

# Preliminary analysis of the Icelandic Gyrfalcon CMR

## dataset - v2

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Here I attempt to explore the CMR dataset, before we go to inferential models to estimate survival and perhaps link this to an integrated pop. model.

### Basic statistics

How many birds have been ringed?

```
dringed<-read.csv("data/Gyrs_ringed.csv")  
head(dringed) # What's in the data table
```

| ##   | Ring_No    | Ringed_date | Ringed_day | Ringed_month | Ringed_year | EurAgeCode |
|------|------------|-------------|------------|--------------|-------------|------------|
| ## 1 | 15551      | 7/12/1975   | 12         | 7            | 1975        | 1          |
| ## 2 | 15552      | 7/12/1975   | 12         | 7            | 1975        | 1          |
| ## 3 | 15553      | 7/12/1975   | 12         | 7            | 1975        | 1          |
| ## 4 | 15554      | 6/20/1976   | 20         | 6            | 1976        | 1          |
| ## 5 | 15555      | 6/20/1976   | 20         | 6            | 1976        | 1          |
| ## 6 | 15556      | 6/20/1976   | 20         | 6            | 1976        | 1          |
| ##   | EurAgeText | SEX         |            |              |             |            |
| ## 1 | Pullus     | 0           |            |              |             |            |
| ## 2 | Pullus     | 0           |            |              |             |            |
| ## 3 | Pullus     | 0           |            |              |             |            |
| ## 4 | Pullus     | 0           |            |              |             |            |
| ## 5 | Pullus     | 0           |            |              |             |            |
| ## 6 | Pullus     | 0           |            |              |             |            |

```
length(unique(dringed$Ring_No)) #How many unique bird IDs
```

```
## [1] 1653
```

OK, so we have 1653 unique IDs. Let's compare to how many gyrs have been recovered.

```
drecov<-read.csv("data/Gyrs_recovered.csv")
head(drecov)
```

```
##   Ring_No Date_recovered Day_recorded Month_recorded Year_recorded
## 1   15554   10/15/1976         15             10         1976
## 2   15556    9/18/1980         18             9          1980
## 3   15559    6/18/1980         18             6          1980
## 4   15560    4/15/1979         15             4          1979
## 5   15562    8/20/1987         20             8          1987
## 6   15567    5/13/1995         13             5          1995

##   Accuracy_of_date_Euring_code Condition_Euring_code
## 1                             5                     3
## 2                             9                     3
## 3                             9                     3
## 4                             9                     3
## 5                             0                     3
## 6                             9                     3

##   Circumstances_Euring_code      Circumstances_Euring_text
## 1                             1      Bird found dead
## 2                             1      Bird found long dead
## 3                             1      Bird found long dead
## 4                             1      Bird found long dead
## 5                             1 Bird found dead (less than month)
## 6                             1      Bird found long dead

##           When.dead Date_reported
## 1                             14.09.1985
## 2      Died summer 1980    22.09.1980
```

```

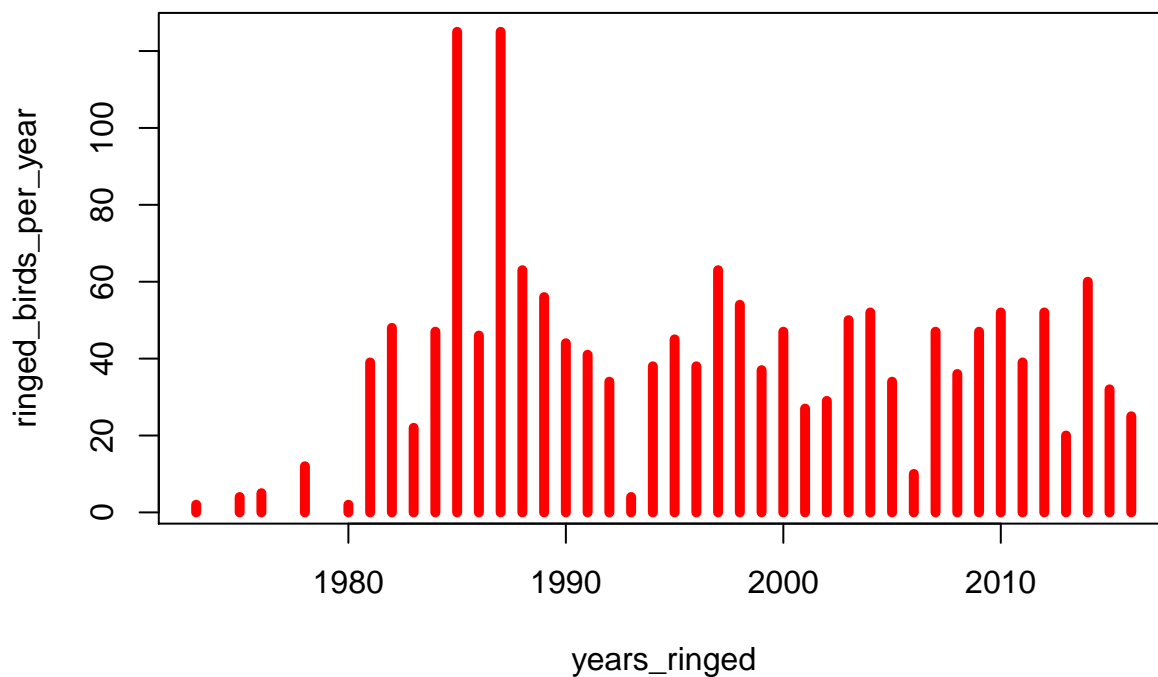
49 ## 3                                18.12.1980
50 ## 4 Died winter 1978-1979         29.06.1984
51 ## 5      Died summer 1987         25.08.1987
52 ## 6                                26.05.1995

