

Adult female Peregrine leaving the nest with prey (Feral Pigeon) just prior to the young fledging in early June 2011.



Richard Heeks

A 15-year study of the diet of urban-nesting Peregrines

Nick Dixon and Edward J.A. Drewitt

In recent years, Peregrines *Falco peregrinus* have appeared in many towns and cities across much of England (Banks *et al.* 2003). Some urban sites, such as St Michael's Church, Mount Dinham, in Exeter, have had different Peregrines in residence for over twenty years. During this time there has been a growing interest and commitment by individuals, groups and organisations to observe and share with the general public the comings and goings of Peregrines that may be nesting in their local city centre. The Exeter Peregrines have been

watched by a worldwide audience, following the installation of a camera to watch the nest by the wildlife surveillance company, Eco-watch Ltd; this was in use between 2001 and 2007. They have also been part of the Royal Society for the Protection of Birds' (RSPB) 'Aren't Birds Brilliant' Campaign between 2005 and 2008.

Urban nesting Peregrines provide a unique opportunity to study different aspects of their lives and behaviour in close detail, and, in particular, their diet. When they bring prey back to buildings,

fallen remains of their prey end up on the ground, and on the roof and in the gutters (Drewitt & Dixon 2008). This provides an opportunity (not generally available at traditional cliff nest sites), to regularly collect prey remains with no disturbance to the Peregrines, and to discover whether these urban falcons just eat pigeons (as is often the general assumption) or take other species of bird as well. N D has been collecting prey remains since June 1997 at St. Michael's, and has been investigating the diet of the Peregrines, with the help of E D. This study covers the period 1997 to 2011, and is the largest single-site study of prey by Peregrines in the UK.

A brief history of the Peregrines at St Michael's Church

Peregrines have been associated with St. Michael and All Angels Church at Mount Dinham in Exeter City Centre since July 1988, when a second summer male first took up residence. He was joined by an adult female in the spring of 1989 and the pair were often observed hunting over the city, feeding and perching on the many stone pinnacles on the church tower. They continued to occupy the church throughout the 1990s, and there were also occasional sightings of other birds. This behaviour is typical of Peregrines and how they colonise urban areas over time (the pattern of urbanisation) (Taranto 2009).

A pair of Ravens *Corvus corax* had previously been nesting in tall cedar trees to the west of the church and, in 1997, built a stick nest on an eighteen inch wide east-facing ledge at the base of the spire, about 30 m above ground level. When the ravens completed the nest, the peregrines ousted them, laid eggs and successfully reared three

young, in what was the first record of urban nesting on a man-made structure in Devon.

During the following winter, the lightning conductor, upon which the ravens had constructed their nest, had to be replaced. The stick nest was in poor condition, having been flattened by the three juvenile Peregrines during their development, and subsequently fell apart and was removed. During the works, it was replaced by the Devon Birdwatching & Preservation Society with a purpose-built shallow tray containing loose substrate, with sticks wired around the exterior to replicate the original nest. The falcons immediately took to the new nest tray and in 1998, again fledged three young, and continued to use this site in the following years.

In 2001, the wildlife surveillance company Eco-Watch Ltd designed and installed a camera to film the birds at the nest, enabling all to watch the developments via the Worldwide Web. The RSPB, Devon Wildlife Trust and Exeter City Council also ran guided watches for the public from a tall car park overlooking St. Michael's Church during many of the breeding seasons.

In 2008, the camera became obsolete when the Peregrines opted to use an alternative site on the southern face. This new site required the falcons to enter a wide stone trefoil, 2 m above the south-facing ledge, to access an internally mounted nest box set within the bell chamber. This nest box had been installed by DBWPS in 1989, when the pair first occupied the church, but had never been investigated or used until 2008. The falcons have used this south-facing nest site ever since, but can still be seen perching occasionally on the edge of the original tray on the east ledge.

The Peregrines at St. Michael's have bred every year since 1997, rearing 42 young over the period, with all but two successfully fledging into the wild. In 1997, one juvenile came down to the ground prior to fledging and was taken into care by a rehabilitator (later reported as released into the wild), and in 2008, a newly fledged female became entangled in anti-bird netting on a nearby roof, damaging its wing and many primary feathers. This bird was also taken into care and is still in captivity.

