

## Supplementary Information

### Evaluation of Roost Culling as a Management Strategy for Reducing Invasive Rose-Ringed Parakeet (*Psittacula krameri*) Populations

#### Biological Invasions

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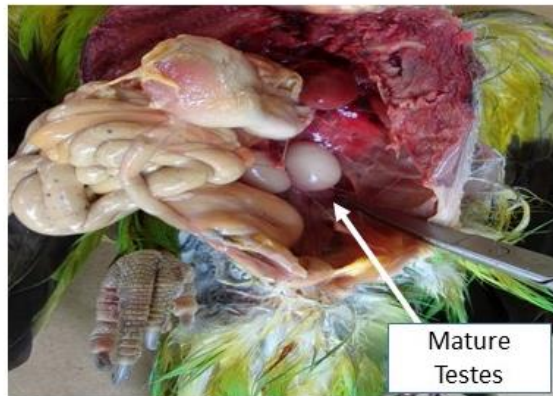
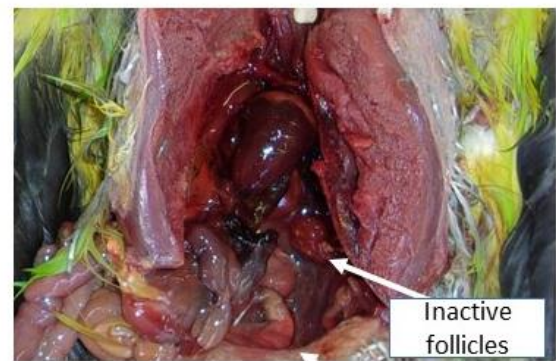
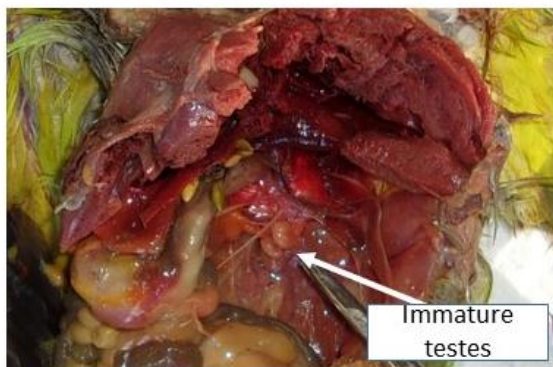


Figure S1. Gonads of rose-ringed parakeets culled on Kaua‘i, Hawai‘i, in 2020–2021. Upper left – sexually immature male. Upper right – sexually immature female. Lower left – sexually mature male. Lower right – sexually mature female.

```
###Multinomial Logistic Regression Code###
```

```
install.packages("nnet")  
library(nnet)
```

```
###create dataframe###
```

```
Febdf = data.frame(AgeSex = c(rep("AF", length = 145), rep("AM", length = 229), rep("JF", length =  
47), rep("JM", length = 78)),
```

```
Season = rep("Feb", length = 499)) #create dataframe of parakeets culled in February 2021
```

```
MrchAprldf = data.frame(AgeSex = c(rep("AF", length = 179), rep("AM", length = 415), rep("JF",  
length = 696), rep("JM", length = 221)),
```

```
Season = rep("MrchAprl", length = 1511)) #create dataframe of parakeets culled in March and  
April 2020
```

```
Maydf = data.frame(AgeSex = c(rep("AF", length = 765), rep("AM", length = 627), rep("JF", length =  
1192), rep("JM", length = 832)),
```

```
Season = rep("May", length = 3416)) #create dataframe of parakeets culled in May 2020
```

```
data = rbind(Febdf, MrchAprldf, Maydf) #combine three dataframes
```

```
data$Season = as.factor(data$Season) #ensure Season is factor
```

```
data$AgeSex = as.factor(data$AgeSex) #ensure AgeSex is factor
```

```
with(data, table(Season, AgeSex)) #verify values are correct
```

```
###run multinomial regression model###
```

```
data$AgeSex = relevel(data$AgeSex, ref="AF") #set reference level as adult female
```

```
model = multinom(AgeSex~Season, data = data) #run multinomial logistic model, with AgeSex as  
dependent variable
```

```
summary(model) #look at model coefficients and standard errors
```

```
z = summary(model)$coefficients/summary(model)$standard.errors #calculate z scores
```

```
p = (1 - pnorm(abs(z), 0, 1)) * 2 #calculate p values
```

```
p
```