

RSPB Reserves and Local Economies

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Executive Summary

Introduction

On 31 March 2002, the RSPB managed 176 reserves across the UK, covering 121,082 hectares. This paper examines the impact of these reserves on the local economies around them.

Assessing the economic impacts of RSPB reserves

RSPB reserves support economic development in a variety of ways:

- They provide **direct employment** for staff involved in reserve management and associated activities;
- **Spending by employees** supports local economic activity,
- In the same way **spending by volunteers** also supports local economies;
- **Direct expenditure by reserves** on goods and services provides income and employment for local firms and the use of **commercial contractors** also provides additional employment and income for local businesses;
- **Grazing lets and agricultural tenancies** provide additional income and employment for local farmers;
- **Visitors to reserves** spend money in the local economy;

This report estimates the scale of these economic impacts. It collates data on employment, income and expenditure by the RSPB, as well as information on tenancies and grazing lets. It summarises the results of a number of visitor expenditure surveys. The economic impact of these activities is estimated using multipliers derived from input: output tables and tourism multiplier studies.

In total, we estimate that RSPB reserves support more than 1,000 FTE jobs in local and regional economies across the UK:

Total local employment attributable to RSPB reserves

| Type of Impact | Local/Regional Employment (FTE) |
|---|---------------------------------|
| Direct employment on reserves | 268 |
| Employment in regional offices/HQ concerned with reserve acquisition and management | 40 |
| Spending by employees | 31 |
| Spending by Volunteers | 4 |
| Total direct reserve expenditures (of which attributable to contractors) | 101 (50) |
| Grazing lets/agricultural tenancies | 101 |
| Indirect employment from farming operations | 123 |
| Spending by Visitors | 335 |
| Total | 1003 + |

This employment is supported by spending of £19 million per year by the RSPB and visitors to its reserve

Case Studies of Reserves and Local Economies

The report examines in detail the economic impact of 12 reserves across the UK: Abernethy, the Anglesey reserves, Forsinard, Geltsdale, Loch Gruinart, Lake Vyrnwy, Mersehead, Minsmere, Otmoor, Pulborough, West Sedgemoor and Vane Farm. Between them, the 12 case study reserves are estimated to support almost 320 FTE jobs in local and regional economies, when all economic impacts are included. This is equivalent to nearly 8 FTE jobs per thousand hectares. The jobs per hectare figure varies markedly by reserve, being highest for relatively small reserves with large numbers of visitors, such as Pulborough Brooks and Vane Farm, and lower for more extensive upland reserves.

Conclusions

RSPB reserves support more than 1,000 FTE jobs in the UK, with the largest impacts coming through direct employment of RSPB staff, and the effects of expenditures by visitors on local economies. Many of these jobs are located in more remote rural areas – and most are on less productive land - with few alternative employment opportunities. Reserve management can have a significant impact on local economies, especially around the larger reserves that generate significant numbers of visitors. Spending by visitors to reserves occurs throughout the year, helping to extend the tourism season.

These impacts are increasing, as the RSPB acquires and manages more land, and develops new facilities for visitors. Nature conservation is a growth sector, unlike agriculture and forestry, both of which have shed large numbers of jobs in the last decade. The RSPB plans to spend £20 million over the next five years on acquiring new reserves, including three major new reserves in urban fringe locations. We expect new RSPB reserves to employ 70 new staff and attract an extra 300,000 visitors. In total, we expect that these new reserves will support 250 FTE jobs in local and regional economies by 2007.

While aggregate figures suggest that RSPB management is not particularly labour intensive, most of the individual case studies in this report demonstrate that RSPB management has actually increased the economic impact of the site in question. This suggests that – rather than displacing economic activity from productive sites – the acquisition and management of RSPB reserves tends to bring benefits to sites that previously supported little or no economic activity.

This report has focused on RSPB reserves only. The economic impact of the conservation sector as a whole is significantly greater. There are more than 18,000 FTE jobs in nature and landscape conservation in the UK, while conservation organisations spend more than £500 million per year in England and Wales alone. Nature conservation helps to support a significant proportion of the rural tourism market, worth £12 billion per year in England alone.

1 Introduction

Although primarily acquired to deliver conservation value and enhance the status of the most threatened species of birds and other biodiversity in the UK, RSPB reserves are also, by their very nature and position in the countryside, multi-functional. They are active and economically diverse tracts of land, providing employment, producing rural products and contributing substantially to their local communities. Over 1.2 million visitors that are drawn to these sites bring considerable financial benefits to often remote and deprived rural areas.

The purpose of this paper is to study the real economic effects that a wide range of RSPB reserves have in their communities through a series of case studies. Some of the sites chosen host large numbers of visitors, some do not, but they all play a very active part in their locality through farming and other land management.

In a concluding chapter we summarise the economic impacts of RSPB reserves in the UK and compare the economic impacts of reserves and other land uses.

As of 31 March 2002, the RSPB managed 176 reserves across the UK, covering 121,082 hectares.

2 Assessing the economic impacts of RSPB reserves

2.1 Types of Economic Impact

RSPB reserves support economic development in a variety of ways:

- They provide **direct employment** for staff involved in reserve management and associated activities;
- **Spending by employees** supports local economic activity,
- In the same way **spending by volunteers** also supports local economies;
- **Direct Expenditures by reserves** on goods and services provides income and employment for local firms and the use of **commercial contractors** also provides additional employment and income for local businesses;
- **Grazing lets and agricultural tenancies** provide additional income and employment for local farmers;
- **Visitors to reserves** spend money in the local economy;

This section describes these impacts, presents the methodology the RSPB has used to assess their scale, and gives estimates of the size of each impact for RSPB reserves in the UK.

It is important to note that other alternative land uses – such as agriculture and forestry – also support employment and impact on local economies. This report therefore considers, as far as possible, the net impacts of RSPB management, by comparing impacts with those of other land uses.

2.2 Direct Employment

Reserves provide employment for a variety of staff, involved in reserve management, species protection, survey and monitoring, visitor services, farming, catering, retailing, and cleaning operations. Many of these jobs are permanent, full time posts, while some are arranged on a

seasonal, part time, contract or temporary basis. Estimates of employment are therefore presented both in terms of numbers of jobs, and in terms of full time equivalent (FTE) jobs.

RSPB reserves currently provide employment for 347 paid staff across the UK. This is equivalent to 268 full time equivalent (FTE) jobs. The RSPB spent £4.06 million in 2001/2 in employing staff on reserves.

In addition to employment on reserves, there are 40 FTE jobs in RSPB regional offices and national headquarters concerned with the acquisition and management of reserves.

2.3 Spending by Employees

Reserve employees spend some of their wages and salaries locally, providing income and employment in local businesses. The economic impact of employee expenditures is often referred to as the 'induced effect'. Its strength depends on the proportion of income that is spent locally, which in turn depends on rates of taxation, savings and imports.

We have assumed that spending by each RSPB reserve employee gives rise to a further 0.1 FTE jobs in local economies. This figure is based on multipliers from the Scottish input:output tables, the Scottish tourism multiplier and the Welsh forestry multiplier, because we do not have economic multipliers for each UK region and these are the best estimates that have been made to date (See section 2.5 for further information on multipliers). Therefore, we can estimate that the 268 FTE staff that work on RSPB reserves support approximately 27 additional local FTE jobs across the UK. The 40 FTE staff working on reserve acquisitions and management in regional offices and HQ will also support an estimated 4 FTE jobs in local economies, resulting in a total of 31 FTE jobs being supported by all full time employees.

2.4 Spending by Volunteers

Volunteers are people who work for the RSPB but are unpaid. They play an important role in reserve management, taking part in a wide variety of reserve work. As well as helping the RSPB to meet its conservation objectives, voluntary work provides training, experience and fulfilment to participants, and can contribute to their career development. Although volunteers are unpaid, they contribute to local economies by spending money on goods and services around reserves. Some volunteers stay on reserves during the course of their work, while others volunteer on a daily basis.

The main local economic impact resulting from voluntary work occurs as a result of spending by volunteers in the local economy. This expenditure has been estimated by assuming, conservatively, that volunteers spend £6 per day in local economies while working on the reserve.

A total of 1,865 volunteers completed 161,035 hours of work on RSPB reserves in 2000/01, equivalent to 21,471 days or 91 person years (in this report, voluntary employment is expressed in terms of volunteer days, and person years).

Assuming daily expenditure of £6, we estimate that volunteers spend a total of £129,000 per year in the local economies around reserves. This is estimated to support around 4 FTE jobs in local economies.

2.5 Direct Reserve Expenditure-

As well as employing staff, RSPB reserves spend money on a variety of goods and services. These include agricultural and forestry services, construction, retail products, communications, transport and a range of business services.

This expenditure helps to provide income and employment for local businesses. As well as these direct impacts, there will also be indirect effects on the local economy (since a proportion of the receipts of these suppliers will be spent on other local goods and services) and induced effects, as the suppliers' employees spend money locally.

The impacts of reserve expenditures have been investigated using input: output tables. These present data documenting the flows of goods and services between different industrial sectors. They enable an assessment to be made of the impact of a change in demand in one sector on output in other sectors, and in the economy as a whole. They also enable multipliers to be calculated to assess the effects of output changes on income and employment.

Input: output tables are regularly produced at a UK level. They have been less available at a regional or local level, but are now published for Scotland, Wales and South West England (WERU, 2002).

Input: output tables for Scotland (Scottish Executive, undated) were used to assess the economic impacts of RSPB reserve expenditure in Scotland. This involved:

1. Obtaining data for expenditures by reserves on different goods and services;
2. Removing data relating to staff costs and internal RSPB transfers;
3. Estimating the proportion of reserve spending occurring within Scotland;
4. Allocating expenditures to different industrial sectors;
5. Applying multipliers set out in the input: output tables.

Table 1 presents data on the economic impact of expenditures by Abernethy RSPB reserve. All figures are expressed in 2000 prices.

Table 1: Estimating the Economic Impact of Expenditures by Abernethy RSPB Reserve

| | 5 year Spending (£) | Annual spending (£) | Annual spending in Scotland (£) ¹ | Type II Multipliers: Income ² | Employment ^{2,3} | Annual income in Scotland (£) | Employment in Scotland (FTE) |
|------------------------|---------------------|---------------------|--|--|---------------------------|-------------------------------|------------------------------|
| Gas distribution | 36,754 | 7,351 | 6,616 | 0.37 | 13.11 | 2,448 | 0.09 |
| Construction | 22,519 | 4,504 | 4,054 | 0.60 | 31.08 | 2,436 | 0.13 |
| Retail distribution | 77,425 | 15,485 | 13,937 | 0.45 | 32.73 | 6,216 | 0.46 |
| Hotels, catering, pubs | 27,804 | 5,561 | 5,005 | 0.46 | 38.25 | 2,292 | 0.19 |
| Air transport | 4,164 | 833 | 750 | 0.47 | 16.34 | 352 | 0.01 |
| Transport services | 121,651 | 24,330 | 21,897 | 0.68 | 22.33 | 14,890 | 0.49 |
| Postal services | 15,181 | 3,036 | 2,732 | 0.67 | 37.42 | 1,823 | 0.10 |
| Telecoms | 20,475 | 4,095 | 3,686 | 0.47 | 17.08 | 1,732 | 0.06 |
| Other business service | 317,070 | 63,414 | 57,073 | 0.75 | 51.98 | 42,862 | 2.97 |
| Sanitary services | 3,374 | 675 | 608 | 0.41 | 25.74 | 247 | 0.02 |
| Total | 646,417 | 129,284 | 116,358 | | | 75,298 | 4.52 |

¹ Assuming 90% of expenditure occurs within Scotland

² Multipliers from Scottish Input: Output tables 1998

³ FTE Jobs per £1m spending, deflated to 2000 prices.

Annual expenditure by Abernethy reserve averages £129,000 per year, of which £116,000 (around 90%) is estimated to be spent within Scotland. This contributes to the output of a variety of different economic sectors. Using Type II income and employment multipliers – which include direct, indirect and induced effects – this spending supports an estimated 4.5 FTE jobs in Scotland, and income (wages, salaries, profits and rents) of £75,000 per year (58p for every £1 spent by the RSPB). The greatest impact occurs because of spending on “other business services”, especially through use of contractors.

Estimates for five key Scottish reserves, based on the same principles as used above, are presented in Table 2.

Table 2: Estimated Economic Impact of Spending by Selected Scottish RSPB Reserves

| | Annual spending (£) | Annual spending in Scotland (£) | Income (£) | Employment (FTE jobs) |
|--------------|---------------------|---------------------------------|----------------|-----------------------|
| Abernethy | 129,284 | 116,355 | 75,298 | 4.5 |
| Forsinard | 19,761 | 17,785 | 11,256 | 0.7 |
| Gruinart | 234,278 | 210,850 | 111,477 | 6.8 |
| Mersehead | 67,530 | 54,024 | 33,436 | 2.0 |
| Vane Farm | 75,114 | 60,091 | 34,374 | 2.1 |
| Total | 525,967 | 459,105 | 265,841 | 16.1 |

These suggest that annual spending of £459,000 by these five reserves in Scotland supports income of £266,000 and employment totalling 16.1 FTE jobs. This suggests that spending of £28,509 by an RSPB reserve in the Scottish economy is sufficient to support one FTE job in Scotland, when direct, indirect and induced effects are taken into account.

Total expenditure on goods and services by RSPB reserves in the UK amounted to £4.024 million in 2001/2. In order to assess the regional impacts of this expenditure, it would be necessary to estimate how much of this money was spent in each region, then to apply regional multipliers based on input: output analysis. An absence of regional input: output tables for most English regions make this impossible.