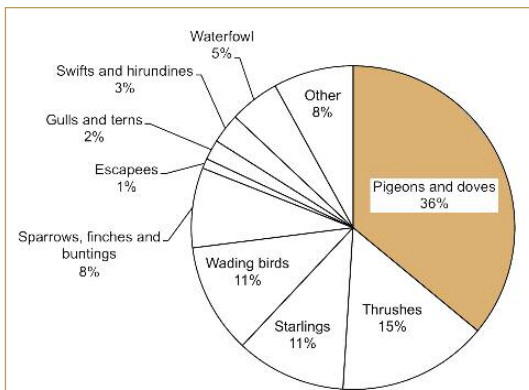
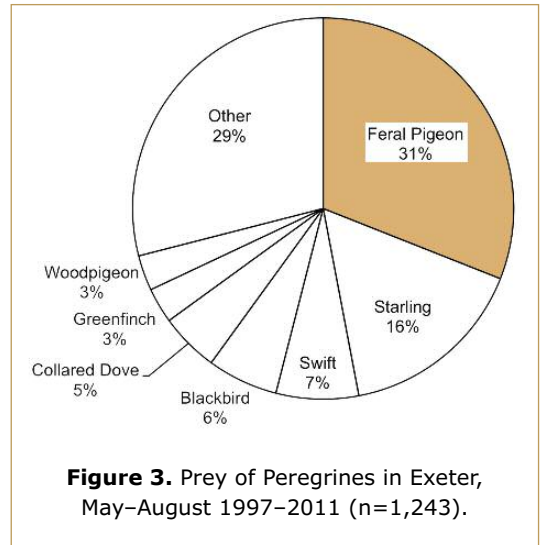
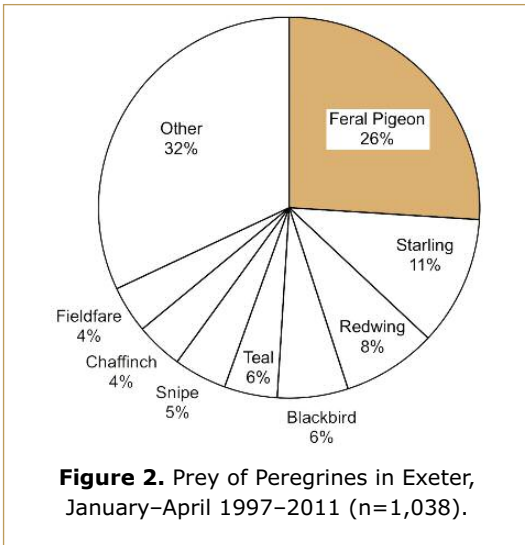


Figure 1. Prey of Peregrines in Exeter, 1997-2011 (n=3,916).

Methods

Over the past 15 years, prey remains have been collected at least once a week from the ground beneath St Michael's Church by N D. Collections have also been undertaken from Exeter Cathedral and another church within the city from 2006, with



careful comparisons of dates and species caught, so that the same individual prey items remains are not counted twice – sometimes prey may be plucked at one site and then taken to another site to be eaten. Since 2009, local residents have been helping to collect feathers and, also in 2009, an MSc student from the University of Exeter, Lin Chen Yu, undertook daily collections for three months as part of a more detailed study (Chen Yu 2009). This close scrutiny retrieved dropped or discarded material, including whole or part carcasses, feathers, heads/skulls, wings, legs, rings and pellets (López-López *et al.* 2009; Oro & Tella 1995). Every autumn, the gutters have been cleared by steeplejacks and the remains from this (mainly skulls and carcasses) have been dried and identified. Searching for remains on the ground requires a thorough scan close to the church and up to 20 m away to find feathers that have been blown down paths and alleys. A wider search (up to 50 m from the roost/nest site) was carried out after strong winds.

Remains were dried after each collection and bagged for subsequent analysis. Prey species were identified from experience and with the help of reference material (chiefly Jenni & Winkler 1994, Brown *et al.* 2003, and a Dutch feather website, www.michelklemann.nl/verensite/start/index.html). Occasionally, items were confirmed by comparison with museum specimens, either at the Natural History Museum (Tring) or at Bristol’s City Museum & Art Gallery. Average weights were taken from Snow and Perrins (1998).

Some prey is cached by Peregrines and eaten over a period of time, so that the remains of individual items were sometimes found over a

number of days. The minimum number of individual prey items was established by checking, for example, for duplication of the same wing feathers or legs as well as for feathers from birds of a different age or sex class. Feather condition and weather-related damage was important in assessments of how fresh the remains were.