```

```
length(unique(drecov$Ring_No)) #How many unique bird IDs in Gyrs_recovered.csv
```

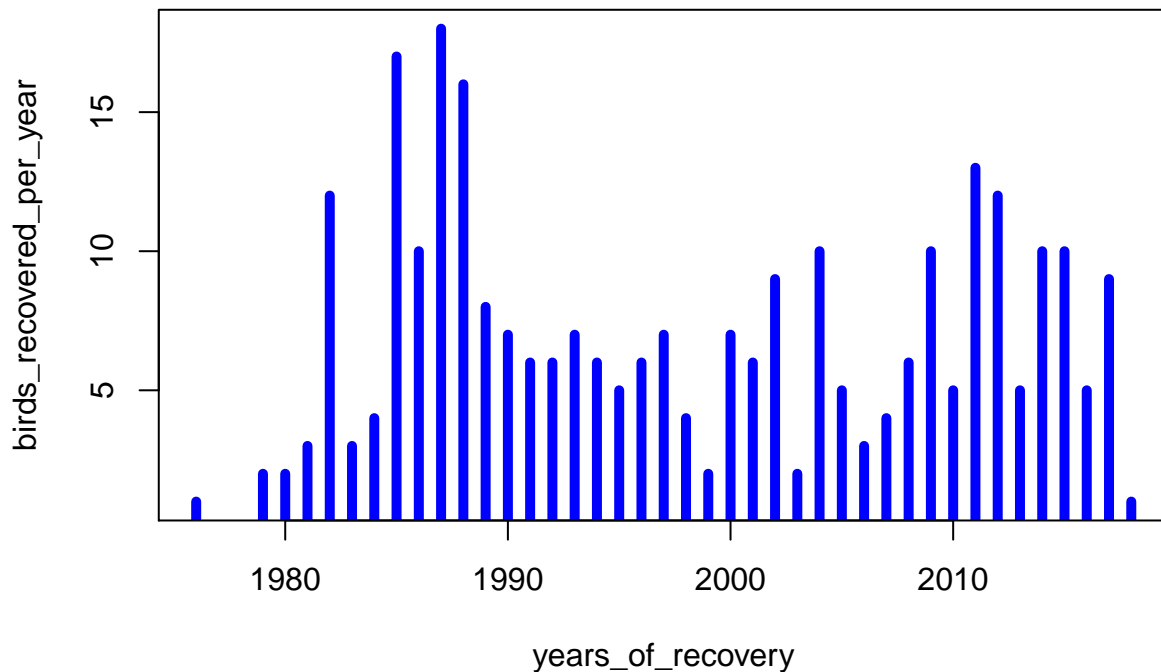
```
53 ## [1] 270
```

54 Let's now analyse the number of birds that have been ringed as a function of the year



55

56 We now analyse the patterns of recovery (and resighting)



57

58 Now how many birds have been seen several times? We see below that very few birds have been recovered  
 59 more than once (also this tends to be recent?).