To analyse UK impacts we have conservatively estimated that 70% of expenditure by reserves in England and Wales occur within the region in which they are based, and that regional employment and income multipliers are similar to those for Scotland. Therefore, the basic assumptions in this report are that;

- £28,500 of spending supports 1 FTE job in the local economy
- Every £1 of spending will support around 58p of local income
- 70% of this spending will remain in the region it is spent
- This is higher in Scotland (80-90%), for which we have more data.

A higher level of spending would be expected to remain in an economy such as Scotland's as the population is less densely distributed and infrastructure not as developed as in for example, many areas of England. Thus, we would expect spending in an area such as the Highlands to remain closer to its point source, but this is less likely in an area such as Cambridgeshire where spending will be more widely spread across the economy.

The RSPB spends £4.0m annually on direct reserve expenditure. In the five Scottish reserves analysed above, spending by the RSPB of £0.526m supports 15.5 jobs and £266,000 of income. For the rest of the spending, we assume 70% remains in the local economy, some £2.43m. We can estimate, using the assumptions above, this spending supports 85.3 FTE jobs and £1.41m of income.

In total RSPB direct spending on reserve management is estimated to support 101 FTE jobs and £1.67m of income in the regions in which the reserves are located.

2.5.1 Use of Contractors

As well as employing staff directly, many reserves use contractors to carry out work on a commercial basis. Contractors are often used for one-off projects involving forestry, agricultural, habitat restoration or construction work.

For some reserves, it has been possible to estimate the number of contractors employed per site, especially where the same individuals are employed on a regular basis. Where this is not possible, economic impacts can be estimated using expenditure data and appropriate multipliers (see section 2.5 Reserve Expenditures), taking care to avoid double counting.

Expenditure on contractors' services was estimated to total £1,610,400 in 2001/2, supporting an estimated 50 FTE jobs, these are included in the total 101 jobs attributed to 'direct reserve expenditure'.

2.6 Grazing Lets and Agricultural Tenancies

Many RSPB reserves let grazing to local farmers, whilst a very small number also let rights to shooting and extraction of timber.

In total, over 14,500 ha of land is let to over 300 farmers across the UK. 300 graziers and farmers divided by 14,500 ha would assume that 20.7 jobs per 1000 ha are supported. We conservatively estimate that each of these jobs is only 1/3 of a full time equivalent job and thus 7 FTE jobs per 1000 ha are sustained by RSPB letting land to agricultural tenants. This estimate is only half of the FTE employment supported on agricultural land in Less Favoured Areas in the UK, to which RSPB land is most comparable (see section 2.8). It matches the RSPB's experience, which is that land management on reserves tends to be more extensive than conventional management and lets are often only temporary during part of the year or grazing season. We can therefore, estimate that the 14,500 ha of let/tenanted land may support around 101 full time jobs, based on 7 FTE jobs being supported by every 1,000 ha.

These grazing lets and agricultural tenancies have additional indirect economic impacts, as farmers and graziers purchase inputs from other businesses, and induced effects, as individuals spend money in local economies. The Scottish input: output tables estimate that for every job in agriculture, another 1.006 indirect and 0.209 induced FTE jobs are supported in the Scottish economy. If we assume that similar multipliers apply for other regions of the UK, we can estimate that every full time job in agriculture will support an additional 1.215 FTE jobs in the regional economy.

We can therefore estimate that the 101 full time equivalent farming jobs on RSPB reserves support an additional 123 FTE direct and induced jobs in the wider economy. Thus, in total it is estimated that 224 FTE jobs are supported by the RSPB letting reserves for grazing and agricultural use.

2.6.1 Products from Reserve Management

Many reserves are farmed or forested, and produce food or timber. Sales of timber, firewood and reeds totalled £185,000 between 1996/7 and 2000/01, an average of £37,000 per year. In the same period, reserves sold an average of £17,000 of meat and venison, £511,000 of livestock each year.

Local processing and marketing of these products helps to support jobs and incomes for local businesses. It is arguable whether these downstream impacts should be attributed to RSPB reserves, since in the absence of reserve production we would expect much of this activity to continue, using produce from an alternative source or imported produce. In reality local economies would have limited benefit from the sale of reserve products in most cases due to the closure of many small abattoirs, the long distances produce is transported for processing and retail, and the sale of animals to other farmers for 'finishing'. It is therefore likely that the impacts on local economies from sale of livestock and products sold from reserves would be very limited. No multiplier has been found for this type of activity and thus the total employment impacts from the sale of reserve products has not been estimated in this report. This exception to this is Abernethy for which more data is available and where reserve products make up a small but significant share of the total market for venison.

2.7 Spending by Visitors to RSPB Reserves

Visitors to RSPB reserves spend money on local goods and services, helping to support local economies. These impacts have been assessed through visitor surveys. By asking visitors about local spending, and about the importance of the reserve in encouraging them to visit the area, it is possible to estimate visitor expenditures that can be attributed to the reserve itself.

The RSPB has conducted detailed visitor surveys of several reserves. In addition, more general visitor surveys covering all of the most popular reserves have included questions about spending patterns.

The 1998 Reserves Visitor Survey

The RSPB's Market Research Department conducted a survey of visitors to twenty of the Society's nationally promoted reserves between April and October 1998. Self-completion questionnaires were given to visitors by reserve staff, and collected immediately on completion. Each questionnaire was given to one individual to complete on behalf of his/her party. An effort was made to obtain a quota of completed questionnaires each month at each reserve. A total of 5,128 questionnaires were completed. At two reserves, Fairburn Ings and Lake Vyrnwy, sample sizes were too small to permit reliable within-site analysis, but questionnaires were included in the overall analysis.

The survey included a question on purchases made by parties in the vicinity of the reserve, which asked respondents to indicate what items (petrol, accommodation, food/drink, gifts and souvenirs, and other items) they had purchased locally as a result of visiting the reserve. Using certain assumptions, the results were used to estimate expenditure by reserve visitors and its impacts on local economies (Rayment, 1999).

Results

Taken over all reserves, 30% of respondents lived locally, 26% were on a day-trip to the area, 5% were staying with friends or relatives, and 38% were on holiday in the area (staying 4-5 nights on average). Overall, 63% of respondents indicated that they spent some money as a result of their visit to the reserve. The answers given varied considerably between different reserves and different types of expenditure. A high proportion of visitors to Sandwell Valley and Pulborough Brooks are local, while those visiting Lake Vyrnwy and Abernethy are more likely to be on holidays or longer trips, and to spend money on petrol, accommodation and food and drink as a result of their visit.

Estimates of average spending per item per day (Table 3) were used to estimate the amount spent by each visitor. These were based on a review of daily expenditures from a range of other visitor expenditure surveys. They apply only to those people indicating that their party purchased these items as a result of visiting the reserve. For petrol, which is often a shared expense, the figure is an estimate of expenditure per person. These averages were multiplied by figures for reserve visitors in 1998/99 to estimate total spending by visitors.

Table 3: Assumed Daily Expenditure per Visitor Purchasing Different Items

| Petrol | Accommodation | Drinks in Pub/Café | Meals | Food from Shop | Other items |
|--------|---------------|--------------------|-------|----------------|-------------|
| £7 | £20 | £3 | £5 | £3 | £3 |

Combining these estimates, expenditures resulting from visits to RSPB reserves were estimated to total £10.1 million in 1998, of which £7.5 million was accounted for by the top 20 reserves. Almost 40% of this money was spent on accommodation, 31% on food and drink and 20% on petrol.

These results are comparable to those obtained by a more detailed reserve visitor survey at selected reserves completed by the RSPB in 1999, which estimated total visitor expenditure equivalent to £10.6 million at 1998 prices.

These estimates of visitor spending should be regarded as approximate (and conservative), since:

- Respondents were asked only what they had bought as a result of visiting the reserve, not what they expected to buy after their visit;
- Assumptions had to be made about expenditures on different items;
- For those items purchased, only one day's expenditure was included in the analysis, even though other surveys have found that reserves play a role in encouraging people to stay in an area for several days;
- Average expenditures for less visited reserves were assumed to be the same as for the reserves surveyed, even though previous surveys have highlighted that expenditures attributable to more remote reserves may be much higher;

As a result, these estimates of visitor spending are likely to be less precise than those of other studies investigating visitor expenditures in detail at individual reserves, and should be used with some caution. In general, they should be regarded as underestimates, as detailed visitor surveys have tended to produce higher estimates of attributable visitor spending than those derived from the 1998 reserves visitors survey.

Estimates of Annual Visitor Expenditure Attributable to RSPB Reserves

Table 4 combines estimates from the 1998 reserves visitors survey with the results of detailed surveys at Abernethy (Guffogg, 1996; Rayment, 1997), Forsinard, Titchwell, Minsmere and Leighton Moss (Rayment and Dickie, 2001).

The right hand two columns update these figures to 2000 prices and visitor numbers. A three-year average was used for visitor numbers, to adjust for annual fluctuations, especially during the foot and mouth outbreak, which closed all reserves in March 2001.

Table 4: Estimated Local Expenditures by Visitors to RSPB Reserves (£000)

| | 1998/99 Reserves Visitor Survey | | 2000/01 Estimated Impacts | |
|--|------------------------------------|--|---|---|
| | Number of Visitors, 1998/99 | Estimated visitor spending resulting from reserve visits, 1998/99 (£000) | Average number of visitors 1998/99 to 2000/01 | Estimated visitor spending at 2000 prices (£000) ¹ |
| 1998 reserves visitor survey | | | | |
| Bempton Cliffs, East Yorkshire | 44,093 | 407 | 42,217 | 406 |
| Blacktoft Sands, East Yorkshire | 23,706 | 93 | 23,010 | 94 |
| Conwy, Gwynedd | 30,043 | 259 | 26,161 | 235 |
| Dungeness, Kent | 26,176 | 207 | 22,875 | 189 |
| Fairburn Ings*, West Yorkshire | 56,202 | 373 | 52,781 | 365 |
| Lake Vyrnwy*, Powys | 33,142 | 386 | 30,513 | 370 |
| Lochwinnoch, Strathclyde | 21,825 | 76 | 24,492 | 89 |
| Pulborough Brooks, West Sussex | 28,067 | 103 | 75,479 | 289 |
| Radipole Lake, Dorset | 35,097 | 423 | 29,743 | 374 |
| Rye House Marsh, Hertfordshire | 11,084 | 39 | 10,564 | 39 |
| Sandwell Valley, West Midlands | 24,422 | 105 | 17,663 | 79 |
| Snettisham, Norfolk | 2,900 | 29 | 2,900 | 30 |
| South Stack, Anglesey | 42,844 | 418 | 37,735 | 384 |
| The Lodge, Bedfordshire | 38,275 | 155 | 37,487 | 158 |
| Vane Farm, Tayside | 46,513 | 273 | 39,610 | 242 |
| Ynys Hir, Powys | 10,726 | 120 | 11,006 | 128 |
| Detailed surveys of individual reserves | | | | |
| Abernethy, Highland (Guffogg, 1996) | 35,179 | 1,376** | 33,590 | 1,369 |
| Titchwell, Norfolk (section 9) | 137,700 | 1,800 | 127,081 | 1,731 |
| Minsmere, Suffolk (section 10) | 68,247 | 1,100 | 66,999 | 1,125 |
| Leighton Moss, Lancashire (section 13) | 92,531 | 950 | 78,456 | 839 |
| Total – Top 20 Reserves | 808,772 | 8,692 | 790,362 | 8,537 |
| Forsinard, Highland (section 5) | 4,040 | 185 | 4,460 | 213 |
| Other RSPB Reserves | 267,891 | 2,925 | 260,074 | 2,960 |
| Total RSPB Reserves | 1,080,703 | 11,802 | 1,054,896 | 11,709 |

* Note: results from Fairburn Ings and Lake Vyrnwy were based on small samples, and should not be considered reliable in their own right.

** Adjusted to 1998/99 prices and visitor numbers

¹ Estimated from average visitor numbers from 1998-2001 divided by number of visitors in 1998 multiplied by visitor spending in 1998/99 deflated at 2000 prices.

The results suggest that visitors spend at least £11.7 million per year in the local economies around RSPB reserves, as a result of visiting those reserves. This is equivalent to an average expenditure of £11.10 per visitor.

Assessing the economic impact of visitor spending

Spending by visitors' benefits a wide range of enterprises in the local area, from hotels and campsites to attractions, cafes, local transport, shops and other local businesses, resulting in additional business turnover. A proportion of this turnover is used to meet the wage costs of the proprietors and employees, **directly** supporting employment and local incomes. Businesses in direct receipt of visitor spending in turn also spend some of their turnover on purchasing goods and services from other supply businesses. These purchases in turn boost the turnover of the supplier businesses supporting additional **indirect** employment in those businesses. Finally, employees whose jobs depend directly or indirectly on visitor spending in turn spend money in shops, attractions and other local businesses, resulting in further **induced** jobs and incomes in the area.

The size of these impacts can be estimated using tourism multipliers. Ideally, local multipliers would be available for each reserve, allowing an assessment to be made of the effects of visitor spending on the local economy. These multipliers would vary to reflect differences in the structure of local economies. In practice, multipliers are only available for parts of the UK. Rayment and Dickie (2001) reviewed evidence of tourism multipliers in the UK. They concluded that most studies suggested an employment multiplier of £35,000 of local tourism spending required to support 1 FTE job, taking account of direct, indirect and induced effects.

If one assumes an average local employment multiplier of £35,000 of visitor spending required to support one full time equivalent (FTE) job across the UK, spending by visitors to RSPB reserves can be estimated to support 335 FTE jobs in the economies around reserves.