Results

Since the study began we found the prey remains of 3,910 individual birds from 102 species. We also recovered parts from six different mammals of three species (Appendix 1).

The most important prey type was the Feral Pigeon *Columba livia*, comprising 36% of prey by frequency (Figure 1) and 55% by weight. After Feral Pigeons, Starlings *Sturnus vulgaris* (11% by frequency and 4% by weight), Redwings *Turdus iliacus* (5% and 7%) and Blackbirds *Turdus merula* (5% and 3%) were the most common prey species (Figures 1 and 2). Woodpigeons *Columba palumbus* (3% and 6%), Teal *Anas crecca* (3% and 5%) and Collared Doves *Streptopelia decaocto* (4% and 5%) were also important in the diet by weight.

However, diet varied seasonally, and between May and August Swifts *Apus apus* were the third most common prey item (2.5% by frequency; 0.55% by weight) (Figures 3 & 5). During the winter months Woodcock *Scolopax rusticola* became an important prey item alongside Teal and Woodpigeon (Figures 4 & 5). Feral Pigeon was the most frequent prey species in every month. June saw a sharp rise in Feral Pigeons, Starlings and Swifts in the diet, dropping off thereafter. In November

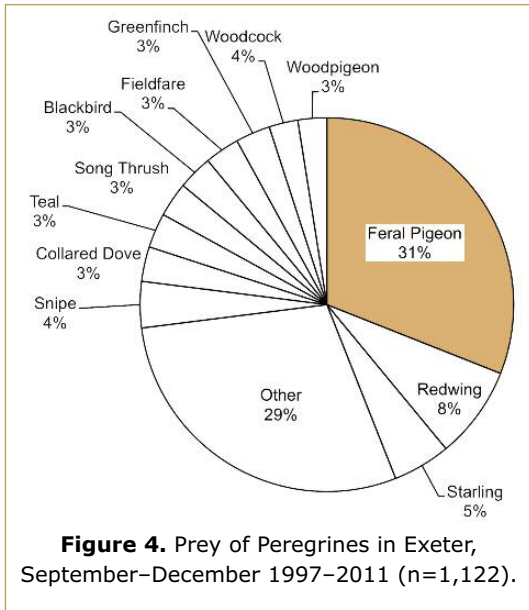


Figure 4. Prey of Peregrines in Exeter, September–December 1997–2011 (n=1,122).

however, there was a sudden increase in Feral Pigeons and Redwings in the diet and a modest increase in Starlings (Figure 5).

Discussion

This is the longest running study at a single site investigating the diet of Peregrines in the UK, and reveals fascinating insights into their behaviour and their prey species, reinforced by other studies and evidence across Britain and the World (Mebs 2009; Drewitt & Dixon 2008).

The cross-section of prey reflects the species present in the local habitats, such as the Exe estuary, river, farmland and urban environments. However, there are also species found in the diet which are rare in the local environment (as indicated by Tyler (2010) and information from the County Bird Recorder). The Peregrines are probably catching prey both locally near the church and also further afield (Drewitt & Dixon 2008)

The popularity of the Feral Pigeon is consistent with most other studies and shows that they form an important part of the diet throughout the year (López-López *et al.* 2009; Drewitt & Dixon 2008). Whilst pigeons form a significant part of the diet and are important in the Peregrines’ breeding performance, it is the other, non-pigeon, prey that provides some fascinating insights into the behaviour of the falcons (López-López *et al.* 2009).

The evidence on the ground is just a record of what the Peregrines have brought back to the church in Exeter, and does not take into account

prey eaten at unknown roosting or feeding sites. Some remains will also get lost through the weather, street cleaning, scavengers, and in building crevices and gutters (Drewitt & Dixon 2008). Every effort has been made to collect both very small feathers of passerines and the body feathers of larger birds. There is, however, likely to be a bias towards the larger feathers and other remains of birds being found (López-López *et al.* 2009).