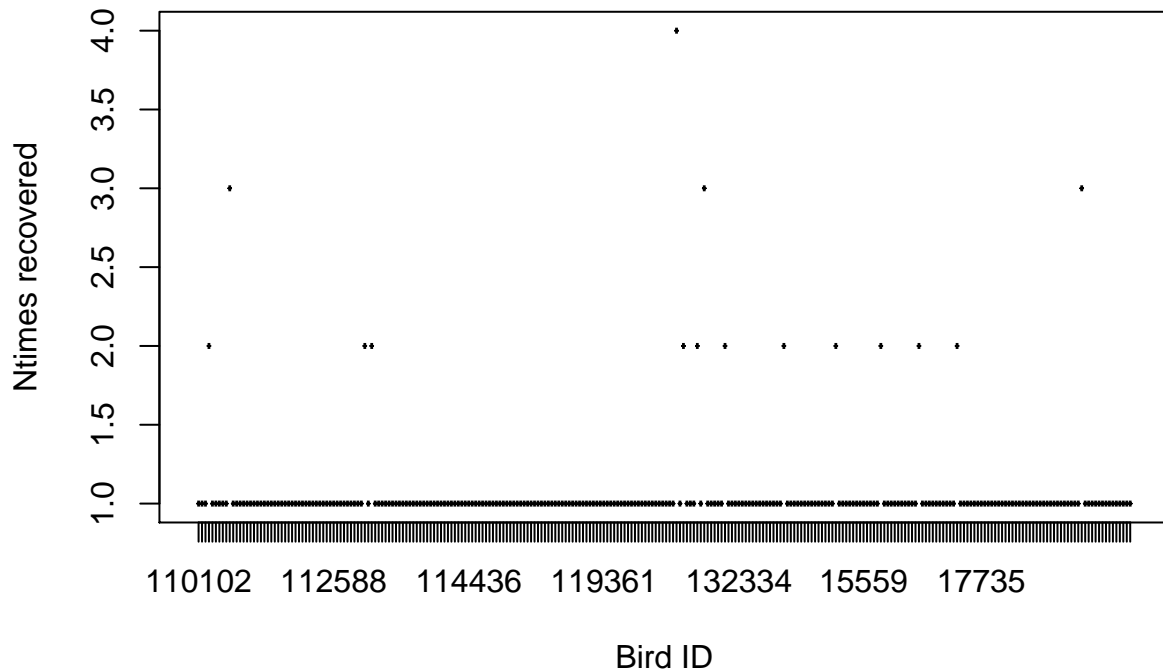
---

**Question: when did the change from recovery of dead birds to resighting of live birds occur?**

---

60 I can infer the earliest date at which a bird has been resighted a second time, but given few birds have been  
 61 resighted, but it might be preferable to allow later for a change in protocol (in the CMR models) using a  
 62 predefined time (we can use several if unsure). I have noted 2006 earlier but I am unsure.

63



```
65  ## ntimes_recovered
66  ##      1      2      3      4
67  ## 255   11      3      1
```

68 This is coherent with the info given by Oli – 1 bird recovered 4 times, 3 birds 3 times, 11 birds two times and  
69 the rest 1 time.

Thus for all practical purposes, we can consider that such data consists mainly of individual that are either recovered or not recovered/resighted. We'll now turn to whether the individuals have been found live or dead, and how this varies in time.

Also whether the recoveries of dead birds are of young vs. adult birds (which may provide quick and dirty estimates of survival rates, at least for the youngs...)

```
## these are all the recovery codes that we have (top row), and how many of those we have in the dataset
```

```
table(drecov$Condition_Euring_code)
```

|    |    |   |    |     |   |    |    |    |
|----|----|---|----|-----|---|----|----|----|
| 75 | ## |   |    |     |   |    |    |    |
| 76 | ## | 1 | 2  | 3   | 4 | 5  | 7  | 8  |
| 77 | ## | 2 | 66 | 136 | 8 | 26 | 31 | 21 |

```
### [previous comment: For instance, we can see 15 read colourmarks.
### We need to simplify this complexity to some extent by aggregating some values. ]
```

78 *Now we need some more info on the codes*

79 These are defined according to The EURING EXCHANGE Code 2000+ [https://euring.org/files/documents/](https://euring.org/files/documents/E2000PLUSExchangeCodeV117.pdf)  
80 [E2000PLUSExchangeCodeV117.pdf](https://euring.org/files/documents/E2000PLUSExchangeCodeV117.pdf)

| Condition Code | Meaning   |
|----------------|---|
| 0              | Condition completely unknown  |
| 1              | Dead but no information on how recently died/killed   |
| 2              | Freshly dead – within about a week  |
| 3              | dead for > a week. If >>, use 9 in Accuracy of Date, and 3 here                                     |
| 4              | Found sick/wounded and released afterwards  |
| 5              | Found sick/wounded and NOT released afterwards  |
| 6              | Alive and probably healthy but taken into captivity.  |
| 7              | Alive and probably healthy and certainly released (ring seen without the bird having being caught). |
| 8              | Alive and probably healthy and released by a ringer   |
| 9              | Alive and probably healthy but ultimate fate of bird is not known                                   |