2.8 Changes in Economic Impact following RSPB Management

The issue that this study has attempted to consider is the economic impact of the RSPB acquiring and managing nature reserves. One way of doing this is to compare economic activity associated with reserves before and after the RSPB became involved in the site. This is difficult to do with any accuracy, because it is not possible to gain comprehensive historic data on employment, expenditures and visitors to these sites. Moreover, changes in land management practices and technology mean that it would be misleading to compare economic activity associated with current and past uses.

Nevertheless, where possible the case studies that follow present information about previous uses of RSPB reserves, and consider the economic impacts of these practices. Average figures for 'standard man days' for agricultural enterprises have been used where appropriate (Nix, 2002) which represent very approximately the level of employment that would be required under present farming conditions. This is very dependent on factors such as land type, level of mechanisation and the use of family labour, but is useful in giving a general comparison in the level of employment under RSPB management and under commercial farming conditions.

It is also possible to compare the total economic impact of reserves, on a per hectare basis, with that of alternative land uses. Table 5 compares employment on reserves with agriculture, forestry and grouse moors.

Table 5: Comparison of Employment on RSPB Reserves and Other Land Uses

| | Area (000ha) | Direct Employment (FTE) | FTE Jobs per 1000 hectares |
|--|--------------|-------------------------|----------------------------|
| RSPB Employment: | | | |
| RSPB reserve staff | 121 | 308 ¹ | 2.5 |
| Farmers/graziers | 14.5 | 101 | 7 |
| Employees, farmers and graziers | 121 | 409 | 3.4 |
| Employment (as above) on reserves excluding unproductive land (mudflats, water etc) ² | 58 | 409 | 7.1 |
| Agricultural Employment³ | | | |
| Total Agriculture - UK | 18,549 | 458,500 | 24.7 |
| England | 9,151 | 322,023 | 35.2 |
| Scotland | 5,189 | 55,134 | 10.6 |
| Wales | 1,493 | 50,853 | 34.1 |
| Agricultural employment in Less Favoured Areas: | | | |
| Total LFA - UK | 8,700 | 119,850 | 13.8 |
| England | 2,200 | 29,050 | 13.2 |
| Scotland | 4,600 | 47,900 | 10.4 |
| Wales | 1,100 | 42,500 | 38.6 |
| UK Forestry⁴ | 2,716 | 12,676 | 4.6 |
| Grouse Moors | 431 | 630 | 1.5 |

¹ Includes 40 FTE jobs based at HQ and regions involved in reserve management and acquisitions.

² Calculated as direct employment by reserves (employees and farmers and graziers) divided by 'productive' land i.e. that is comparable with agricultural land, excluding areas that could not be reasonably used for growing crops or grazing animals.

³ Data from 'Agriculture in the UK', DEFRA, 2001

⁴ Source: Forestry Facts and Figures 2002, Forestry Commission and National Statistics

This shows that RSPB reserves support less direct employment per hectare than agriculture, but more than grouse moor management and forestry. As reserves are often located on less productive land, comparisons with agriculture in less favoured areas, which support less employment than more intensive lowland farms, are probably most appropriate. When farming jobs are added, and activities on unproductive land such as mudflats and large waterbodies are excluded, employment on reserves averages 7.1 FTE jobs per 1000 hectares.

RSPB reserves have additional benefits in attracting visitors to rural areas. When visitor expenditures are taken into account, the employment impact more than doubles. It is also important to note that direct employment is only part of the picture for other land uses - forestry and agriculture also support visitors and have other economic impacts through purchases of inputs and processing and marketing of outputs

3 Abernethy Reserve

3.1 The reserve

Abernethy is located 30 miles south-east of Inverness. The reserve covers 12,795 hectares of pine woodland, heather moorland and montane habitats, and ranges from 200 to 1309 metres in altitude. As one of the largest remaining areas of Caledonian pine, adjacent to important upland habitats, the reserve is of significant biological importance. 112 bird species were recorded on the reserve in 1994, of which 79 bred, including a large number of nationally rare species. Notable breeders include osprey, golden eagle, crested tit, capercaillie, Scottish crossbill, dotterel, snow bunting, red squirrel, goldeneye and a wide range of waders, while important assemblages of montane plant species occur. The reserve includes 3565 ha of the Abernethy Forest SSSI and 2145 ha of the Cairngorms SSSI.

The RSPB first became involved at Abernethy in 1958, when it launched Operation Osprey at Loch Garten, with the dual aims of protecting breeding ospreys and allowing controlled access to visitors to view the birds. This was followed by a series of land acquisitions between 1975 and 1990, the largest being the purchase of the 8528 ha Forest Lodge estate in 1988.

The RSPB's management of Abernethy aims to conserve its montane and native pinewood eco-systems for the benefit of their nationally important assemblages of breeding birds, plants and invertebrates, to provide optimum conditions for vegetation recovery and forest regeneration and expansion, and to continue to run Operation Osprey and associated visitor facilities. Implementation of these policies involves non-intervention in montane areas and ancient semi-natural woodlands, but active management in relation to restoration of plantations and management of deer. However, habitat management represents only a proportion of the work undertaken by reserve staff, which also includes visitor management and education, survey and monitoring work, administration and community liaison.

The acquisition of Abernethy reserve was made possible by a series of grants from the National Heritage Memorial Fund, the former Nature Conservancy Council, the European Community, and the World Wide Fund for Nature, together totalling £1.76 million between 1983 and 1990. However, before 1996, reserve management work received very little support from public budgets. For example, in 1993 and 1994, the only grants or subsidies received amounted to a £750 grant from SNH for footpath repair.

3.2 The local economy

Abernethy is located in the district of Badenoch & Strathspey. Between 1994 and 1999, this area was part of the Highlands and Islands Objective 1 region. The Objective 1 programme provided structural assistance to reduce the disparities between the region and other areas of the EU. A range of factors including the region's peripherality, remoteness, unfavourable topography and low population density causes these disparities. Although the Highlands and Islands no longer qualify for Objective 1 status, they continue to face economic challenges and benefit from transitional support from the EU Structural Funds.

The economy of Badenoch & Strathspey is predominantly rural with a relatively large proportion of employment in agriculture, forestry, sporting and tourism related activities, and relatively few jobs in manufacturing, transport and communication. Tourism is the dominant source of jobs and incomes. While economic activity peaks during the summer, seasonal variation is reduced by the skiing industry, although this is affected by differences in

weather conditions from year to year. 3518 people were estimated to be unemployed in Moray, Badenoch & Strathspey in March 2000, some 7.6% of the economically active population. Pluriactivity – the occupation of more than one job in the course of a year by the same individual - is a significant feature of the economy, and particularly the agriculture and tourism sectors.

3.3 Abernethy and the local economy

3.3.1 Direct employment

The reserve employed a total of 21 people in 1995/6 and 22 people in 1999/2000, on a full-time, part time or contract basis. These employees completed the equivalent of 15.5 full time jobs in 1999/2000. This employment involves a wide range of activities, including wardening work, scientific research and a variety of other jobs including shop staff, a stalker, a gillie, gate attendants, forestry workers, a caterer and a cleaner. Wardens account for 55% of total hours worked.

Many of these jobs involve people from local villages. The number of jobs filled by local people totalled 8 in 1995/6 and 12 in 1999/2000. "Local" people are defined here as people living (but not necessarily born) in local villages before employment at the reserve. Employment on the reserve is strongly seasonal, with several staff being employed only between April and mid-September, when the Ospreys are at Loch Garten and when visitor numbers are highest.

In addition, volunteers completed a total of 230 days of work in 1999/2000, equivalent to 1 unpaid FTE job. Volunteers comprise two main groups: people on short stays, generally spending a week or two on the reserve in the summer, working mainly on visitor management and species protection work at the Osprey Centre; and long term volunteers, working on habitat management work on the reserve as a route towards gaining a job in conservation.

3.3.2 Spending by employees

The wages and salaries paid to reserve staff indirectly support additional employment in the local economy, as a proportion of this money is spent on local goods and services. The size of this multiplier is uncertain, but is estimated to be of the order of 1.1. This implies that an extra 0.1 induced jobs are created for each direct job. If this figure is used for Abernethy, then the 15.5 FTE jobs on the reserve can be estimated to support an additional 1.5 FTE jobs in the local economy in 1999/2000.

3.3.3 Direct reserve expenditures

Expenditure by the RSPB in managing the reserve and Osprey Centre totalled £1.8 million between 1995/6 and 2000/01. Excluding staff costs and internal RSPB transfers, expenditure totalled £646,000 over this period, an average of £129,000 per year. Half of this sum was spent on contractors' services, with the remainder spent on a variety of other goods and services.

General expenditures made in the management of the reserve include costs of travel and subsistence, maintenance and repair of buildings and equipment, office expenses, minor equipment costs and expenditures on fuel and power. Much of this expenditure is on locally

sourced goods and services and supports additional activity in the local economy. It is estimated that around 25% of this money was spent with businesses within Badenoch and Strathspey and a further 50% in neighbouring areas including Inverness, with over 90% spent within Scotland.

Using multipliers derived from the Scottish input: output tables, we estimate that this expenditure supports income of £75,000 and 4.5 FTE jobs in Scotland, taking account of direct, indirect and induced effects. This includes an estimated 2.8 FTE jobs resulting from spending on contractors, which should not be double counted with the 2.7 direct FTE contractors' jobs identified below.

3.3.4 Use of contractors

A number of contractors are used, for activities including woodland management, road maintenance, drain infilling and maintenance, repair and cleaning of buildings. Reserve management work undertaken by outside contractors totalled 618 man-days (2.7 man-years) in 1999/2000. Some of this work was paid for and managed by the RSPB, while other work was undertaken by outside contractors (such as those paying the RSPB to remove Christmas trees from Abernethy). Most of this work involved woodland management. In recent years there have also been a number of major building works and repairs involving staff accommodation and visitor facilities, and this has provided business for local construction firms.

3.3.5 Grazing lets/agricultural tenancies

The reserve has a crofting tenant, whose croft covers 11.5 hectares and supports about 50 sheep and 20 cows. In addition, there is common grazing covering 278 hectares, comprising 5 shares owned by 3 people and supporting a total of between 50 and 100 sheep. There is also a shooting let, covering 1,840 hectares, and a sawmill let, with the sawmill employing one person full time. These lets and grazing provide small amounts of income and employment to the people involved, collectively amounting to around 1.5 FTE jobs. This in turn will support approx 1.8 further jobs in the local economy.

3.3.6 Products from reserve management

Between 1996/7 and 2000/01, Abernethy reserve's annual income from sales of forest products and venison averaged £23,000 and £11,000 respectively. Income from forest products fluctuates according to the type of habitat management activity being undertaken. In 1999, the reserve produced 172 tonnes of pallet wood, 3172 tonnes of chipwood and 25 tonnes of other wood. 206 red deer and 129 roe deer were also sold to local game dealers. These sales helped to support incomes and jobs in the processing, sale and distribution of venison and forestry products.

A total of 70,000 red deer and 25,000 roe deer are processed in Scotland each year. Therefore, in 1999 Abernethy produced an estimated 0.29% of Scottish red deer and 0.52% of its roe deer output. According to a survey in 1989 (McGilvray et al, 1990), game dealers in Scotland employ 130 people on a full time equivalent basis. Of these, perhaps 75 FTE jobs are attributable to venison. If Abernethy's contribution to employment is in proportion to its share of venison production, the reserve's venison output supports 0.3 FTE jobs per year in game dealing.

Most of the reserve's timber output is in the form of roundwood used for the production of wood based panels by CSC Forest Products at Morayhill near Inverness, and Cowie near Stirling. Based on employment levels at these two plants and Abernethy's contribution to their raw material intake, the reserve's timber output is estimated to support 1.3 FTE jobs in timber processing and a further 0.4 jobs in haulage. These jobs are mainly located outside the district of Badenoch & Strathspey. There is also a question as to whether or not these jobs would continue without timber from Abernethy, which might be substituted by wood inputs from other sources.

3.3.7 Visitor spending

There is open access to Abernethy at all times, but the Forest Lodge and Cairngorm areas of the reserve have special conservation requirements and are not promoted to visitors. The Loch Garten site is widely promoted to visitors, and managed access and viewing of the osprey nest site, the Loch and the surrounding pinewoods is possible.

Visitors to the Osprey Centre totalled 72,400 in 1989, the first year for which accurate estimates are available, but have fallen since then and averaged 33,600 per year between 1998/99 and 2000/01. Visitors to the Osprey Centre are thought to comprise only about half of the total using the reserve each year, with survey work revealing that many more people visit the Forest Lodge area and the Cairngorm Plateau. In total, it is estimated that up to 70,000 people visit the reserve annually.

Guffogg (1996) estimated that expenditure attributable to the Osprey Centre and reserve in 1996 totalled £44.89 per person for holidaymakers and £4.16 per person for day-trippers. He calculated that the 46,000 annual visitors to the reserve that year spent a total of £5.8 million in Badenoch & Strathspey, of which £1.7m could be attributable to the reserve itself. There is evidence that the Osprey Centre plays an important role in encouraging people to visit Badenoch & Strathspey, even if only a small proportion of their time in the area is spent on the reserve itself.

Updating these figures to 2000 prices and visitor numbers, we estimate that Abernethy attracts £1.4 million of visitor spending into the Badenoch and Strathspey economy each year.

Visiting RSPB staff and volunteers also spend money locally. Volunteers spent a total of 230 nights at Abernethy in 1999/2000. Volunteers spend money in local pubs and shops, and, using a conservative estimate of £6 per day, this would amount to a further £1380 of local expenditure. RSPB staff on training courses spend a further 60 nights at the local hotel, spending an estimated £1800 per year in the local economy.