Nocturnal hunting

This study, supported by evidence from other sites, helped reveal in 2008 that Peregrines can and do hunt for food at night (Drewitt and Dixon 2008). The high concentration of artificial lighting at night in Exeter provides an ideal opportunity for the falcons to hunt migrating birds flying over the city after dark. Birds such as Woodcock, Water Rail *Rallus aquaticus* and Little Grebe *Tachybaptus ruficollis* all migrate under the cover of darkness. As they fly over urban environments, their pale underparts reflect the light and show up as they fly overhead. Redwings, also a nocturnal migrant, appear in the diet in large numbers in the autumn, and peak in November (Figure 5) just when the majority of this species enter Britain for the winter (Wernham *et al.* 2002). In place of their traditional hunting methods of stooping onto prey from above or behind, Peregrines need only to fly a short distance up from their perch to grab prey flying overhead (Mebs 2009; Drewitt & Dixon 2008; Drewitt 2008). In 2004, Nick Dixon observed the resident female Peregrine leaving the church after dark and returning with prey, which was then plucked and eaten. Since the Drewitt & Dixon 2008 paper was published in British Birds, fellow Peregrine enthusiasts Nick Brown and Nick Moyes, have used an infra-red camera in Derby to record one of the Peregrines returning to Derby Cathedral with a live Woodcock in the middle of the night ([youtube.com/watch?v=rtiWWr3e8-U](https://www.youtube.com/watch?v=rtiWWr3e8-U)).

Estuary birds

Perhaps unsurprisingly, wading birds and seabirds, such as terns, feature extensively in the diet of the Exeter Peregrines. The close proximity of the Exe Estuary means that the Peregrines have a relatively short flight to an abundance of food. Many of these prey species probably fly over the city on migration or during short local movements. The Exe Estuary is likely to be used by both resident and non-resident Peregrines, which can sometimes be seen flying over, standing on

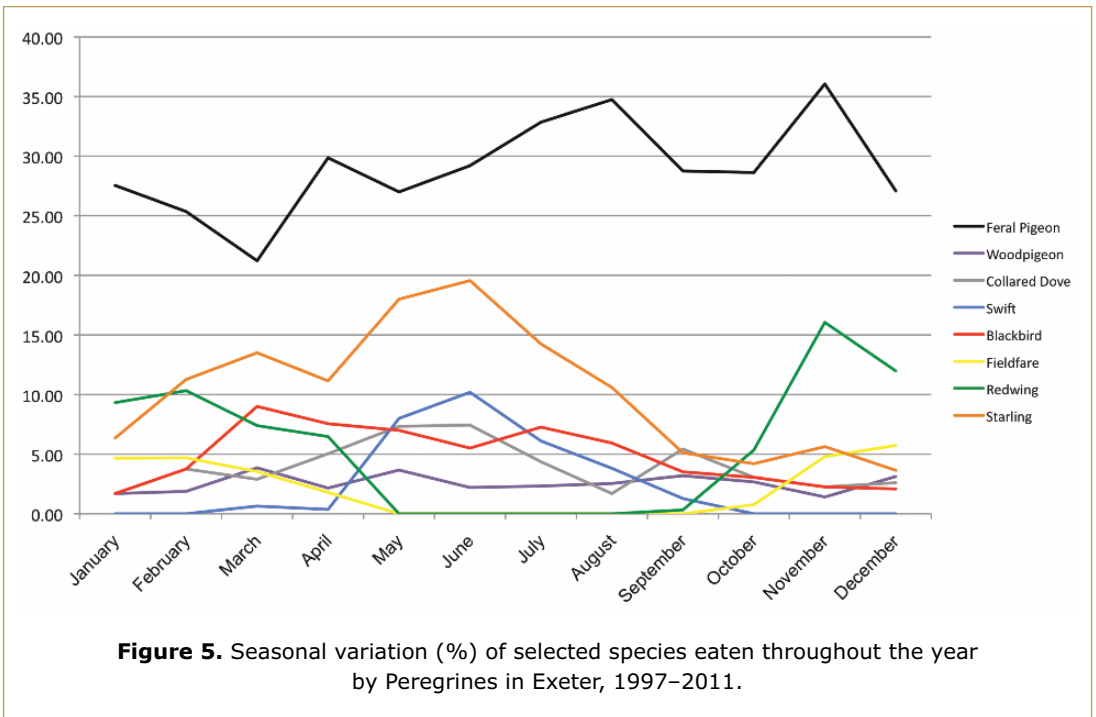


Figure 5. Seasonal variation (%) of selected species eaten throughout the year by Peregrines in Exeter, 1997–2011.

the sand banks or the pylon line that runs across Exminster marshes, or uniquely, perching on the M5 motorway bridge (pers. comm. Peter Exley, RSPB). Some of these may be the 'Exeter' Peregrines but without the individuals being colour-ringed, we cannot be sure. Many species of the wading birds that inhabit the estuary have been caught by the Peregrines. Some suddenly appear in the diet in abundance – for example, in August and September 2008, the remains of four Sanderlings *Calidris alba* were found. These had not previously been recorded, and have not been since. Such appearances in the diet often coincide with the sudden presence of a species moving through on migration. This happened when huge numbers of Bar-tailed Godwits *Limosa lapponica* appeared on the south coast in April 2011, and subsequently appeared in the diet of Peregrines in Exeter, Bath and Bournemouth as identified by ED.