81 Thus categories 4, 7 and 8 (respectively 8, 31 and 21 birds) correspond to cases where the bird is ‘released’  
82 alive, i.e. effectively resighted rather than recovered (when dead).

```
drecov$Date_recovered[drecov$Condition_Euring_code %in% c(4,7,8)]
```

```
83 ## [1] 7/16/1986 5/16/1985 5/17/1987 5/14/1987 4/22/1985 2/4/1988
84 ## [7] 5/6/1988 5/6/1987 5/21/1988 6/3/1982 5/15/1985 5/16/1987
85 ## [13] 5/10/1985 3/17/1984 5/28/1984 5/15/1987 10/30/1985 11/29/1986
86 ## [19] 5/9/1988 7/28/1988 1/4/1988 9/13/1990 6/9/2009 8/27/2000
87 ## [25] 3/6/2005 12/12/2001 6/5/2011 6/30/2007 10/23/2008 6/14/2014
88 ## [31] 6/14/2015 6/5/2016 6/17/2017 5/4/2012 11/1/2011 10/1/2012
89 ## [37] 1/2/2013 6/17/2010 6/16/2011 6/13/2012 6/16/2016 3/7/2015
90 ## [43] 6/19/2017 6/17/2017 5/5/2012 2/26/2012 7/21/2012 6/11/2014
91 ## [49] 1/22/2018 3/14/2016 1/5/2017 3/10/2017 6/9/2015 11/11/2014
```

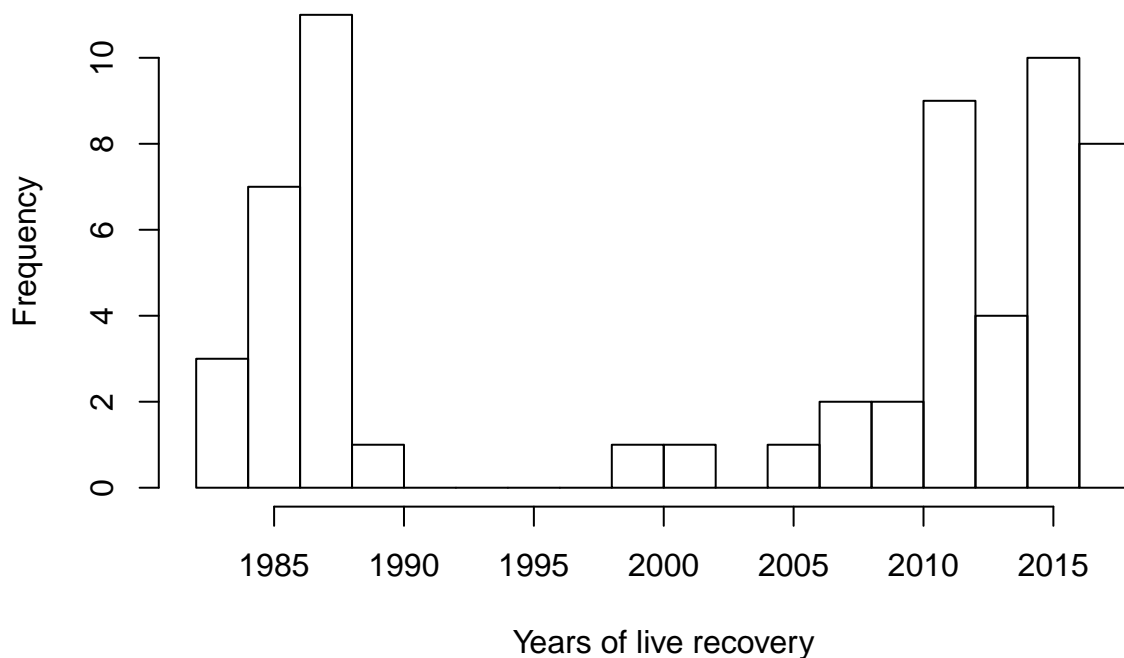
```
92 ## [55] 2/6/2016 3/10/2017 8/28/2015 8/13/2015 8/17/2016 10/19/2017
93 ## 269 Levels: 10/10/2008 10/1/2012 10/15/1976 10/15/1981 ... 9/8/1982
```

```
drecov$Year[drecov$Condition_Euring_code %in% c(4,7,8)]
```

```
94 ## [1] "1986" "1985" "1987" "1987" "1985" "1988" "1988" "1987" "1988" "1982"
95 ## [11] "1985" "1987" "1985" "1984" "1984" "1987" "1985" "1986" "1988" "1988"
96 ## [21] "1988" "1990" "2009" "2000" "2005" "2001" "2011" "2007" "2008" "2014"
97 ## [31] "2015" "2016" "2017" "2012" "2011" "2012" "2013" "2010" "2011" "2012"
98 ## [41] "2016" "2015" "2017" "2017" "2012" "2012" "2012" "2014" "2018" "2016"
99 ## [51] "2017" "2017" "2015" "2014" "2016" "2017" "2015" "2015" "2016" "2017"
```

```
vec_year_recovered_live = as.numeric(drecov$Year[drecov$Condition_Euring_code %in% c(4,7,8)])
hist(vec_year_recovered_live,breaks=20,xlab = "Years of live recovery", main = "Live recaptures (Euring
```