Based on these results, total spending by reserve visitors, volunteers and visiting RSPB staff which can be attributed to the reserve is estimated to amount to more than £1.4 million. Assuming that 1 FTE job is supported by £35,000 of visitor expenditure, and that each £1 of spending supports £0.30 of local income, these expenditures can be estimated to support 40 FTE jobs and £420,000 of local income. These figures exclude visitors who use the reserve but do not visit the Osprey Centre.

3.4 Total employment impact

Combining the various economic impacts listed above, it is estimated that Abernethy reserve supports around 65 FTE jobs (Table 6).

Table 6: Abernethy - estimated total employment impact

| | |
|-----------------------------------|-------------|
| <i>FTE jobs (1999/2000)</i> | |
| Direct employment | 15.5 |
| Spending by employees | 1.5 |
| Direct reserve expenditures | 4.5 |
| Grazing lets/agricultural tenants | 3.3 |
| Products from reserve management | 0.3 |
| Visitor spending | 40.0 |
| Total | 65.1 |

This is the current level of employment, which partly reflects short-term investment in habitat re-creation. This level of habitat management activity and employment is likely to be sustained for a further 10–15 years. In the future, the amount of habitat conversion work might be expected to fall, while there is scope for growth in visitor numbers and expenditures.

3.5 Historical Land Use and Employment

Before the RSPB acquired the Forest Lodge Estate, it was used mainly as a sporting estate, with some forestry interests. The only full time employees were one full-time keeper and a seasonal gillie. Forestry work was undertaken by contractors. It is also likely that Forest Lodge would have employed caterers and cleaners during the shooting season, and sporting guests would have spent money in the local economy during their time at the Estate.

3.6 Conclusions

The major economic impacts of Abernethy RSPB reserve come through employment of RSPB staff and contractors, and expenditure by visitors. The latter are likely to be underestimated, as our estimates are based only on surveys of visitors to the Osprey Centre. Abernethy reserve has helped to stimulate and diversify a remote rural economy in an area disadvantaged by a harsh climate and unfavourable topography. The benefits which management work at Abernethy brings to Badenoch & Strathspey's economy have been secured with very little public subsidy. The reserve demonstrates that conservation projects can bring significant economic benefits, while enhancing the landscape and biodiversity value of the area. This is in sharp contrast to other developments such as the Cairngorm funicular railway, which will damage the area's sensitive habitats and depend on large amounts of public subsidy.

4 Anglesey Reserves

4.1 The Reserves

The RSPB manages several reserves on Anglesey. South Stack is one of these reserves and is the largest and best example of maritime heathland in North Wales. The reserve supports large numbers of breeding seabirds; notably around 3200 Guillemots, 500 Razorbills and small numbers of Puffins. The reserve also supports up to 12 breeding pairs of chough, with up to 40 birds wintering. A total of 184 species of birds have been recorded within the reserve area. By far the largest colony of Silver-studded Blue butterfly *Plebejus argus* in North-west Britain is also present on the reserve.

Malltraeth Marsh is an area of rough pastures that are slowly being converted to reedbed by direct planting of reed and by natural regeneration/expansion of existing reedbeds. Around 30 ha of semi-natural grassland are managed for breeding waders. The reserve supports breeding curlew, lapwing and a good assemblage of reedbed birds such as water rail, reed warbler and sedge warbler.

Valley Lakes, are mainly managed for their winter wildfowl interest and the reedbed areas are also being expanded. Most of the reedbed work on the island is being supported by an EU LIFE programme, dedicated to providing the right breeding conditions for the rare and threatened bittern.

Finally, there is a suite of offshore islands. The islands consist of relatively low rocky outcrops supporting large numbers of breeding sea birds. They hold internationally important breeding numbers of roseate tern, and nationally important numbers of common tern and arctic tern. They also support a further seven breeding species of birds and occasionally large gulls.

4.2 Anglesey Local Economy

The Isle of Anglesey (Ynys Mon) has a population of 69,149 (1991 census). The Anglesey economy is stagnant, characterised by relatively high levels of unemployment. Unemployment in 1999 was 8.1% against the average of 4.8% across the rest of Wales. Anglesey is within the EU Objective 1 area, which provides opportunities for economic development. The economy is dependent upon the service sector for employment with 38.6% of employment in services and banking. Agriculture and forestry account for 6.4% of employment. Major issues within the local economy are relatively low levels of GDP and incomes, high unemployment, youth migration and social deprivation¹.

4.3 Anglesey Reserves and the Local Economy

4.3.1 Direct employment

Anglesey RSPB reserves employed the equivalent of 9.7 full time people in 1999/2000. Volunteers at South Stack contributed around 1196 hours of work, of which 382 hours were completed by day visitors and 814 by residential volunteers. This is equivalent to 0.7 person years of voluntary work.

4.3.2 Spending by employees

It is estimated that the 9.7 FTE employees on Anglesey indirectly support a further full time equivalent job through the spending of their wages on goods and services on the island.

4.3.3 Direct expenditure in reserve management

Expenditure by the RSPB in Anglesey on managing the reserves totalled £446,503 over the past 5 years (1996-2001). Excluding staff costs and sales goods, a total of £149,535 was spent on goods and services, an average of £29,907 spending per year. This was spent on construction work (totalling £24,000 over 5 years) and general business items. It is estimated that this expenditure supports 0.7 full time equivalent jobs in Wales, if around 70% of spending by the reserve is within the Welsh economy.

¹ Source: Anglesey County Council

4.3.4 Grazing lets and agricultural tenancies

Valley Lakes reserve on Anglesey let 56 ha of land for grazing in 2002, to four graziers. These were not all year round agreements, and thus unlikely to support significant employment in the local area.

4.3.5 Visitor Spending

RSPB reserves in Anglesey had an average of 37,735 people visiting from 1998 to 2001. Based on data obtained from the 1998 reserves visitor survey, visitors are estimated to spend around £384,000 (at 2000 prices) in the local economy each year as a result of visiting the reserve. It is assumed that every £35,000 of visitor spending supports 1 FTE job in the local economy, and thus visitor spending on RSPB reserves in Anglesey supports approximately 11 FTE jobs and £115,000 of local income (assuming that every £1 of spending supports local income of £0.30).

Very few visitors to South Stack live locally and around 80% of visitors are holidaying in the local area (1993 visitor survey). This means that visitors to Anglesey tend to spend more money in the local economy on items such as accommodation and food, than for many other reserves.

4.4 Total employment impact

It is estimated that the RSPB reserves on Anglesey support a total of 22.4 FTE jobs within the wider Anglesey economy.

Table 7: Anglesey reserves - estimated total employment impact

FTE jobs (1999/2000)

| | |
|-----------------------------------|-------------|
| Direct employment | 9.7 |
| Spending by employees | 1.0 |
| Direct reserve expenditures | 0.7 |
| Grazing lets/agricultural tenants | 0 |
| Visitor spending | 11.0 |
| Total | 22.4 |

4.5 Conclusions

The RSPB reserves on Anglesey contribute to the local economy mostly through direct employment and through visitor spending on the island. The reserves are an important visitor attraction, and help to bring benefits to an area in need of economic regeneration.

5 Forsinard

5.1 The reserve

Comprising 7,000 hectares of blanket bog, the deep peatlands of Forsinard Reserve lie at the heart of the internationally important Flow Country of Caithness and Sutherland. Birds, including golden plover, dunlin, greenshank, hen harrier and merlin, breed on the reserve. A variety of interesting plants, such as sundews and bogbeans, dragonflies and other insects can

be seen. Access is provided via a visitor centre at Forsinard railway station, a bog pool trail, regular guided walks and roadside viewing.

The RSPB acquired Forsinard Reserve in 1995, following a highly successful public appeal, and with co-funding from the EU LIFE Nature programme. The reserve has subsequently been expanded, with a number of extensions being co-funded by the Heritage Lottery Fund. In February 1999, the RSPB increased its peatland land holding in Caithness and Sutherland by acquiring Blar nam Faoileag Reserve (2,247 ha) and entering into a management agreement with the owner of Strathmore Estate (2,005 ha). In spring 2001, the acquisition of Dorrery Estate and part of Dorrery Farm was announced. This acquisition benefited from funding from the Heritage Lottery Fund, and forms part of a £2.8 million project to restore areas of damaged blanket bog, co-funded by the EU LIFE Nature Programme.

5.2 The local economy

Forsinard is within the Caithness and Sutherland District and is a sparsely populated region, with a population density averaging only 5 persons per square kilometre, compared to 9.5 in the Highlands and Islands Enterprise area, and 65.5 in Scotland as a whole. The area also has a declining and ageing population. The economies of Caithness and Sutherland are highly dependent on tourism, with 25% of employment being in the distribution, hotel, and restaurant sector. As a result, unemployment rates, which are above the average for the Highlands and Islands, show a strong seasonal pattern. Other dominant industries are public administration (29% of employment) and financial services (19% of employment)².

5.3 Forsinard and the Local Economy

5.3.1 Direct employment

RSPB Forsinard Reserve itself provides direct employment totalling 3 FTE jobs. These include a Peatlands Reserve Manager, a Warden, and seasonal staff to clean and staff the visitor centre, conduct surveys of breeding birds and to supervise school visits. Current levels of employment are expected to increase with the recruitment of a Warden to manage the Dorrery Reserves, on a six months per year basis.

In addition, new peatland management work, co-funded by the EU LIFE Nature programme, will employ an additional staff member (LIFE Reserves Officer) for four years, based at Forsinard Reserve. The RSPB employs a North Highland Conservation Officer, based at Golspie, part of whose work covers the peatlands, and will shortly be recruiting an additional new staff member in Golspie to manage the work co-funded by the LIFE Nature programme.

A residential volunteer warden also works for around 300 hours/year, equivalent to 0.2 person years.

5.3.2 Spending by employees

Spending by the 3 FTE employees on the reserve is estimated to support a further 0.3 local FTE jobs.

² Source: Highlands and Islands

5.3.3 Direct reserve expenditures

Over the past 5 years, since 1996 the RSPB has spent £288,399 on the Forsinard reserve. Discounting staff costs and internal transfers from this total, direct expenditure was £98,800 over this period or an average of £19,760 per year. This was spent predominantly on construction, gas and general business costs.

It is estimated that 50% of this money was spent with businesses within the Caithness and Sutherland District and 90% was spent within Scotland. Therefore, using multipliers derived from the Scottish input: output tables, this expenditure is estimated to support around 0.7 FTE jobs in Scotland, taking account of direct, indirect and induced effects.

5.3.4 Use of contractors

Deer management work on the reserve is contracted out to a neighbouring estate and trout fishing rights are leased to Forsinard Hotel. All ongoing habitat management work (including fencing, drain blocking and tree felling) is undertaken by local contractors.

5.3.5 Grazing lets and agricultural tenancies

Forsinard reserve lets out 1,268 ha of land to 2 farmers. It is estimated that these farmers then support spending in the local economy equivalent to around a further 2.4 jobs.

5.3.6 Visitor spending

Due to the remote nature of this reserve, visitor numbers are relatively low, averaging 4,460 per year over the past 3 years.

MacPherson Research was commissioned by the LIFE Peatlands Project to analyse and report on the findings of a survey of visitors to RSPB Forsinard reserve completed in 1997 (MacPherson Research, 1998). The 1997 survey followed a pilot survey the previous year. A self-fill questionnaire was used to collect information about visitors and their motivations and expenditures. A total of 225 questionnaires were completed in the 1997 survey, representing a total of 696 visitors to the reserve (as one questionnaire was completed per party). The survey captured 460 non-local visitors, almost 11% of the total estimated visitors to the reserve in 1997.

The survey found that:

- 80% of respondents came from outside the Highlands and Islands, with 20% coming from other parts of Scotland, 53% from England, and 5% from overseas;
- Over 90% of visitors had planned to visit the reserve, while only 8% found it by chance;
- 48% of visitors learnt of the reserve through Birds, the RSPB magazine;
- 68% of groups visiting the reserve contained at least one RSPB or YOC member;
- 91% of visitors from outside the area went bird or nature watching during their holiday trip.

The survey found that the wildlife of the area in general, and the RSPB reserve in particular, play an important role in attracting visitors. Of non-local respondents, 27% stated that the reserve was the single main reason for their visit to the area, a further 21% said that it was a significant reason, and only 15% that it was not a reason. Furthermore, 33% stated that the wildlife interest of the area was the main reason for their visit, and 41% that it was a

significant reason. Of non-local visitors, 12% "definitely" stayed in the area longer as a result of the reserve, and 25% "probably" or "possibly" stayed longer - most by a single day.

Most respondents expressed an intention to visit the area again, with 31% claiming their visit had definitely encouraged them to visit on another occasion, 26% saying they would "probably" and 29% "possibly" visit again, and only 6% saying they would not visit the reserve again.

Non-local respondents stayed an average of 6.5 days in Caithness and Sutherland, and spent an average of £24.58 per person per day in the area. Almost 42% of local expenditure was on accommodation, with 29% on food and drink, 19% on transport and 10% on other items.

Combining information on visitor numbers and expenditures, and motivations for visiting the area, MacPherson Research concluded that a reasonable estimate of the extra visitor spending that Forsinard reserve brought to Caithness and Sutherland in 1997 would be £185,000. MacPherson Research considered that this positive impact could be expected to increase in future years, given the stated intention of many visitors to make further visits in future.

It is estimated that expenditure attributable to the reserve is around £47.7 per person (in 2000 terms) and thus Forsinard attracts around £213,000 worth of visitor spending into the local economy each year. Visitors bring relatively high levels of spending to the local area as they spend money on accommodation and food due to the remote nature of the reserve and the area in general.