Scarce species

One of the most fascinating insights from this study is what it tells us about the birds that the Peregrines are catching. There are the expected species, from common city birds to estuary waders, but amongst the long list of prey taken, there are also surprises. In the past five years, Corncrakes *Crex crex* have appeared in the diet,

with at least one being taken each autumn. Turtle Doves *Streptopelia turtur* have been found as prey in the spring and autumn of different years, and in October 2011, the feathers of a Spotted Crane *Porzana porzana* were discovered. These birds are all very scarce in Devon and are rarely, if ever, seen by birders in the region. All three species are nocturnal migrants so it is likely they are taken at night while migrating overhead (Mebs 2009; Wernham *et al.* 2002; Rejt 2001). Corncrakes last definitely bred in Devon in 1987 (Tyler 2010), but those travelling south, from Ireland and the Western Isles, may take a route across the south-west of England before travelling over the English Channel. The Turtle Doves are often juvenile birds and may be from areas where there are healthier populations in England or other parts of Europe. The Devon population is now very low, probably comprising fewer than 20 pairs (Tyler 2010). Spotted Crakes come to England from the colder parts of Europe and the reed beds close to the river Exe may offer refuge and food or they may just be passing through the area on migration (Wernham *et al.* 2002). Annual Devon totals for this very secretive species are generally in single figures (Tyler 2010). Where these species exist in greater abundance, for example in countries of mainland Europe such as Poland, they are common prey species for Peregrines (Mebs 2009; Rejt 2001).

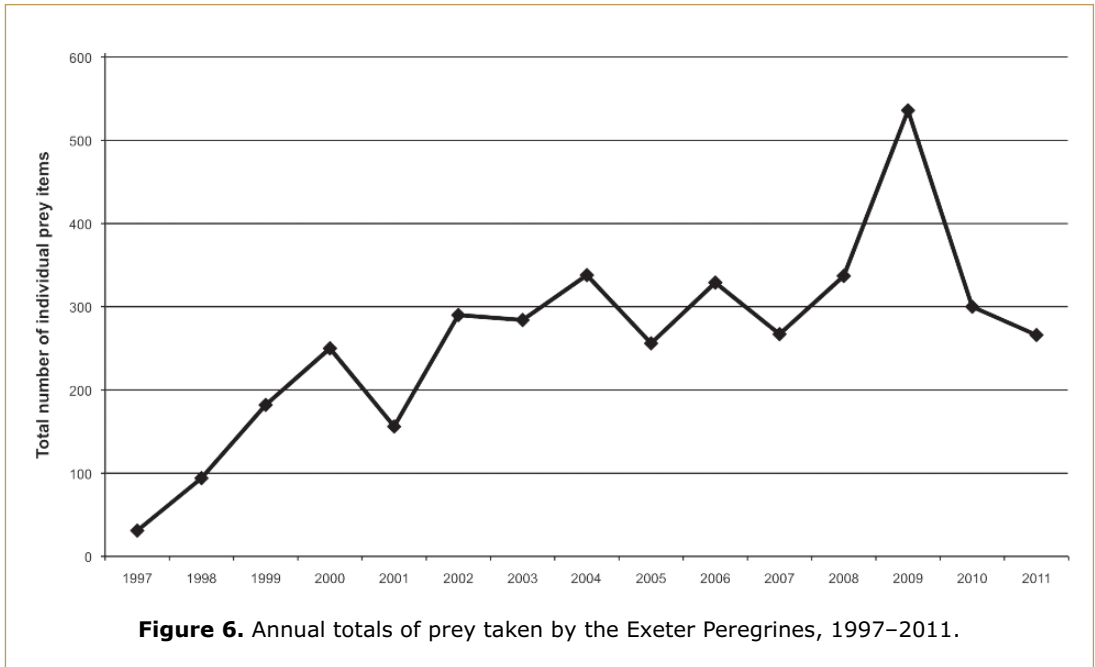


Figure 6. Annual totals of prey taken by the Exeter Peregrines, 1997–2011.