### Live recaptures (Euring 4,7,8)



100

```
drecov$Date_recovered[drecov$Condition_Euring_code %in% c(7,8)]
```

```
101 ## [1] 5/16/1985 5/17/1987 5/14/1987 2/4/1988 5/6/1988 5/6/1987
102 ## [7] 5/21/1988 6/3/1982 5/15/1985 5/16/1987 5/10/1985 3/17/1984
```

```

103 ## [13] 5/15/1987 10/30/1985 11/29/1986 5/9/1988 6/9/2009 8/27/2000
104 ## [19] 3/6/2005 12/12/2001 6/5/2011 6/30/2007 10/23/2008 6/14/2014
105 ## [25] 6/14/2015 6/5/2016 6/17/2017 5/4/2012 11/1/2011 10/1/2012
106 ## [31] 1/2/2013 6/17/2010 6/16/2011 6/13/2012 6/16/2016 3/7/2015
107 ## [37] 6/19/2017 6/17/2017 5/5/2012 2/26/2012 7/21/2012 6/11/2014
108 ## [43] 1/22/2018 3/14/2016 1/5/2017 3/10/2017 11/11/2014 2/6/2016
109 ## [49] 3/10/2017 8/13/2015 8/17/2016 10/19/2017
110 ## 269 Levels: 10/10/2008 10/1/2012 10/15/1976 10/15/1981 ... 9/8/1982

```

```
drecov$Date_recovered[drecov$Condition_Euring_code ==7]
```

```

111 ## [1] 2/4/1988 10/30/1985 11/29/1986 6/9/2009 8/27/2000 3/6/2005
112 ## [7] 12/12/2001 6/5/2011 6/30/2007 10/23/2008 6/5/2016 5/4/2012
113 ## [13] 10/1/2012 1/2/2013 6/17/2010 6/16/2011 6/13/2012 3/7/2015
114 ## [19] 5/5/2012 2/26/2012 7/21/2012 6/11/2014 1/22/2018 3/14/2016
115 ## [25] 1/5/2017 3/10/2017 11/11/2014 3/10/2017 8/13/2015 8/17/2016
116 ## [31] 10/19/2017
117 ## 269 Levels: 10/10/2008 10/1/2012 10/15/1976 10/15/1981 ... 9/8/1982

```

```
drecov$Date_recovered[drecov$Condition_Euring_code ==8]
```

```

118 ## [1] 5/16/1985 5/17/1987 5/14/1987 5/6/1988 5/6/1987 5/21/1988 6/3/1982
119 ## [8] 5/15/1985 5/16/1987 5/10/1985 3/17/1984 5/15/1987 5/9/1988 6/14/2014
120 ## [15] 6/14/2015 6/17/2017 11/1/2011 6/16/2016 6/19/2017 6/17/2017 2/6/2016
121 ## 269 Levels: 10/10/2008 10/1/2012 10/15/1976 10/15/1981 ... 9/8/1982