This level of visitor spending in the local area is estimated to support 6.1 FTE jobs and £64,000 of local income.

5.4 Total employment impact

Table 8: Forsinard reserve - estimated total employment impact

FTE jobs (1999/2000)

| | |
|-----------------------------------|-------------|
| Direct employment | 3.0 |
| Spending by employees | 0.3 |
| Direct reserve expenditures | 0.7 |
| Grazing lets/agricultural tenants | 4.4 |
| Visitor spending | 6.1 |
| Total | 14.5 |

5.5 Historical land use and employment

It is estimated that when the RSPB took over management of the reserve, the number of employees working on the estate was maintained at around 3 full time workers. The main change in land management was to halt the grouse shoot and falconry enterprises. Permanent RSPB staff represent additional jobs that have been created in the local area.

5.6 Conclusions

The peatlands of Caithness and Sutherland have been threatened in the past by afforestation and drainage, with economic development arguments often used to support damaging projects (Bainbridge *et al*, 1987). This case study demonstrates that the conservation and

enhancement of this internationally important habitat also brings benefits to the local economy. New work to restore the peatlands is creating additional employment opportunities in an area of relatively high unemployment.

Forsinard Reserve has the potential to attract many more visitors, and to increase its contribution to the local economy by encouraging them to spend more money locally. This would also enhance people's understanding and awareness of this precious area. The proximity of the reserve to Forsinard railway station offers opportunities to attract people to the reserve with minimal impact on the area's outstanding environment. Better promotion of the reserve to RSPB members and other wildlife enthusiasts, through *Birds* and other wildlife magazines, could help to encourage this, especially if the RSPB works in partnership with ScotRail and local hotels to provide a package of information to visitors.

6 Geltsdale

6.1 The reserve

Geltsdale RSPB reserve conserves the most northerly example of heather moorland in the North Pennines, and the largest of its kind in Cumbria. It contains a typical upland mosaic of blanket bog, heaths and acidic grassland, bordered by agriculturally improved fell-bottom meadows, rough pasture and bracken. Elements of semi-natural woodland are evident in ghylls and along watercourses. The vegetation can be classified as semi-natural, heavily modified by long periods of burning, grazing by sheep and local drainage attempts. This has probably influenced the diversity of vegetation types present (32 NVC communities).

The 4,451 hectare site reflects traditional upland management through sheep farming, game management and conservation. The high plateau (>500m) and ridges hold breeding concentrations of characteristic upland birds such as golden plover and dunlin with good populations of curlew on the lower slopes. Where the moorland is managed, red grouse are widespread and black grouse populations are being increased through habitat management along the moorland edge. The area supports nationally important breeding populations of merlin and one of only two regular nesting sites of hen harriers in England. Otters have recently recolonised the site.

The RSPB manages Geltsdale as a nature reserve by agreement with two other owners and farming tenants, the Society owning the sporting rights for the whole site and 2,000 hectares in-hand.

6.2 The local economy

Geltsdale is within the Carlisle district of Cumbria. Cumbria had a population of 491,039 people in 2000, of whom around 100,000 live in the Carlisle district. Cumbria is a very sparsely populated, rural region with a population density of 0.7 per hectare, and 12% of employment is directly and indirectly involved in agriculture. The other main sector of the local economy is tourism, which employs 11% of the Cumbrian workforce³. The county was one of the worst affected by the foot and mouth epidemic of 2001, but as a result many businesses and local areas have benefited from development grants. Some of the key issues for the region are dependence on agriculture and tourism as mainstays of the economy, an

³ Source: Cumbria County Council

ageing population and social 'exclusion' and deprivation resulting from sparse population density, low incomes and a shortage of rural services.

6.3 Geltsdale and the Local Economy

6.3.1 Direct employment

Geltsdale has 4.5 full time employees. No volunteers work on this reserve.

6.3.2 Spending by employees

There are 4.5 FTE jobs at Geltsdale and the spending from these employees in the local area is estimated to support another 0.5 FTE job.

6.3.3 Direct reserve expenditures

Expenditure by the RSPB in managing the Geltsdale reserve amounted to £455,000 between 1995/6 and 2000/01. £209,585 of this was spent on direct management cost items (not staff costs) including agricultural expenditure, retail distribution and transport services, this is an average spending level of £41,900/yr. If 70% of this spending remained in the region, spending on direct reserve management is estimated to support 1.0 FTE job in the local economy and support around £17,000 of local income.

6.3.4 Grazing lets and agricultural tenancies

Both Geltsdale Farm and Haltonlea (3,200 ha) have been converted to organic production. 89 hectares of the reserve are in a Countryside Stewardship agreement and Geltsdale is subject to a Wildlife Enhancement Scheme with English Nature. There are 2 agricultural tenancies with off-site landlords – Geltsdale farm has 2,630 ewes and 40 suckler cows, while Tarn House was taken out in a pre-emptive FMD cull before acquisition by the RSPB. The Society owns and manages the remainder of the reserve, 510 hectares at Haltonlea, which is grazed in-hand by 400 ewes.

6.3.5 Visitor spending

There are no formal visitor arrangements for the Geltsdale reserve and therefore no official visitor numbers or spending figures are available.

6.4 Total employment impact

Due to the informal access arrangements to this reserve, the impact on the local economy that can be calculated is limited to the impacts of direct employment and direct expenditure on reserve management.

Table 9: Geltsdale reserve - estimated total employment impact

| | |
|-----------------------------------|------------|
| <i>FTE jobs (1999/2000)</i> | |
| Direct employment | 4.5 |
| Spending by employees | 0.5 |
| Direct reserve expenditures | 1.0 |
| Grazing lets/agricultural tenants | 0 |
| Visitor spending | 0 |
| Total | 6.0 |

6.5 Historical land use and employment

Prior to the RSPB's involvement with management of the Geltsdale reserve the land was farmed predominantly with sheep and a few cattle. It is estimated that at current average labour requirements (Assumes 0.4 standard man days per ewe, Nix 2002) an estate such as this would employ around 5-6 people.

6.6 Conclusions

The economic impacts of Geltsdale RSPB reserve are consistent with the management of a traditional upland estate. However, the impact on the local economy is likely to be underestimated, as it has not been possible to calculate the impacts of visitor spending in the local area.

In the future, the reserve hopes to market organic lamb, and this will help to add value to basic agricultural produce. In an area dependent on basic agricultural commodities projects that are able to add value are important in diversifying local income and in attracting interest and spending in the local area.

7 Loch Gruinart

7.1 The reserve

Loch Gruinart is a shallow sea loch on the north west of Islay. At its mouth Loch Gruinart is bordered by the dynamic sand dune systems of Ardnave and Killinallen; at its head, there is an area of intertidal salt marsh, a sea wall and a large expanse of grassland claimed for agriculture in the 19th century.

The reserve covers 1,667 hectares and comprises three main habitat types; heather moorland/blanket bog/acidic grass mosaic, re-seeded and semi-improved grassland, and intertidal mudflats and salt marsh. These support up to 50% of the world population of Greenland barnacle geese and up to 4% of the world population of Greenland white-fronted geese, as well as nationally important numbers of corncrakes, hen harriers, shovelers, wigeon, common scoters and garganey. A range of scarce species including chough, barn owl and redshank are also present as well as lapwings, which are increasingly under pressure in the UK.

The RSPB manages the reserve with its own farming operation based on a 250 suckler cow herd and a 200 ewe sheep flock, with areas of arable production used for animal feed.

7.2 The local economy

Located on Islay, Loch Gruinart is within the 'Argyll and Islands' region of Scotland. The region had a population of 69,015 in 1998, which is declining in many local areas due to population migration. The population is ageing with the number of people over 85 years increasing and those less than 44 years declining. The local economy of Argyll and the islands is centred around the service sector. 30% of employment is in distribution, restaurants and hotels and 27% of the workforce are employed in public administration, education and health. Less than 5% of employment is from agriculture. Unemployment on the islands is generally higher than the mainland at about 6% and is very seasonal, due to the reliance on the tourism industry⁴.

7.3 Loch Gruinart and the Local Economy

7.3.1 Direct employment

Loch Gruinart employs 8 full time and two part time staff. This is equivalent to 8.75 full time jobs. In addition to this, 6,000 hours per year are contributed by volunteers, this is equivalent to 3.5 person years of volunteer work.

7.3.2 Spending by employees

Spending by the reserve staff indirectly supports additional employment in the local area equivalent to about 0.9 full time jobs.

7.3.3 Direct reserve expenditures

£1.8 million has been spent on reserve management and staffing of the Loch Gruinart reserve between 1995/96 and 2000/01. £1.17m of this was spent on direct running expenses including agriculture (£204,800 over 5 years), feedstuffs for livestock (£142,900), retail distribution (£197,000), transport services (£106,800), health and vet services (£94,500) and general business costs (including contractors). This expenditure is equivalent to £234,000/yr and is estimated to support employment in Scotland to the equivalent of 6.8 full time jobs.

7.3.4 Use of contractors

Contractors are used for some of the farming operations such as making silage and fencing. A contract shepherd is also used during busy lambing/calving periods. Expenditure on contractors amounts to around £20,000/yr and all contractors employed are from Islay and thus the money is spent within the local economy. The employment impact from this are included in the total above for 'direct reserve expenditure'.

7.3.5 Grazing lets and agricultural tenancies

The RSPB runs an in-hand farming operation at Loch Gruinart, to ensure proper and full management of the habitats on the reserve. In addition, in 2002, 23 ha of land were let to one grazier. A farmer also has a full agricultural tenancy on the Loch Gruinart reserve covering 18.63 ha. These areas of land are insufficient to employ a farmer full time and are likely to be additions to a farmers' main holding.

⁴ Source: Argyll and Islands Enterprise

7.3.6 Visitor spending

Loch Gruinart reserve and visitor centre attracts around 6,000 visitors/yr. Average spending per visitor is not available and thus the average spending/visitor for RSPB reserves is used, which is £11.10. Thus, the reserve is estimated to attract annual spending of around £66,600 (at 2000/01 prices). This has the effect of supporting around 1.9 FTE jobs and £19,980 of local income in the Argyll region.

7.4 Total employment impact

Table 10: Loch Gruinart reserve - estimated total employment impact

FTE jobs (1999/2000)

| | |
|-----------------------------------|-------------|
| Direct employment | 8.8 |
| Spending by employees | 0.9 |
| Direct reserve expenditures | 6.8 |
| Grazing lets/agricultural tenants | 0 |
| Visitor spending | 1.9 |
| Total | 18.4 |

7.5 Conclusions

Loch Gruinart reserve supports employment in conservation management, farming operations and by attracting visitors. The internationally important and spectacular flocks of wintering geese have been accused of damaging Islay's agricultural economy, but represent a significant visitor attraction, helping to extend the island's tourism season into the winter months (RSPB/BASC, 1998). Agriculture is a relatively small sector of the local economy and this reserve helps to successfully combine the functions of agriculture and sensitive land management, while attracting visitors to the area.

8 Lake Vyrnwy

8.1 The reserve

The main part of this reserve, close to the England/Wales border near Oswestry, covers 9,474 ha of a water catchment area owned by Severn Trent Water (STW). The catchment consists of a flooded valley with the lower slopes planted with commercial conifer plantations and the higher parts of the reserve predominantly heather moorland and blanket bog. This moorland makes up a large part of the Berwyn SSSI, which represents the largest block of this habitat left in Wales.

The reserve is one of only four upland blocks in Wales containing a range of upland habitats (heather moorland and blanket bog) and most of the characteristic upland birds. RSPB involvement in the site provides an opportunity to maintain the geographical range of these upland bird species and the range of habitats.

Most of the reserve, apart from 534 hectares freehold (Cerniau) and 82 hectares leasehold, is managed by the RSPB in partnership with STW, Forest Enterprise and the Countryside

Council for Wales. As a result of a recent ten year farming partnership agreement with STW, RSPB has control of the grazing and farming regime, offering a big opportunity to continue to restore heather over a large area of upland that has suffered from over-grazing. The reserve demonstrates the integration of wildlife conservation in the uplands with farming and forestry.

8.2 The local economy

Lake Vyrnwy is located in Powys, Wales. Powys is a rural region that is highly dependent on agriculture. Around 20% of the population rely directly and indirectly on agriculture for their living and the area is highly dependent on primary production, with very little value added to products. Because of this, the region has low economic output with GDP from the region 24% lower than the EU average. The key economic and social issues facing Powys are low output and an over dependence on primary production, low incomes, rural poverty, and a rural, sparse population with poor access to public transport facilities, contributing to isolation and social exclusion⁵.

8.3 Lake Vyrnwy and the Local Economy

8.3.1 Direct employment

In 2000/01 employment on the Lake Vyrnwy reserve comprised 4 full time staff, 6 staff on a part time basis and 9 staff on short term contracts, equivalent to a total of 9.2 full time jobs. In addition, volunteers contribute around 2,000 hours/year to work on the reserve, equivalent to 1.2 person years annually.

8.3.2 Spending by employees

The 9.2 FTE jobs on the reserve indirectly support an estimated 0.9 additional FTE jobs in the local economy, as a result of employee spending on goods and services in the Powys area.

8.3.3 Direct reserve expenditures

Expenditure from 1995/96 –2000/01 on the Lake Vyrnwy reserve totalled £889,400. £195,000 (equivalent to £39,000/yr) of this was spent on direct costs, excluding staffing, for items such as construction, transport and retail distribution. It is estimated that 70% of spending on goods and services benefits businesses in Powys, and therefore this expenditure supports an additional 1.0 FTE job in the Welsh economy.