Ringed birds

During this study, five ringed wild birds have been recorded, four with British rings and one from Sweden. In 2000, a Roseate Tern *Sterna dougallii* was taken that had been ringed as a nestling near Dublin four years earlier, and the following year the Peregrines took an over-wintering Black-headed Gull *Chroicocephalus ridibundus* ringed as a nestling in 1998 in Sweden. In 2005, a Greenfinch *Chloris chloris* was caught a year after it was ringed 2 km away in Alphington. Another Black-headed Gull was taken in January 2008, having been ringed in Bedfordshire three years previously, and in November 2008, a Starling was taken that had also been ringed locally, in Alphington, two years earlier.

Quantities of prey

The changes in quantity of prey and the type of birds eaten throughout the year appear to be determined by the seasonal abundance of these species alongside the demand for food required by the nestlings during the breeding season (Drewitt 2009). Figure 5 shows a slight rise in the selected species during March and April, when many of these species are flocking and leaving the southwest for the summer (Wernham *et al.* 2002), and when the female Peregrine is laying and incubating eggs (Ratcliffe 1993).

There is a broad increase in the quantity of prey taken in the summer months when the parents have nestlings to feed, and another peak in the autumn when thrushes and other birds return for the winter (Wernham *et al.* 2002). Young Starlings leave their nests in May and June and this no doubt accounts for the peak during these months when they are easily snatched by the Peregrines for their own broods (Ferguson-Lees *et al.* 2011). The peak in Feral Pigeons taken in the autumn may be a reflection of how many pigeons are available after their own breeding success, with Peregrines taking advantage of this glut and stocking up on food. Peregrines will store excess prey in a cache such as a crevice or corner of a flat roof (Ratcliffe 1993). While it is difficult to prove, it seems that different individual Peregrines may have had different food preferences. For example, one male who was present throughout the last decade often brought back Swifts. When a new male arrived in 2005, Swifts become less common in the diet. Whether this was related to the changing abundance of Swifts or the difference between individual Peregrines is unknown. However, it is common for Peregrines, whilst being opportunistic, to focus their efforts on certain species (López-López *et al.* 2009; Ratcliffe 1993).

In the years when brood sizes are high, there is naturally a greater demand for food. When there are four nestlings instead of two, in theory twice as much food for the young would be

required to feed them (Drewitt 2009). Although it does not work for every year (e.g., 2001 and 2011), there is generally a slightly higher peak in prey found when there are more nestlings than when there are just one or two. In years when this does not correlate, weather and collecting effort may be factors to consider in explaining the amount of prey found. Direct observations of parental feeding provide a more accurate method for quantifying the amount of food brought to the nestlings (López-López *et al.* 2009). The large amount of prey retrieved in 2009 relates to the daily collections made over a three month period by a student, Lin Chen Yu at the University of Exeter

(Chen Yu 2009) and strongly suggests that the amount of prey retrieved is dependent on the effort and time put in to looking for remains.

Mammals

Mammals are rarely taken and make up less than 0.12% of the diet. However, the skulls of two Noctule Bats *Nyctalus noctula* have been recovered as well as remains of Grey Squirrel *Sciurus carolinensis* and Brown Rat *Rattus norvegicus*. It is not uncommon for Peregrines to hunt Noctule Bats at dusk when they are flying high (Macdonald & Barrett 1993). In Germany, Peregrines take large numbers of Noctule Bats as they migrate south (Peter Wegner pers. comm.). How rats and squirrels are taken is less certain – they may be caught on the ground or taken from another predator or scavenger (Zuberogoitia *et al.* 2002).

Conclusion

The Exeter Peregrines have provided us with the largest single site study of the prey of this species in the UK. The results provide an insight not only into what the Peregrines themselves are eating but also into the bird species that are occurring locally around Exeter. With the collection of prey continuing, the study will no doubt reveal more about the Peregrines' nocturnal hunting habits and the presence of other prey species moving through the region.

Acknowledgements

Grateful thanks are due to the following for a variety of reasons, including information on the early years of occupation and nest box installation, prey collections and gutter clearances: Mark Darlaston, Lizzie Elhamri, Peter Ellicott, Elizabeth Hughes, Phil Johnson, Geoff Pearce, Nick P. Williams, Heather Woodland, Adrian Wright, Gerry Collett (Western Steepjacks) and Lin Chen Yu.

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Good views of the Peregrines on the south face of St Michael's Church could be had from above the catacombs, on the opposite side of the valley. In the photo, both adults are on their traditional perches, with the female in the trefoil entrance to the nest, with two juveniles just visible inside. The male, and his shadow, caught in the early morning sun, is on the apex of the stone work above. June 2011.