```

```
### Check not a problem of date recording
```

```
drecov$Year[(drecov$Condition_Euring_code %in% c(4,7,8))&(drecov$Accuracy_of_date_Euring_code!=9)]
```

```

122 ## [1] "1986" "1985" "1987" "1987" "1985" "1988" "1988" "1987" "1988" "1982"
123 ## [11] "1985" "1987" "1985" "1984" "1984" "1987" "1985" "1986" "1988" "1988"
124 ## [21] "1988" "1990" "2009" "2000" "2005" "2001" "2011" "2007" "2008" "2014"
125 ## [31] "2015" "2016" "2017" "2012" "2011" "2012" "2013" "2010" "2011" "2012"
126 ## [41] "2016" "2015" "2017" "2017" "2012" "2012" "2012" "2014" "2018" "2016"
127 ## [51] "2017" "2017" "2015" "2014" "2016" "2017" "2015" "2015" "2016" "2017"

```



```
drecov$Accuracy_of_date_Euring_code[drecov$Condition_Euring_code %in% c(4,7,8)]
```

```
128 ## [1] 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
```

```
129 ## [36] 0 0 0 0 0 0 0 0 0 0 0 0 5 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
```

```
table(drecov$Accuracy_of_date_Euring_code)
```

```
130 ##
```

```
131 ## 0 1 2 3 4 5 9
```

```
132 ## 212 8 5 9 6 5 45
```

```
## Check the birds whose dying dates are poorly known
```

```
drecov$Year[(drecov$Accuracy_of_date_Euring_code %in% c(8,9))]
```

```
133 ## [1] "1980" "1980" "1979" "1995" "1996" "1990" "2000" "1987" "2011" "1996"
```

```
134 ## [11] "1994" "1985" "1987" "1986" "1988" "1986" "1993" "1988" "1987" "2002"
```

```
135 ## [21] "1987" "1996" "1993" "1987" "1997" "1994" "1994" "1988" "1992" "1996"
```

```
136 ## [31] "1996" "1998" "1998" "2017" "2003" "2002" "2006" "2008" "2013" "2014"
```

```
137 ## [41] "2005" "2009" "2014" "2012" "2017"
```

```
drecov$Condition_Euring_code[(drecov$Accuracy_of_date_Euring_code %in% c(8,9))]
```

```
138 ## [1] 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3
```

```
139 ## [36] 3 3 3 3 3 3 1 3 3 3
```

```
## New dataframe for looking into those patterns
```

```
long_dead_birds=drecov[(drecov$Accuracy_of_date_Euring_code %in% c(8,9)),]
```

```
head(long_dead_birds)
```

```
140 ## Ring_No Date_recovered Day_recorded Month_recorded Year_recorded
```

```
141 ## 2 15556 9/18/1980 18 9 1980
```

```
142 ## 3 15559 6/18/1980 18 6 1980
```

```
143 ## 4 15560 4/15/1979 15 4 1979
```

```
144 ## 6 15567 5/13/1995 13 5 1995
```

```

145 ## 15 15980 6/1/1996 1 6 1996
146 ## 17 15995 9/23/1990 23 9 1990
147 ## Accuracy_of_date_Euring_code Condition_Euring_code
148 ## 2 9 3
149 ## 3 9 3
150 ## 4 9 3
151 ## 6 9 3
152 ## 15 9 3
153 ## 17 9 3
154 ## Circumstances_Euring_code Circumstances_Euring_text
155 ## 2 1 Bird found long dead
156 ## 3 1 Bird found long dead
157 ## 4 1 Bird found long dead
158 ## 6 1 Bird found long dead
159 ## 15 1 Bird found long dead
160 ## 17 1 Bird found long dead
161 ## When.dead Date_reported Year
162 ## 2 Died summer 1980 22.09.1980 1980
163 ## 3 18.12.1980 1980
164 ## 4 Died winter 1978-1979 29.06.1984 1979
165 ## 6 26.05.1995 1995
166 ## 15 Died winter 1994-1995 06.06.1996 1996
167 ## 17 Died winter 1989-1990 25.09.1990 1990

```

```

### Possible to correct the date using the When.dead column

```

```

nrow(long_dead_birds)

```

```

168 ## [1] 45

```

```

long_dead_birds$When.dead

```

```

169 ## [1] Died summer 1980

```

```

170 ## [2]