8.3.4 Use of contractors

Contractors are used to assist the farm staff. Annual spending on contractors is estimated to be around £40,000 and this includes shearing, away wintering ewe lambs, haulage and JCB hire, harvesting, fencing and casual labour. The total number of jobs supported by this expenditure is included in the 'reserve expenditure' total to avoid double counting.

⁵ Source; Powys County Council

8.3.5 Grazing lets and agricultural tenancies

The majority of the reserve is managed in partnership with Severn Trent Water and the Countryside Council for Wales. However, there are 7 large agricultural tenancies within the reserve, and 8 small holdings, mostly sheep operations with a few beef cattle, and these cover approx 2,107 ha. There are 6 full time farmers on the reserve. These operations will then also have indirect and induced benefits to the local economy equivalent to around a further 7.3 jobs.

8.3.6 Products from reserve management

4,854 ha of the reserve has been farmed by RSPB/Severn Trent Water with the RSPB staff supervising STW farm staff and taking responsibility for day to day farm management.

However, the RSPB has not marketed any of this agricultural produce directly.

A new deal is currently being signed however, and the RSPB will take charge of the farming activities at Lake Vyrnwy with no STW employees. In the future therefore, the RSPB will market agricultural produce (organic lamb) and this will increase the impacts of the reserve on the local economy.

8.3.7 Visitor spending

In 2000/01 Lake Vyrnwy reserve had 26,145 visitors. Since 1998/99 the average number of visitors has been 30,513 people/yr. Using results obtained from the 1998 RSPB reserve visitors survey, average spending per visitor is estimated to be around £12.14 at 2000/01 prices. Lake Vyrnwy is therefore estimated to attract around £370,000 of visitor spending/year.

Assuming that 1 FTE job is supported by £35,000 of visitor expenditure, spending at Lake Vyrnwy supports 10.6 FTE jobs in the local economy and supports local income of around £111,000.

8.4 Total employment impact

Table 11: Lake Vyrnwy reserve - estimated total employment impact

FTE jobs (1999/2000)

| | |
|-----------------------------------|-------------|
| Direct employment | 9.2 |
| Spending by employees | 0.9 |
| Direct reserve expenditures | 1.0 |
| Grazing lets/agricultural tenants | 13.3 |
| Visitor spending | 10.6 |
| Total | 35.0 |

8.5 Historical land use and employment

If the reserve had been maintained solely as an agricultural holding grazing sheep and cattle, it is estimated that this would currently provide employment for about 5 people.

8.6 Conclusions

Direct employment and visitor spending are of primary importance in this example. The 10.6 full time equivalent tourism jobs are of great importance to the local economy, in an area of limited employment opportunities and over-reliance on agriculture. The management of

Lake Vyrnwy, and services provided to visitors, have helped to generate a significant impact on the local economy, exceeding that which would be expected from agricultural management alone.

Production and marketing of organic produce by the reserve is expected to increase this impact in the near future and provide greater benefits to the local area.

9 Mersehead

9.1 The reserve

Formerly a mixed arable/grazing farm near Dumfries, the site covers 993 ha including Mersehead Sands. The 19 habitat types, including intertidal mudflats, sand dunes, saltmarsh (merse), wet grassland, wet reedswamp and water courses, unimproved/improved grassland and arable, support over 150 species of vascular plant (1 nationally scarce and 20 regionally important species). Mersehead holds internationally important numbers of Svalbard barnacle geese and pintail and nationally important numbers of great crested grebe, teal, scaup, oystercatcher and common gull.

Biological surveys have revealed a very diverse beetle fauna including the nationally notable *Amara fulva*. Mersehead is also the only site known in Scotland for the money spider *Mecopsithes pensii* and there are populations of UK BAP priority species, brown hare, European otter, harbour porpoise, pipistrelle and noctule bats. Natterjack toads have been introduced to the reserve.

The site is managed with a mixture of arable and grazing lets to provide suitable conditions for the key bird species. Reed bed and wetland have been created on some previous arable fields, supported by grants from EU and Scottish government sources.

9.2 The local economy

Mersehead is in the Dumfries and Galloway region of Scotland. This is a rural area with 70% of the land area used for agriculture (mainly dairy and livestock production). There is also a high level of woodland coverage in the region, at around 24%. The second largest sector in the local economy is tourism. The region has approximately 800,000 visitors per year and in 1997 generated £75.2 million of tourism revenue. There is also a small fishing industry within the region employing around 200 people. The rural nature of the region has given rise to a number of 'downstream' industries such as food processing, engineering and livestock feed. A key concern for the region is low-income levels due to the reliance on 'traditional' sectors such as agriculture. The economy is also characterised by high levels of self-employment, which is over twice the national average. The population of 145,800 people is increasing slowly but ageing ⁶.

9.3 Mersehead and the Local Economy

9.3.1 Direct employment

Mersehead reserve employs 2 permanent full time staff and 2 contract staff, amounting to 3 FTE jobs. 317 voluntary hours (0.2 person years) also contributed towards reserve management in 2000/01.

⁶ Source: Dumfries and Galloway Council

9.3.2 Spending by employees

The spending of wages and salaries within the local economy by the reserve staff is estimated to support an additional 0.3 FTE job in the Dumfries and Galloway region.

9.3.3 Direct reserve expenditure

The RSPB has spent £606,622 on managing the Mersehead reserve in the past 5 years. Around £337,000 (an average of £67,400/yr) of this spending was on direct management costs such as business services, including contractors and retail distribution, of which 60% was estimated to be spent in Dumfries and Galloway, and 80% in Scotland. This level of direct expenditure is estimated to support 2.0 FTE jobs in Scotland.

9.3.4 Grazing lets and agricultural tenancies

The RSPB let grazing on 91 ha of land (2002) for 6-7 months a year and also let some arable ground (for farmland bird food) – providing about £5,000 of income per year. This amount of agricultural land is unlikely to support a full time farmer, as grazing is not let all year round.

9.3.5 Visitor spending

In 2000/01 (the first year for which figures are available), 20,732 people visited the reserve. The average level of spending attributable to visits to the reserve is assumed to be £11.10 per person (the average spend per visitor to RSPB reserves). Therefore, the reserve is estimated to have attracted spending of around £230,100 in 2000/01. This level of spending supports an estimated £69,000 of local income and 6.6 FTE jobs, assuming that £35,000 of spending supports 1 FTE job.

9.4 Total employment impact

Table 12: Mersehead reserve - estimated total employment impact

FTE jobs (1999/2000)

| | |
|-----------------------------------|-------------|
| Direct employment | 3.0 |
| Spending by employees | 0.3 |
| Direct reserve expenditures | 2.0 |
| Grazing lets/agricultural tenants | 0 |
| Visitor spending | 6.6 |
| Total | 11.9 |

9.5 Historical land use and employment

Prior to being purchased by the RSPB, Mersehead was an intensive arable/stock farm, comprising 51 ha of improved grassland, 126 ha of arable land and 105 ha of dunes, saltmarsh and intertidal areas. Under current farming conditions, a holding such as this would be likely to employ only 1-2 people full time.

9.6 Conclusions

Mersehead is a relatively new reserve, which has an increasing and locally significant economic impact. Visitor numbers are expected to increase in coming years, following construction of a new visitor centre, and as management work increases the reserve's wildlife interest.

10 Minsmere

10.1 The reserve

Minsmere lies on the Suffolk coast between Felixstowe and Lowestoft. The local area is predominantly rural, and has a range of designations, including Rural Development Area, Area of Outstanding Natural Beauty and Heritage Coast. Minsmere became an RSPB reserve in 1947, when breeding avocets were first noted. The reserve now covers 935 hectares of a variety of habitats, including heathland, farmland, reedbed, coastal lagoons, dunes, grazing marshes, saltmarsh, shingle beach and woodland.

As a result of its habitat diversity, Minsmere supports a larger variety of birds than any other area of its size in the UK, with between 85 and 100 species breeding annually. It is a SSSI, Ramsar site, Special Protection Area (under the EU Birds Directive) and candidate Special Area of Conservation (under the Habitats Directive). Minsmere supports important breeding populations of bittern (20-25% of UK population), bearded tit, marsh harrier, woodlark, dartford warbler, nightjar, little tern, avocet, water rail and gadwall. In winter, important numbers of white fronted goose, water pipit, hen harrier and red-throated diver are present. In addition, Minsmere hosts a range of interesting invertebrates, mammals, reptiles and amphibians, including natterjack toads.

10.2 The local economy

Minsmere is located near Saxmundham on the Suffolk coast. The Suffolk Coastal District has a population of 121,200 people (1998) of which 2,400 live in Saxmundham, and 500 in Westleton (closest village to the reserve). Key industries in the local area are transport (27% of employment), distribution, hotels and catering (21%), manufacturing (10%), banking and finance (9%) and agriculture (5%). The unemployment rate is 1.8%. Tourism is an important industry in the area, with Suffolk Coastal District attracting an estimated 5.9 million visitors in 1999 (Suffolk County Council, 1999). The County Council aims to promote tourism in the area in order to increase employment, while maintaining and enhancing the quality of the environment.

The area contains two nuclear power stations at Sizewell. A compensation package, creation of local employment and a visitor attraction (about 40,000 people/yr visit Sizewell) have all resulted from the power stations. The area also has benefited from a £585,000 grant from the government's single regeneration budget. This has been used to help local businesses with R&D grants, web page development, business counselling and training⁷.

⁷ Source: Suffolk Coast District Council

10.3 Minsmere and the Local Economy

10.3.1 Direct employment

11 permanent staff are employed on the reserve, including the site manager, livestock, heathland and wetland wardens, a catering manager and visitor centre manager and assistant. There are also 12 part time staff, who are employed on a contract basis. Staffing at the reserve is the equivalent of 17 full time jobs. In addition to this, volunteers contributed a further 8,836 hours (5.1 person years) in 1999/00.

10.3.2 Spending by employees

Spending by the 17 FTE staff at Minsmere is estimated to have supported an additional 1.7 FTE jobs in the local economy in 2000/01.

10.3.3 Direct reserve expenditure

The RSPB has spent £3 million in the past 5 years (1995/96-2000/01) on managing Minsmere nature reserve. £884,282 has been spent on direct management costs (excluding staff costs and internal transfers), which is the equivalent of £176,856 expenditure per year. It is estimated that 53% of this sum was spent in Suffolk, and a total of 70% in the East of England region. The majority of these costs were construction work, hotels, catering and retail distribution along with general business costs. This level of spending is estimated to support around 4.3 FTE jobs in the Eastern regional economy.

10.3.4 Grazing lets and agricultural tenancies

In 2002, 5 grazing licences have been let on the reserve. These cover 90 ha and generate an income of around £5,000. A farm business tenancy on an additional 33ha is also let. These 123 ha of land are likely to support at least 1.5 FTE jobs in farming (assuming livestock are kept). This would then support a further 1.8 FTE jobs in the local economy.

10.3.5 Visitor spending

The numbers of visitors to Minsmere increased from 39,000 in 1986 to 84,000 in 1997/8. A new visitor centre, with education and conference area, was opened in 1996. Other visitor facilities include a car park, picnic area, tearoom, shop, observation hides, wildlife trails, information displays and organised events. Adult visitors who are not members of the RSPB are charged £5 to enter the reserve.

A survey of visitors to Minsmere was conducted during a five-week period between 13 July and 18 August 2000, as part of an MSc dissertation project (Astman, 2000). The survey found that:

- 49% of visiting parties were staying in the study area, 27% were residents of the area, 10% were on a day trip from a holiday base outside the area, and 14% were on a day trip from home;
- staying visitors spent an average of 4.6 nights in the study area;
- 85% of respondents were RSPB members;
- 96% of visitors were UK residents, with 41% living in East Anglia;
- 90% of parties arrived by car.

When asked about the importance of the reserve in their decision to visit the study area, 52% of non-local respondents indicated that the reserve was the main reason for visiting the area, 38% said that it was one of the reasons for their visit, while 10% had not decided to visit the reserve until they reached the vicinity.

Astman estimated spending by visitors to the reserve as follows:

- Visitor spending in the study area averaged £49.58 per party and £16.68 per visitor on the day of their visit to Minsmere;
- 36% of spending was on accommodation, 27% on food and drink, 17% on gifts and souvenirs, and 13% on travel;
- Holiday-makers spent an average of £27.65 per person per day in the study area, and day-trippers £12.98 per person per day;
- Average daily spending for holiday-makers varied by accommodation type, ranging from £10.55 for those visiting friends and relatives to £47.91 for those staying in a hotel or inn;
- Holidaymakers spent an average of £128 in the study area over the course of their trip.

Astman estimated visitor expenditures that could be attributed to the reserve itself by combining visitor spending results with information about the importance of the reserve for visiting the area. Astman estimated that average daily spending of £15.07 per holiday-maker, £10.45 per holiday-maker staying outside the area making a day-trip to Minsmere, and £3.45 per day-tripper from home could be attributed to the site.

Using Astman's survey data, Rayment and Dickie (2001) estimated that in 2000:

- Visitors to Minsmere from outside the study area spend £0.9 million in the study area on the day of their visit to the reserve;
- These visitors spend a total of £2.4 million in the study area over their trip as a whole;
- Total visitor expenditures of £1.1 million can be attributed to the presence of the reserve itself.

Since 1998/99, Minsmere has had an average 67,000 visitors per year. The average spend per visitor attributable to the reserve is estimated to be £16.80 at 2000/2001 prices. Based on these results it is estimated that visitors to Minsmere spend £1.13m per year. This is estimated to support £338,000 of local income and 32.1 FTE jobs.