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Nick Dixon grew up in Sussex, London and in the South Hams, where his interest in birds of prey began by monitoring the local barn owls, buzzards and kestrels. Nick has been involved in raptor research since 1993, working firstly for the Hawk and Owl Trust on a variety of projects including Barn Owl road mortality in Somerset, and Peregrine predation of domestic pigeons. Peregrines have always been a passion of his and, in 1997, he started investigating the increase in urban colonisation. This coincided with his return to live back to Devon and the first successful breeding of the Exeter peregrines. He continues to monitor the increasing trend of peregrines nesting on man-made structures and in urban environments across the UK, provides advice on nest box installation and mitigation, and is currently writing the history of the St. Michaels church peregrines.

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Appendix 1. Summary of the number of prey species taken each year by Peregrines in Exeter, 1997–2011.

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	Total items
Wigeon				1										1		1
Gadwall														1		1
Teal			7	7	6	8	2	3	6	13	4	6	11	14	4	91
Tufted Duck																
Quail				1	2						2	1	6	2	1	10
Little Grebe														1		9
Manx Shearwater																1
Leach's Petrel																1
Sparrowhawk									1	2	1					4
Kestrel						1										1
Water Rail				1			1				2	2	5	5	2	18
Spotted Crane																1
Corncrake											1	1	1	1	1	5
Moorhen					2		1	2		6	10	1	5	4	6	37
Coot						1										1
Oystercatcher									1						1	4
Avocet								1	1	1	1	2				6
Ringed Plover						2		1	1	1	1		5	2		13
Golden Plover			1	3	6	4	4	3	1	1	4	6	9	10	6	54
Lapwing			1	2	4	1	2	4	3	10	4	5	13	4	1	52
Knot				1								2	1	2	1	8
Sanderling													4			4
Dunlin				2	1	1	1	2	2	4	1	3	4	5	8	34
Jack Snipe							1					1		2		4
Snipe			2	2	5	8	2	6	11	3	6	13	25	12	5	100
Woodcock	1		2	3	2	1	5	6	6	3	3	7	6	6	1	52
Whimbrel				1	1			2	1		1	2	1		2	12
Curlew																1
Black-tailed Godwit				1		2	2	2	2	6		6	1	2	4	28
Bar-tailed Godwit				2	1							1		2	1	7
Common Sandpiper															1	1
Green Sandpiper										1				1		2
Greenshank																2
Redshank						2	1			1	1	4	4	4	4	21
Turnstone															1	1
Black-headed Gull	1	1		3	1		1	2		2	2	8	10	1	3	35

Appendix 1, continued	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	Total items
Little Tern						1	1	1	2	3	1			1		1
Sandwich Tern							1			1						1
Common Tern				1							3		2	2	3	14
Roseate Tern																1
Arctic Tern																1
Feral Pigeon	11	83	89	106	60	141	121	163	101	124	73	88	123	67	73	1423
Stock Dove													2			2
Woodpigeon	1			1	1	4	4	5	5	7	5	6	29	12	11	91
Collared Dove			3	15	15	15	17	26	8	4	3	9	16	10	5	146
Turtle Dove		1		1			1			3		3	2	1		9
Cuckoo		1							1	3	2		2			12
Little Owl									1							1
Swift				11	5	5	8	9	4	14	4	9	11	6	6	98
Kingfisher			4	1		1	1	1					1	1	1	6
Green Woodpecker		1	1					1								4
Great Spotted Woodpecker	1		1			1	4	3	3	9	2	5	6	5	2	42
Skylark							2	2	1		2	5	7	2	2	19
Sand Martin																2
Swallow										1	1	1	1			4
House Martin						1	2	1		1			1	1	2	9
Meadow Pipit						1	1			3	3		4	1		13
Grey Wagtail							1									1
Pied Wagtail							2	4	2	1	3	4	1	2	1	21
Dipper										1	1			1		3
Wren																1
Duncock						1	2	2	1	1	1	3	2		1	14
Robin													1	1	1	3
Wheatear						1						1		2	1	5
Blackbird	3	1	5	11	7	12	15	12	14	7	15	16	28	16	18	180
Fieldfare			1	4	3	1	3	3	7	6	11	6	11	8	4	68
Song Thrush	2		3	3	2	4	4	3	3	7	5	6	12	5	4	63
Redwing			19	11	2	13	7	8	12	11	14	26	37	15	9	184
Mistle Thrush						1				4		4	3		2	14
Sedge Warbler								1				3	1		1	1
Blackcap														2		8
Whitethroat				1	1											2
Chiffchaff / Willow Warbler												1				2
Goldcrest											1					1