```

```

171 ## [3] Died winter 1978-1979

```

172 ## [4]  
 173 ## [5] Died winter 1994-1995  
 174 ## [6] Died winter 1989-1990  
 175 ## [7] Died winter 1998-1999  
 176 ## [8]  
 177 ## [9] Dead 3-5 years  
 178 ## [10] No estimate  
 179 ## [11] Died winter 1993-1994  
 180 ## [12] Died winter 1984-1985  
 181 ## [13]  
 182 ## [14] Died winter 1985-1986  
 183 ## [15] No estimate  
 184 ## [16] Died winter 1985-1986  
 185 ## [17] No estimate  
 186 ## [18] Died winter 1987-1988  
 187 ## [19] Died winter 1986-1987  
 188 ## [20] Died winter 2001-2002  
 189 ## [21] Died winter 1986-1987  
 190 ## [22] Died fall 1995  
 191 ## [23] Died winter 1992-1993  
 192 ## [24] Died winter 1986-1987  
 193 ## [25] Dead at least 3-4 years  
 194 ## [26] Died 1993  
 195 ## [27] Died autumn 1993  
 196 ## [28] Died winter 1987-1988  
 197 ## [29] Died winter 1991-1992  
 198 ## [30] Died June 1995  
 199 ## [31] Died autumn 1996 based on intact carcass  
 200 ## [32] Died winter 1997-1998  
 201 ## [33] Died late winter 1997-1998  
 202 ## [34] No estimate  
 203 ## [35] No estimate  
 204 ## [36] Died winter 2001-2002

```

205 ## [37] No estimate
206 ## [38] No estimate
207 ## [39] Died spring 2012
208 ## [40] Died winter 2013-2014
209 ## [41] Died winter 2004-2005
210 ## [42] No estimate
211 ## [43] No estimate
212 ## [44] Died winter 2011-2012
213 ## [45] Died winter 2016-2017
214 ## 54 Levels:  Dead 3-5 years Dead at least 3-4 years ... No estimate

```

```
## For which do we have information?
```

```
long_dead_birds$When.dead[grepl("D",long_dead_birds$When.dead)]
```

```

215 ## [1] Died summer 1980
216 ## [2] Died winter 1978-1979
217 ## [3] Died winter 1994-1995
218 ## [4] Died winter 1989-1990
219 ## [5] Died winter 1998-1999
220 ## [6] Dead 3-5 years
221 ## [7] Died winter 1993-1994
222 ## [8] Died winter 1984-1985
223 ## [9] Died winter 1985-1986
224 ## [10] Died winter 1985-1986
225 ## [11] Died winter 1987-1988
226 ## [12] Died winter 1986-1987
227 ## [13] Died winter 2001-2002
228 ## [14] Died winter 1986-1987
229 ## [15] Died fall 1995
230 ## [16] Died winter 1992-1993
231 ## [17] Died winter 1986-1987
232 ## [18] Dead at least 3-4 years
233 ## [19] Died 1993

```

```

234 ## [20] Died autumn 1993
235 ## [21] Died winter 1987-1988
236 ## [22] Died winter 1991-1992
237 ## [23] Died June 1995
238 ## [24] Died autumn 1996 based on intact carcass
239 ## [25] Died winter 1997-1998
240 ## [26] Died late winter 1997-1998
241 ## [27] Died winter 2001-2002
242 ## [28] Died spring 2012
243 ## [29] Died winter 2013-2014
244 ## [30] Died winter 2004-2005
245 ## [31] Died winter 2011-2012
246 ## [32] Died winter 2016-2017
247 ## 54 Levels:  Dead 3-5 years Dead at least 3-4 years ... No estimate

```

```
long_dead_birds$Ring_No[grepl("D",long_dead_birds$When.dead)]
```

```

248 ## [1] 15556      15560      15980      15995      17637      17743
249 ## [7] 112524     112528     112540     112562     112588     112598
250 ## [13] 113468     113474     113489     113509     113514     113660
251 ## [19] 113661     113676     113697     113704     114987     115203
252 ## [25] 115214     115229     117935     123526     124362     132341
253 ## [31] 137158      V_FARU0096
254 ## 270 Levels: 110102 110115 110117 110118 110124 110126 110157 ... V_FARU0096

```

| Accuracy of date Code | Meaning  |
|-----------------------|--|
| 0                     | Accurate to the day                                    |
| 1                     | Accurate to within 1 day either side of date coded.    |
| 2                     | Accurate to within 3 days either side of date coded.   |
| 3                     | Accurate to within 1 week either side of date coded.   |
| 4                     | Accurate to within 2 weeks either side of date coded.  |
| 5                     | Accurate to within 6 weeks either side of date coded.  |
| 6                     | Accurate to within 3 months either side of date coded. |

| Accuracy of date Code | Meaning  |
|-----------------------|--|
| 7                     | Accurate to within 6 months either side of date coded.     |
| 8                     | Accurate to within some years only                         |
| 9                     | Date of earliest possible use of ring (EURING for details) |

```
#long_dead_birds[,c(2,5,10,11)]
```

```
long_dead_birds[,c(5,10)]
```