Astman also conducted a postal survey of 23 local businesses, including accommodation providers, pubs, a restaurant and a tearoom. Fourteen replies were received. These revealed that:

- Six respondents estimated that Minsmere was responsible for 0-19% of their business; three that it accounted for 20-39%; one 40-59%; two 60-79% and two 80-100%;
- In total, responses indicated that between £110,000 and £434,000 of turnover in these businesses could be attributed to Minsmere reserve;
- Advertisements in Birds magazine and recommendations from friends or relatives were considered the most important means by which customers found them;
- 40% of businesses "strongly agreed" that Minsmere brought them extra custom, 60% "agreed" and 0% "disagreed";
- Respondents generally reported a very high level of satisfaction among reserve visitors, with the main problem being that some visitors arrive without knowing that the reserve is closed on Tuesdays.

10.4 Total employment impact

Table 13: Minsmere reserve - estimated total employment impact

FTE jobs (1999/2000)

| | |
|-----------------------------------|-------------|
| Direct employment | 17.0 |
| Spending by employees | 1.7 |
| Direct reserve expenditures | 4.3 |
| Grazing lets/agricultural tenants | 3.3 |
| Visitor spending | 32.1 |
| Total | 58.4 |

10.5 Historical land use and employment

Minsmere reserve was previously agricultural and sporting land. A duck shoot was previously held on the land (prior to 1977) and 2 gamekeepers were employed. However, the majority of the land was used for arable farming and grazing livestock. Arable areas are still farmed under contract to the RSPB, but the employment impact from this is minimal as the contractor is highly mechanised and owns large amounts of arable land in the area. The RSPB has maintained stocking levels on the reserve and thus the employment impact has been maintained, but the shepherding is now undertaken by the RSPB.

10.6 Conclusions

As one of the most popular RSPB reserves, Minsmere has a significant role within the local economy. The reserve supports substantial levels of direct employment, while the visitors it attracts to the area play a vital role in supporting local businesses, especially those providing accommodation and food and drink.

11 Otmoor

11.1 The reserve

Otmoor is a flat, low-lying area of c.1400 ha forming a basin surrounded by higher ground which once served as the flood-plain of the River Ray and its tributaries. Traditionally, the area was an extensive wetland which flooded in winter and was grazed in summer.

Starting in 1969, the area (including the reserve) was extensively drained and converted to pump drained arable farmland. Much of the area including the reserve is now embanked and hydrologically isolated from the river. The Ray still floods extensively in some winters but the flood waters are now usually short-lived and have little effect on the reserve. The Otmoor SSSI is adjacent to the reserve and still supports neutral unimproved grassland. In some areas, there are local soil differences which support more calcareous and acidic plant communities.

The majority of the reserve was under arable cultivation prior to purchase. A proportion (62 ha) was restored from arable land to grassland in Autumn 1994 and one small area had been in set-aside since 1989 (8 years). All of the reserve is bunded, under-drained and has electric pumps for drainage. Many of the field boundaries include hedges, which date back to the Otmoor enclosures of the nineteenth century.

Our main objectives are to create and maintain about 185 ha of wet grassland for the benefit of breeding wading birds; with some seasonal flooding for wintering waterfowl, and to create 22 ha of reedbed within a bunded reservoir to provide breeding opportunities for bitterns.

11.2 The local economy

Otmoor reserve is close to the city of Oxford. Oxfordshire is a mainly rural county with 75% of its area classified as an Area of Outstanding Natural Beauty (AONB) and 77% used for agriculture. 49% of the Oxfordshire population (total 632,000) lives in rural areas.

Key industries within the local area are education and research and development, which have grown around Oxford University. The health and biosciences sector is the third largest employer in the area and travel and tourism are also important sectors, generating revenues of £258 million per year. Other important employers are the automotive (BMW is based near Oxford), printing and publishing, IT, telecommunications, retail and agriculture sectors.

Key issues for the local area are the lack of affordable housing for local people, a skills shortage, and social exclusion (resulting partly from lack of public transport facilities for the rural population)⁸.

11.3 Otmoor and the Local Economy

11.3.1 Direct employment

There are 2 full time permanent staff at Otmoor, the site manager and assistant warden. Volunteers also contribute in excess of 4,000 hours (2.3 person years) annually.

11.3.2 Spending by employees

Spending by the 2 full time employees is estimated to support an addition 0.2 FTE jobs in the regional economy.

11.3.3 Direct reserve expenditure

Management of the Otmoor reserve has cost the RSPB £407,307 since 1995/96. £301,000, or the equivalent of £60,200/yr, of this was spent on goods and services, other than staffing, of which 52% was spent in Oxfordshire and an estimated 70% in the South East government region. Direct spending by the RSPB is therefore estimated to support around 1.5 FTE jobs in the SE regional economy.

11.3.4 Grazing lets and agricultural tenancies

There is one 6.5 year Farm Business Tenancy on the Otmoor reserve of 61 ha. The land is grazed under an Environmentally Sensitive Area (ESA) agreement. In addition to this, in 2002 one grazier had licence on 121 ha of the reserve to cut hay and graze from April through to the end of October. We estimate that this land area supports approximately 0.5 FTE jobs in farming (grazing is only let for half the year). This can then be estimated to support an additional 0.6 indirect/induced FTE jobs in the regional economy.

⁸ Source: Oxford City Council – economic profile

11.3.5 Visitor spending

The reserve is open at all times, although there are no formal visitor arrangements (entrance fee or permits). Visitor numbers in 2000 were estimated at 1,600 –2,600 based on recorded numbers. Most of these visitors are likely to be locals, so the impact on the local economy is small, although this is likely to increase in future years as the reserve attracts visitors from further afield.

11.4 Total employment impact

Table 14: Otmoor reserve - estimated total employment impact

FTE jobs (1999/2000)

| | |
|-----------------------------------|------------|
| Direct employment | 2.0 |
| Spending by employees | 0.2 |
| Direct reserve expenditures | 1.5 |
| Grazing lets/agricultural tenants | 1.1 |
| Visitor spending | 0 |
| Total | 4.8 |

11.5 Historical land use and employment

The land at Otmoor was purchased in various ‘parcels’ of land. The original 106 ha of arable land purchased by the RSPB, was owned by an absentee landlord and rented by a local farmer who employed foreign labour to help farm the land. 2 local people also had rights to shoot on the land and rents were paid to the landlord.

The second purchase of 62 ha of arable land reverted to grassland was owned by a farmer in Gloucester. The land was grazed by his sheep and tended by his shepherd from Gloucester. A hay cut was sold to the highest bidder.

The third purchase of 49.5 ha of arable land and 2.5 ha of improved grassland was from a local farmer who was restructuring and diversifying his own farm business.

The final purchase of 39 ha of arable land and 7 ha of semi-improved grassland was purchased from a farmer who farmed the land himself, with no employees.

As this shows the land at Otmoor has been purchased from mainly absentee landowners. The ownership of the land in this way gives very little benefit to the local economy as money for rent and wages is generally going outside of the economy to landlords and employees. The ownership of the land by the RSPB has therefore created a positive impact on the local economy by ensuring that the land is farmed by local people and employment and spending is kept within the local economy where possible.

If the current land of 194 ha of arable land and 71 ha of grassland were farmed commercially today, it is estimated that this would probably support 1-2 FTE jobs, depending on what enterprise was used on the grass and how intensively this was farmed.

11.6 Conclusions

Otmoor currently has a small positive impact on the local economy, which compares favourably with its previous use as agricultural land. This economic impact is expected to

increase in future, through further habitat management work, and as the reserve becomes more attractive to visitors.

12 Pulborough

12.1 The reserve

The Pulborough Levels are part of the River Arun flood plain in Sussex. They were managed for centuries as flood meadows, grazed with livestock and cut for hay and the supply of water to the ditch network, combining to make the area one of the most biodiverse wetlands in the UK.

The 121 ha site supports a considerable diversity of other habitats, including woodland, scrub, hedgerows and dry, permanent pasture and the area supports an increasingly rich fauna and flora. The ditches alone support over 100 species of flowering plant, including 4 nationally scarce species. The reserve supports some 30 species of nationally important invertebrates.

The reserve usually supports between 50 - 70% of the Arun Valley wintering waterfowl, 9 species in nationally important numbers, and 45 - 50% of the breeding waders, including lapwing, snipe and redshank.

Pulborough Brooks is a RSPB national promotional site for visitors. It is a flagship site with an enormous visitor catchment area. The current provision of high quality visitor facilities for c.110,000 visitors a year, including c.110 school visits, is managed to secure support, income and understanding of RSPB work priorities and objectives.

12.2 The local economy

Pulborough, West Sussex is a predominantly rural economy with 50% of land in an AONB. Agriculture is a significant employer in the area but transport employs a higher proportion of the local population. The local economy has been detrimentally affected by the downturn in farm incomes. The local area surrounding Pulborough has experienced growth in the service sector in recent years, and this has been aided by the growth of Gatwick airport. Key issues for the local area are concentration of social and economic deprivation in areas around the coast and Crawley, road congestion and lack of affordable housing⁹.

12.3 Pulborough and the Local Economy

12.3.1 Direct employment

Pulborough Brooks reserve employs 17 full time staff, 1 seasonal warden and 4 part time staff. There are 19.5 FTE jobs on the reserve. In addition to this in 2000/01 volunteers contributed a further 2,278 hours (1.6 person years) of work on the reserve.

⁹ Source: West Sussex Economic Strategy Group

12.3.2 Spending by employees

The 19.5 FTE employees contribute to the local economy through the money they spend on local goods and services. It is estimated that this supports a further 1.9 FTE jobs in the local economy.

12.3.3 Direct reserve expenditure

The RSPB has spent £2.08 m on managing the Pulborough Brooks reserve between 1995/96 and 2000/01. Excluding staff costs and internal RSPB transfers, spending in this period totalled £456,000, an average of £91,000 per year. It is estimated that this level of expenditure supported around 2.2 additional FTE jobs in the South East region, assuming that 70% of spending is kept within the region and £28,509 of spending supports 1 FTE job.

12.3.4 Grazing lets and agricultural tenancies

182 ha of the reserve are under agricultural management. No cattle are owned by the RSPB but a shepherding service is offered to tenants and graziers. In 2002, 67 Ha of the reserve were covered by grazing agreements (to three graziers) and the fees for grazing and shepherding generated around £2,700 of income. In addition, a 10-year farm business tenancy exists on 79 ha. Other areas of land are let annually. It is estimated that these agricultural areas are sufficient to support at least 1.5 FTE jobs in farming (assuming all land is grazed) and this might then indirectly support an additional 1.8 FTE jobs in the local economy.

12.3.5 Visitor spending

This is a 'flagship' RSPB reserve and is within a huge potential catchment area for visitors, being only 50 miles from London. In the 3 years to 2001, an average of 75,479 people have visited the reserve annually. Visitor spending is relatively low at an estimated £3.82/visitor, reflecting the large number of short distance visits to Pulborough. Thus, whilst visitor numbers are high the total visitor spending is relatively low at around £290,000 per year. This level of spending is estimated to support the employment of 8.2 FTE jobs and local annual income of around £87,000.

12.4 Total employment impact

Table 15: Pulborough reserve - estimated total employment impact

FTE jobs (1999/2000)

| | |
|-----------------------------------|-------------|
| Direct employment | 19.5 |
| Spending by employees | 1.9 |
| Direct reserve expenditures | 2.2 |
| Grazing lets/agricultural tenants | 3.3 |
| Visitor spending | 8.2 |
| Total | 35.1 |

12.5 Historical land use and employment

The land at Pulborough was purchased in 1985. There were 54.8 hectares of arable land, 145 hectares of grassland, 4.7 hectares of woodland and 2.5 hectares of hedges, lanes and other

land. At current employment levels in farming this area is only likely to support 1-2 direct, full time equivalent farming jobs.

12.6 Conclusions

Direct employment and visitor spending are the key impacts of the Pulborough reserve on the local economy. Whilst this is one of the most visited reserves, research shows the average level of visitor spending to be relatively low, probably because most visitors are only there for a day and thus do not spend as much money in the local economy on items such as accommodation and food. Nevertheless, spending by the large number of day-trippers to Pulborough supports a significant level of local employment.

13 West Sedgemoor

13.1 The reserve

West Sedgemoor SSSI, covering 1016 hectares near Taunton, is a nationally important area of lowland wet grassland comprising mainly peaty soils with extensive areas of unimproved or semi-improved herb-rich hay meadows and pasture.

It is the most important site for birds in the Somerset Levels and Moors (which span approximately 64,000 ha). It has the largest population of breeding waders in the region (lapwing, snipe, curlew, redshank), and internationally important wintering waterfowl populations (wigeon, teal, shoveler, lapwing), regularly exceeding 50,000 birds. This makes West Sedgemoor one of the most important inland waterfowl refuge sites in the UK.

Breeding wader populations are slowly recovering in the hydrologically managed areas of the RSPB reserve, currently 355 hectares, where wet features have been created as feeding areas.

The site holds possibly the largest area of botanically rich wet meadows at any single UK site, and the ditch system supports nationally important invertebrate and plant communities, including several Red Data Book species. Otter, a globally threatened species, is also present.

The ash/oak/hazel scarp woodlands are of ancient origin, and support one of the six largest heronries in the UK. They also support rare plants, including purple gromwell (*Lithospermum purpurocaeruleum*) and dormice are present in small numbers.

