

## **The Peregrine file 2007....**

As you may know from the website, the webcams had motion-detection capabilities to allow us to catch and record clips of any movement on the nest. Over the past few weeks, we have been examining all the footage recorded by the webcams during the breeding season to provide some insight into the behaviour of the falcons whilst incubating their eggs and raising their families.

### **Who's who?**

The first obstacle that we came up against for examining the footage was identifying the adults. In Carrowdore, there was an advantage that the male had a metal ring on his leg, but we could only use this as identification if we were able to see his legs! Whilst it was easy if both birds were on the ledge to compare their size, more often it was only one falcon on the nest; something else was needed... After watching several clips and noticing that we always have a good view of their heads, we detected there are pale white marks on each bird's head that allowed unique identification. The Carrowdore male has a pale white patch in the middle of the top of his head and the female has a semi-circle around the back of her head. The Kilrea male has two white patches on either side of the top of his head and a pale semi-circle around the back of his head and the female two white dots on the side of her head. Look at some of the old clips to see if you can tell them apart too. This allowed discrimination of which bird was on the nest at any given time. This was a great discovery and a feature of the falcons that could only have been uncovered by the cameras.

### **Incubation**

We were able to look at who was on the nest most looking after the eggs and how often they changed over incubation duty. The total number of daytime videos viewed for the two sites were 187 videos at Carrowdore and at Kilrea 95 videos (and another 1741 of which were nocturnal). The Carrowdore camera unfortunately did not work during the nocturnal hours, but the Kilrea camera seemed very sensitive to movement particularly at night-time, and indeed in one night recorded 1239 clips!

The Kilrea adult male was observed to undertake 30% of the egg care and 64% by the female the remaining 6% of observations were of both birds on the ledge, normally when they changed incubation duties. This matched almost exactly to the Carrowdore male 29% of incubation, female 63% and the remaining 7% of observations being a changeover between the adults. Thus in both cases the female falcons undertook the bulk of incubation duties. This is consistent with the possible reason for the larger size of the female providing her with greater energy reserves to undertake the important job of incubating the eggs and later the chicks. At Kilrea, there were two or three changeovers observed each day, whilst at Carrowdore there were five or six observed per full day. Based on the nocturnal footage at Kilrea it seemed the female undertook all incubation overnight, although it was only possible to identify the falcons when they were facing to the camera enabling us to see the white markings, that were clearly visible even at night.

### **Hatching**

The first chick at Carrowdore hatched on the 4<sup>th</sup> May whilst Kilrea hatched one week later on the 11<sup>th</sup> May. The male was incubating during the hatching of the first chick at Carrowdore, whilst the female was on the nest whilst the first chick hatched at

Kilrea. The first prey item brought to the Carrowdore chick was a starling brought to the nest by the male and the female brought a small bird, possibly a chaffinch, to the nest for the first feed to the new chicks at Kilrea.

### **Until three weeks of age**

Prey deliveries in the first few weeks of the lives of the chicks were brought to the nest by the female. In Carrowdore, the female brought 83% of the food to the nest, and the male 17% whilst at Kilrea 60% of food was brought to the nest by the female and 40% by the male. We cannot say who killed the prey as often the falcons will “cache” food and the prey may have come from one of their stores. However, the females at both nests fed the chicks predominantly with 76% of the food given to the young by the Kilrea female and 97% by the Carrowdore female, when compared to the males. The chicks were fed about 5-6 times a day, although this gradually got longer in time from only a minute or two in the first days up to over 20 minutes as the chicks grew. They did not use five or six prey items each day as often the same prey item was used several times, occasionally over a day or two, it just got smaller each time we saw it! Amazingly, we recorded evidence of nocturnal feeding during the first week of the chicks at Kilrea where the nocturnal images provided a fascinating insight (These clips are the following [128235085664843750-cam](#) and [128237364756250000-cam](#)).

Ledge and chick attendance, i.e. parental care, of the chicks decreased in the Kilrea male to 21% (-9%) of the day when compared to egg stage and in the Carrowdore male 13% (-16%) whilst females increased the parental care following hatching to 79% (+15%) and 87% (+24%) in Kilrea and Carrowdore respectively. This would likely coincide with an increase in hunting by males, which has been observed, during our nest observations, to feed the hungry mouths and thus greater care by females of the chicks at the ledge (nevertheless this seems to be a very tiring job.... [see clip 128229175358803750-cam](#)).

The two sites seemed to adopt the same strategy in incubating the eggs, as the amount of time they each spent keeping the eggs was almost identical, although females still undertook more care duties at all stages. However, the two pairs seemed to vary during chick rearing and the Carrowdore female was far more attentive at the nest than at Kilrea. There could be a number of reasons for this. The warmer or more exposed conditions at Kilrea due to the aspect and exposure of the cliff may have been harder for the parent birds and they needed to share the duties more. This was particularly evident on some of the very hot days when the female and chicks were seen to spread their wings and pant to lose heat. The Kilrea nest may have been slightly more exposed to the elements requiring a greater division of the parental duties. Alternatively, food availability could have played a part. When we visited the nest to ring the chicks, far more food was found in Carrowdore. This included at least 20 starlings, 2 redshank, 2 pigeons, 1 rook, 1 jackdaw, 1 magpie, 2 terns and the male may have been able to capture plenty of food allowing the female to stay at the nest more. Whilst at Kilrea only 1 pigeon, 4 starlings, 1 jackdaw and a Mistle thrush were found so it may have been harder for these birds to find food and they had to share the hunting as well as parental duties more so than at Carrowdore. The chicks at Kilrea were slightly lighter than at Carrowdore, which would suggest they had not received as much food. On the other hand, simply some parents may just be better than others

may. It is so hard for us to know exactly what has been done and why they do each thing but these cameras have allowed us to begin to answer some of these questions.

As we examine the last three weeks of footage from the nests we will update you with the next part of the breeding cycle in a couple of weeks, so do not forget to come back and check for updates to the website.