|     | ##     | Year_recorded | When.dead             |
|-----|--------|---------------|-----------------------|
| 255 | ##     |               |                       |
| 256 | ## 2   | 1980          | Died summer 1980      |
| 257 | ## 3   | 1980          |                       |
| 258 | ## 4   | 1979          | Died winter 1978-1979 |
| 259 | ## 6   | 1995          |                       |
| 260 | ## 15  | 1996          | Died winter 1994-1995 |
| 261 | ## 17  | 1990          | Died winter 1989-1990 |
| 262 | ## 29  | 2000          | Died winter 1998-1999 |
| 263 | ## 31  | 1987          |                       |
| 264 | ## 41  | 2011          | Dead 3-5 years        |
| 265 | ## 56  | 1996          | No estimate           |
| 266 | ## 92  | 1994          | Died winter 1993-1994 |
| 267 | ## 94  | 1985          | Died winter 1984-1985 |
| 268 | ## 95  | 1987          |                       |
| 269 | ## 98  | 1986          | Died winter 1985-1986 |
| 270 | ## 100 | 1988          | No estimate           |
| 271 | ## 104 | 1986          | Died winter 1985-1986 |
| 272 | ## 109 | 1993          | No estimate           |
| 273 | ## 110 | 1988          | Died winter 1987-1988 |
| 274 | ## 112 | 1987          | Died winter 1986-1987 |
| 275 | ## 115 | 2002          | Died winter 2001-2002 |
| 276 | ## 116 | 1987          | Died winter 1986-1987 |
| 277 | ## 120 | 1996          | Died fall 1995        |
| 278 | ## 121 | 1993          | Died winter 1992-1993 |

|     |        |      |  |
|-----|--------|------|--|
| 279 | ## 124 | 1987 | Died winter 1986-1987                    |
| 280 | ## 129 | 1997 | Dead at least 3-4 years                  |
| 281 | ## 130 | 1994 | Died 1993                                |
| 282 | ## 135 | 1994 | Died autumn 1993                         |
| 283 | ## 138 | 1988 | Died winter 1987-1988                    |
| 284 | ## 140 | 1992 | Died winter 1991-1992                    |
| 285 | ## 157 | 1996 | Died June 1995                           |
| 286 | ## 159 | 1996 | Died autumn 1996 based on intact carcass |
| 287 | ## 161 | 1998 | Died winter 1997-1998                    |
| 288 | ## 163 | 1998 | Died late winter 1997-1998               |
| 289 | ## 165 | 2017 | No estimate                              |
| 290 | ## 166 | 2003 | No estimate                              |
| 291 | ## 175 | 2002 | Died winter 2001-2002                    |
| 292 | ## 178 | 2006 | No estimate                              |
| 293 | ## 185 | 2008 | No estimate                              |
| 294 | ## 201 | 2013 | Died spring 2012                         |
| 295 | ## 229 | 2014 | Died winter 2013-2014                    |
| 296 | ## 239 | 2005 | Died winter 2004-2005                    |
| 297 | ## 240 | 2009 | No estimate                              |
| 298 | ## 241 | 2014 | No estimate                              |
| 299 | ## 265 | 2012 | Died winter 2011-2012                    |
| 300 | ## 290 | 2017 | Died winter 2016-2017                    |

301 The column “Year\_recorded” should therefore suffice for the level of precision we need in early analyses. We  
 302 can then try to create (by hand) a “Year\_recorded\_corrected” variable that corrects the year based on the  
 303 when.dead variable. There does not seem to be an obvious pattern into how people decided which date to set,  
 304 except when the year was set to the earliest possible date of the death (which is the most logical).

305 For the circumstances, see the EURING pdf. Here are the numbers for the various categories

```
table(drecov$Circumstances_Euring_code)
```

```
306 ##
307 ## 1 2 11 20 28 29 32 35 40 43 46 48 50 58 62 63
```

308 ## 110 2 7 14 7 25 3 1 23 17 5 1 23 50 1 1

309 ----- Old codes -----

| AGE Code | Meaning                     |
|----------|-----------------------------|
| 100      | unfledged young             |
| 101      | unfledged young at the nest |
| 501      | adult at the nest           |

| RECOVERY Code | Meaning                          |
|---------------|----------------------------------|
| 100           | found dead                       |
| 120           | found dead for a long time       |
| 121           | found dead with one tag only?    |
| 146           | found dead just outside the nest |
| 5700          | read colourmark                  |
| 981,996       | found injured and had to kill it |