13.2 The local economy

Somerset is a predominantly rural economy with 45% of the population living in 'small settlements'. The total Somerset population is around 460,000 and this is increasing, mainly due to inward migration, particularly of retired people attracted to the rural environment, and as a result the population is ageing. Key employment sectors in the local area are distribution, hotels and restaurants which employ 27% of the workforce, manufacturing (17%), construction and transport & communication (both 5%) and agriculture which employs 2% of the workforce. It is a predominantly small business economy, centring around small-medium and family owned businesses. Key issues for the area are pockets of deprivation, rural poverty and isolation¹⁰.

¹⁰ Source: Somerset County Council

13.3 West Sedgemoor and the Local Economy

13.3.1 Direct employment

There are 3 full time permanent staff on the reserve and 1 part time administrator, and 1 part time shepherd. This is a total of 4 FTE jobs. There is also a full time voluntary warden who has not been included in these figures. Other volunteers work an additional 586 hours (0.3 person years) on the reserve each year.

13.3.2 Spending by employees

For every 1 full time job on the reserve it is estimated that an additional 0.1 FTE jobs are supported in the local economy through spending of a proportion of their wages in the area. The 4 FTE staff are estimated to support an additional 0.4 FTE jobs in the local economy in 2000/01.

13.3.3 Direct reserve expenditure

The RSPB has spent £688,874 over the past 5 years on managing the West Sedgemoor reserve. £250,385 (an average £50,000/year) of this was on direct expenditure (excluding staff costs), of which it is conservatively estimated that 70% remains in South West England region. It is estimated that this helps to support the full time equivalent of 1.2 jobs in South West England.

13.3.4 Grazing lets and agricultural tenancies

524.6 hectares of the reserve were subject to farm business tenancies in 2002. These were let to 18 farmers/graziers within a 5 mile radius of the reserve and generated an income of around £14,000. It is estimated that this area of land supports between 4-8 FTE jobs in farming, depending on the level and type of stocking. If we assume 5 FTE jobs are supported by the land this would then be likely to support a further 6 indirect and induced jobs in the local economy. This is likely to be an underestimate of the total impact of agriculture on the reserve and local economy.

13.3.5 Visitor spending

On average 11,150 people per year have visited the reserve over the past 2 years. No survey of visitor spending has been carried out and thus it is assumed the 'average' level of spending by visitors to the reserve is around £11.10 (the RSPB 'average visitor spending' figure). In this case, the level of spending as a result of people visiting the reserve is approximately £124,000. This level of visitor spending is estimated to support 3.5 FTE jobs and £37,000 of income within the local economy.

13.4 Total employment impact

Table 16: West Sedgemoor reserve - estimated total employment impact

FTE jobs (1999/2000)

| | |
|-----------------------------------|-------------|
| Direct employment | 4.0 |
| Spending by employees | 0.4 |
| Direct reserve expenditures | 1.2 |
| Grazing lets/agricultural tenants | 11 |
| Visitor spending | 3.5 |
| Total | 20.1 |

13.5 Conclusions

West Sedgemoor has a significant positive impact on the local economy, particularly through direct employment and grazing lets.

Agriculture is the predominant land use in Somerset, but employs only 2% of the workforce in the Sedgemoor local economy. The reserve is another example of how agriculture has been successfully combined with nature conservation to contribute to the businesses of 18 local farmers, whilst attracting visitors to the area and supporting local tourism.

14 Vane Farm

14.1 The reserve

Vane Farm is a 230 ha site, stretching from the shore of Loch Leven to Vane Hill on Benarty ridge. The main habitats comprise open water, wet grassland, lowland raised mire, birch woodland and heather/blaeberry moorland.

Over 20 habitat types occur, supporting 255 species of vascular plants. Bird species recorded on the reserve in the last 5 years include 18 red list (8 breeding, 10 wintering) and 68 amber list (27 breeding, 41 wintering). A high winter water table and associated grassland attracts up to 12,000 pink-footed geese, 5% of the world population and up to 66% of the Loch Leven roost and 3,400 teal, 2.5% of the national population.

The Loch Leven Centre is housed in an 18th century farmstead. The management aims are to provide a mosaic of lowland habitats supporting breeding waders and farmland Birds of Conservation Concern (including lapwing, curlew, redshank, snipe, grey partridge, corn bunting, skylark and linnet). The high winter water table and grassland management also retains the internationally important numbers of wintering waterfowl. The hill ground is managed as a mosaic of upland habitats with broadleaved woodland (increasing through regeneration), upland heath and acid grassland providing suitable breeding habitat for Birds of Conservation Concern such as black grouse, spotted flycatcher and linnet.

The site is a major visitor reserve with up to 60,000 visitors per annum and the visitor centre has recently undergone a major refurbishment. Vane Farm also has a high profile as a centre for RSPB environmental education work, catering for up to 300 school groups each year.

14.2 The local economy

Vane Farm is in the Kinross and Perth District of Scotland. This is a thriving and expanding rural economy dominated by small companies employing 1-10 people. Key sectors of the economy are retail, tourism, services, crafts, agriculture and food. At the centre of Kinross is Loch Leven, which is the main tourist attraction in the region. This is a national nature reserve, and popular for fishing (a renowned brown trout fishery), shooting in winter, bird watching and walking. These are the main activities within the region for tourists and thus the local economy is highly dependent on these 'traditional activities'. Family owned agriculture, food and craft businesses are also abundant in this area with famous brands such as Famous Grouse whisky and Highland Spring Water coming from the region. A key issue for the economy is low earnings, partly due to the significance of part-time and seasonal work. Unemployment was estimated to be around 2.9% (2000)¹¹.

14.3 Vane Farm and the Local Economy

14.3.1 Direct employment

In 2001/02 Vane Farm employed the equivalent of 12.5 FTE jobs. This includes 7 full time permanent staff, 7 part time permanent staff and 8 contract staff. In addition to this, volunteers contributed a further 5,095 hours (3.0 person years) of work in 2001/02.

14.3.2 Spending by employees

Employee expenditure is estimated to have created an extra 1.3 FTE jobs through induced employment as a result of spending by employees in the local area.

14.3.3 Direct reserve expenditure

Expenditure by the RSPB in managing the reserve totalled £1.56 million between 1995/6 and 2000/01. £375,568 of this expenditure was direct costs, excluding staff costs, an average expenditure of £75,000 per year. It is estimated that 50% of this money was spent with businesses within Kinross and Perth, and 80% within Scotland.

Using multipliers derived from the Scottish input: output tables, we estimate that this expenditure supports 2.1 FTE jobs in Scotland, taking account of direct, indirect and induced effects.

In addition, expenditure in running the Scottish Wildlife and Countryside Fair totals £55,000 per year, supporting an estimated further 1.9 FTE jobs.

14.3.4 Grazing lets and agricultural tenancies

Four graziers have licence to graze the reserve in 2002, covering around 86.5 ha of land. The income from this is minimal. This is insufficient to support a full time farmer and is likely to be additional grazing taken on by local graziers and farmers as part of their wider farm business.

¹¹ Source: Perth and Kinross Council

14.3.5 Visitor spending

Vane Farm is in close proximity to Edinburgh, Perth and Dundee and as such is an ideal position to attract visitors. Kinross is a rural area attracting many tourists for 'traditional' activities such as fishing, shooting, walking and bird watching. The RSPB plays a central role in attracting tourists to the area and works in close contact with the local tourist board.

Vane Farm has had an average 39,610 people visit the reserve every year from 1998/99 to 2000/01. Average spending per visitor is estimated from the 1998 reserves visitor survey to be £6.12 (at 2000 prices). Annual spending attributable to Vane Farm of £242,000 is estimated to support 6.9 FTE jobs and £73,000 of local income in Perth and Kinross.

Following redevelopment of the reserve visitor facilities, the number of visitors has increased and is expected to exceed 60,000 this year, supporting estimated visitor spending of £367,000 and 10.5 FTE jobs.

12,500 of these people visit the site over the course of a single weekend in early September, when the Scottish Wildlife and Countryside Fair is held at Vane Farm. This event attracts around 150 exhibitors from all over the UK, and visitors from all over Scotland. Around 95% of visitors come from within 50 miles of Vane Farm.

14.4 Total employment impact

Table 17: Vane Farm reserve - estimated total employment impact

| <i>FTE jobs (1999/2000)</i> | |
|-----------------------------------|-------------|
| Direct employment | 12.5 |
| Spending by employees | 1.3 |
| Direct reserve expenditures | 4.0 |
| Grazing lets/agricultural tenants | 0 |
| Visitor spending | 10.5 |
| Total | 28.3 |

14.5 Historical land use and employment

Vane farm was originally 120 ha of arable, grass and hill woodland. In 1990 the neighbouring farm was purchased to add 110 ha to the reserve. This added 84 ha of arable land, 20 ha of scrub/heathland and 5 ha of conifer plantation to the reserve. If the land were commercially farmed as one block today it is estimated that the area would support 1-2 full time jobs, depending on the farming enterprise and intensity.

14.6 Conclusions

Vane Farm has a significant impact on the local economy, largely because of the number of people the RSPB employs directly on site, and the number of visitors the reserve attracts. These impacts have increased significantly in recent years. The local economy of Kinross is based around small companies and traditional activities such as farming and tourism. The RSPB plays a key role in attracting people to the area and this should not be underestimated given the rural nature of the economy and the extent to which it is reliant on traditional sporting activities and tourism.

15 Total Economic Impact of RSPB Reserves

The analysis in section 2, and the reserve case studies, demonstrates the variety of positive impacts RSPB reserves have on local economies. In total, we estimate that reserves support more than 1,000 FTE jobs in across the UK (Table 18).

Table 18: Total local employment resulting from management of RSPB reserves

| | Local/Regional Employment (FTE) |
|---|--|
| Direct employment on reserves | 268 |
| Employment in regional offices/HQ concerned with reserve acquisition and management | 40 |
| Spending by employees | 31 |
| Spending by Volunteers | 4 |
| Total direct reserve expenditures (of which attributable to contractors) | 101 (50) |
| Grazing lets/agricultural tenancies | 101 |
| Indirect employment from farming operations | 123 |
| Spending by Visitors | 335 |
| Total | 1003 + |

This employment is supported by spending of £19 million per year by the RSPB and visitors to its reserves (Table 19).

Table 19: Expenditure by Reserves, Volunteers and Employees

| | Expenditure (£k) |
|--|-------------------------|
| Reserve management expenditure | |
| Staff costs | 4,062 |
| Spending on contractors in region | 1,127 |
| Purchase of other goods and services in region | 1,615 |
| Total | 6,804 |
| Visitor expenditure in local economies | 11,709 |
| Volunteers' expenditure in local economies | 129 |
| Total | 18,642 |

Table 20: Summary of Economic Impact of Case Study Reserves

| Reserve | Area (hectares) | Estimated total employment impact (FTE) | Total jobs per 1000 hectares |
|-------------------|-----------------|---|------------------------------|
| Abernethy | 12,795 | 65.1 | 5.1 |
| Anglesey reserves | 715 | 22.4 | 31.3 |
| Forsinard | 7,000 | 14.5 | 2.1 |
| Geltsdale | 4,451 | 6.0 | 1.4 |
| Loch Gruinart | 1,667 | 18.4 | 11.0 |
| Lake Vyrnwy | 9,474 | 35.0 | 3.7 |
| Mersehead | 993 | 11.9 | 12.0 |
| Minsmere | 935 | 58.4 | 62.5 |
| Otmoor | 1,400 | 4.8 | 3.4 |
| Pulborough | 121 | 35.1 | 290.1 |
| West Sedgemoor | 1,016 | 20.1 | 19.8 |
| Vane Farm | 230 | 28.3 | 123.0 |
| Total | 40,797 | 320 | 7.8 |

Between them, the 12 case study reserves are estimated to support 320 FTE jobs in local and regional economies, when all economic impacts are included. This is equivalent to nearly 8 FTE jobs per thousand hectares. The jobs per hectare figure varies markedly by reserve, being highest for relatively small reserves with large numbers of visitors, such as Pulborough Brooks and Vane Farm, and lower for more extensive upland reserves such as Geltsdale.

16 Conclusions

RSPB reserves support more than 1,000 FTE jobs in the UK, with the largest impacts coming through direct employment of RSPB staff, and the effects of expenditures by visitors on local economies. This is less than total UK employment by agriculture but more than employment on grouse moors (630 FTE). Many of these jobs are located in more remote rural areas – and most are on less productive land - with few alternative employment opportunities. Reserve management can have a significant impact on local economies, especially around the larger reserves that generate significant numbers of visitors. Spending by visitors to reserves occurs throughout the year, helping to extend the tourism season.

These impacts are increasing, as the RSPB acquires and manages more land, and develops new facilities for visitors. Nature conservation is a growth sector, unlike agriculture and forestry, both of which have shed large numbers of jobs in the last decade. Since 1998, the UK agriculture labour force has declined by over 9% from 608,000 to 550,000 people -not FTE - in 2001 (DEFRA, 2001).

The RSPB plans to spend £20 million over the next five years on acquiring new reserves. We expect these reserves to employ 70 new staff and attract an extra 300,000 visitors. In total, we expect that these new reserves will support an additional 250 FTE jobs in local and regional economies by 2007.

While aggregate figures suggest that RSPB management is not particularly labour intensive, most of the individual case studies in this report demonstrate that RSPB management has actually increased the economic impact of the site in question. This suggests that – rather

than displacing economic activity from productive sites – the acquisition and management of RSPB reserves tends to bring benefits to sites that previously supported little or no economic activity.

This report has focused on RSPB reserves only. The economic impact of the conservation sector as a whole is significantly greater. There are more than 18,000 FTE jobs in nature and landscape conservation in the UK, while conservation organisations spend more than £500 million per year in England and Wales alone. Nature conservation helps to support a significant proportion of the rural tourism market, worth £12 billion per year in England alone.

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