2%
<b>Common land:</b>	none
<b>SSSI:</b>	none
<b>Schemes entered into:</b>	NSA

### Summary Description

Whitegate Farm lies at the northern end of the Lincolnshire Wolds, on the west facing scarp slope. It is composed of one large and three small areas of farmland, the majority of which are situated to the south of the town of Caistor.

The main contrast on the farm is between the very large arable fields at the top of the scarp slope, with their remnant flailed hawthorn hedgerows, and areas of semi-improved grassland at the foot of the slope, where field sizes are smaller and the hedgerows are taller, with a more diverse age structure, creating a more enclosed and intimate character.

The only other habitat present on the farm is a small conifer plantation adjacent to the arable area, which is itself beside a large quarry.

Whitegate Hill is a predominantly tenanted holding, rented from a number of landlords. The family has farmed the holding since the early 1970s and a further 5 hectares is taken on as grass keep. It is primarily an arable holding, with crops including winter wheat, peas and spring barley. Farm income is supplemented by contract grass cutting. Since 1975 there have been a number of significant changes to the farm's management and area:

- the farm's area was reduced following its division between family members, whilst a further 10 hectares was lost to an adjacent quarry;
- the farm's suckler herd was sold in 1987 as a result of its comparatively low profitability compared to arable cropping, and the loss of farm buildings following the end of the family partnership;
- a new sheep enterprise was introduced, reflecting the farmer's personal interest and its place within the arable rotation. There is currently a flock of 120 yearling ewes on the holding, although the breeding flock had to be sold due to the lack of lambing facilities;
- 9 hectares of permanent pasture was underdrained in the early 1980s with grant aid, in order to allow cultivation. A further 3 hectares of permanent pasture was ploughed in 1987;
- the proportion of spring barley has fallen since 1975 and the use of grass leys has ended;
- fertiliser and spray rates have increased; sterile brome infestation has led to the cultivation and spraying of hedge bottoms.

The division of the original farm into smaller units has meant that farming needs to be more intensive in order to be profitable. Practices such as the underdraining and ploughing up of permanent pasture (linked to the ending of the suckler enterprise) and spraying of hedge bottoms have significantly lowered the farm's nature conservation interest. The farmer's personal interest in sheep farming seems to have assured the future of at least some of the farm's grassland. On arable land, the decrease in spring barley and the increase in fertiliser and spray applications will have adversely affected farmland bird populations (see Rothwell Estate, paragraph 6).

Fifty-seven hectares of land was entered into the North Wolds Nitrate Sensitive Area in 1995 to benefit from the extra income. The NSA agreement restricts fertiliser use, although its impact on farm income and management is not considered to have been significant so far. The future impact of the NVZ is not yet clear. Conservation measures on the rest of the holding are limited, due to the economic pressures on such a small holding and the lack of incentives on a mainly rented farm. However, the farmer is willing to consider management where it would not significantly affect farm income, such as for hedges. Management of the woodland under the Woodland Grant Scheme would not be considered as it would restrict management flexibility. The farm's planned expansion and the return of a sheep breeding flock may provide opportunities for nature conservation and grassland restoration.

#### **Examples of Good Practice**

- Reduced use of fertilisers