Appendix 1, continued	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	Total items
Spotted Flycatcher				1		1	1			1	1	1	1			2
Blue Tit						1	2			1	2	2	2	1	1	11
Great Tit				1			1	2	2	1	2	5				14
Jay			2	1		1	1	1	4	1	2		2	3		16
Magpie				1		6	1	6		1	2	4	3	2	2	27
Jackdaw	2		1		1		1	2		1	1	2	8	3	5	26
Rook																1
Carriion Crow					1	1				1		1	1	2	1	8
Raven													1			1
Starling	7	4	23	31	17	30	27	25	27	40	26	30	43	23	28	381
House Sparrow			3	1		2	4	6	3	3	11	3	11	9	5	61
Chaffinch				2	2	4	3	3	4	4	13	7	16	4	6	68
Brambling											1					1
Greenfinch			6	9	3	3	9	7	10	10	8	5	17	5	5	97
Goldfinch			2		1	1	4	3	1	2	4	1	5	4	4	32
Siskin										2						2
Linnet						1	1									2
Lesser Redpoll											1					1
Bullfinch					1	1	2		1	1			2			8
Yellowhammer							1					1				2
Reed Bunting				1									1			2
Escaped Cagebirds																
Cockatiel		1	1	2	1	2	3	3			1		1			15
Budgerigar			2	2	1	1	2	1	1							10
Canary						1					1					1
Ring-necked Parakeet (blue)						1			1							3
Unidentified Birds																
Unidentified passerine									1			1	2		5	8
Unidentified wader				1	1				1				1	2		6
Mammals																
Brown Rat			1													2
Grey Squirrel				1												1
Noctule Bat				1							1					2
Totals	31	94	182	250	156	290	284	338	256	329	267	337	536	300	266	3916
No of species	10	9	25	38	29	42	48	40	37	45	52	54	59	51	46	102

Appendix 2. Summary of prey species comprising 0.5% of the diet by frequency or above, taken by Peregrines in Exeter, 1997–2011. Average weights taken from Snow & Perrins (1998); all measurements of mass in g.

	Number of items (%)	Unit mass	Total biomass (%)
Teal	91 (2.3)	325	29575 (3.8)
Water Rail	18 (0.5)	130	2340 (0.3)
Moorhen	37 (0.9)	330	12210 (1.6)
Golden Plover	54 (1.4)	220	11880 (1.5)
Lapwing	52 (1.3)	230	11960 (1.6)
Dunlin	34 (0.9)	47.5	1615 (0.2)
Snipe	100 (2.6)	110	11000 (1.4)
Woodcock	52 (1.3)	300	15600 (2.0)
Black-tailed Godwit	28 (0.7)	320	8960 (1.2)
Redshank	21 (0.5)	117.5	2467.5 (0.3)
Black-headed Gull	35 (0.9)	300	10500 (1.4)
Feral Pigeon	1423 (36.3)	300	426900 (55.4)
Woodpigeon	91 (2.3)	449	40859 (5.3)
Collared Dove	146 (3.7)	205	29930 (3.9)
Swift	98 (2.5)	43.5	4263 (0.6)
Great Spotted Woodpecker	42 (1.1)	85	3570 (0.5)
Skylark	19 (0.5)	38	722 (0.1)
Pied Wagtail	21 (0.5)	21	441 (0.1)
Blackbird	180 (4.6)	102.5	18450 (2.4)
Fieldfare	68 (1.7)	100	6800 (0.9)
Song Thrush	63 (1.6)	82.5	5197.5 (0.7)
Redwing	184 (4.7)	62.5	11500 (1.5)
Magpie	27 (0.7)	227	6129 (0.8)
Jackdaw	26 (0.7)	220	5720 (0.7)
Starling	381 (9.7)	75	28575 (3.7)
House Sparrow	61 (1.6)	31	1891 (0.2)
Chaffinch	68 (1.7)	23.5	1598 (0.2)
Greenfinch	97 (2.5)	28.5	2764.5 (0.4)
Goldfinch	32 (0.8)	16.5	528 (0.1)
Totals	3549 (90.6)	4540.5	713945.5 (92.6%)

