Enter HEP Site Visit Form data in hep\_raw.accdb access database.

Forms

Keyboard shortcuts

Proofing

Run individual nest and visit queries, then export these to xls. Delete older versions of .xls files in …/queried\_from\_access or access may add sheets to files rather than replacing them

Change StartTime and EndTime column formats in the HEP\_visits Query file to *time*.

Save XLS as CSV.

Run automated screening R code: hep\_screen.r

Make sure working directory and path for the exported access queries are correct.

Change col, col.code and seas to the appropriate colony name, numeric colony code, and season, respectively. (Lines 44-46)

Run or copy in to R console all code down to

“################# RUN TO HERE FIRST ################” (line 414)

Then follow green directions in code to determine species lumping and what to do about multi-species nests

Export xls scoring sheet using code lines 446-478

Field definitions and notes for SJ’s automatically-generated HEP site scoring sheets. Specific R code for these fields is on page 2 and additional definitions for columns used in these calculations are on page 3.

1. The date columns show Adults Stage/Chicks and an “\*” if the confidence box was checked. 9 = no data
2. **focal**: 1= nest met early season criteria to be a focal nest (observation began in or before the first 2 weeks of incubation), and it was observed earlier than stage 2 and later than stage 0, and it was observed active before or on the peak colony size.
3. **Focal fail**: 1= nest met criteria to be focal (above) and also did not meet the criteria for **fledged** (below).
4. The following columns can help make decisions about tricky nests:
   1. **fledged**: 1= nest was observed in stage 4 or later, and the number of days between the first day it was observed in stage 1 and the final day it was observed in stage 4 or 5 was longer than the youngest possible fledge age.
   2. **Days short of fledging**: if a nest made it to stage 3 (being generous and inclusive here) but did not make it to the minimum fledging age, this number is how many more days it would be to the minimum fledging age. Can compare this number to the nest check interval and what stage the nest was at on the first and last visits to potentially classify some nests as fledged when they don’t meet the strict rules for such designation.
   3. **Active last day**: 1= nest was still active on the last day there were observations for this species.
   4. **Max stage**: the maximum stage this nest was observed at.
   5. **Multi spp nests**: in some (several) cases at large mixed species colonies, the same nest will be assigned to different species on different visits. This column shows the total number of species assigned to each nest.
   6. **Stg4 brood**: the brood size on the last visit the nest was in stage 4 and the confidence box was checked.
5. Yellow highlight and red text indicate a change to the colored text (e.g. fill in a correct stage based on data for other days). Changes were mostly made to the **Focal fail** and **fledged** column, most often if the **days short of fledging** was <10.

**# was the nest still active on the last day of nest checks for this species?**

active\_last\_day=ifelse(max\_date==spp\_max\_jdate,

1, 0)

active\_last\_day[is.na(active\_last\_day)] <- 0

**#meets criteria for focal nest**

focal=ifelse(min\_date<=peak\_active\_jdate &

earliest\_stage<2 &

max\_stage>0 &

((min\_date<min\_ch-(inc\_dur-14)) |(min\_date<max1-(inc\_dur-14))),

1, 0)

focal[is.na(focal)] <- 0

**# did the nest reach the minimum fledging age**

fledged=ifelse(max4plus-min1>min\_fl,

1, 0)

fledged[is.na(fledged)] <- 0

**# was it a focal nest that failed?**

focal\_fail=ifelse(focal==1 & active\_last\_day==0 & fledged==0,

1, 0)

focal\_fail[is.na(focal\_fail)] <- 0

**#count number of days short of fledging the nest was observed**

days\_short\_of\_fledging=ifelse(max\_stage>3 & fledged==0,(max4plus-min1) - min\_fl, "")

spp\_max\_jdate: the latest day data was collected for each species

max\_date: the latest date data was collected for each nest

min\_date: the earliest date data was collected for each nest

earliest\_stage: the stage each nest was in on the earliest date that data was collected for it

max\_stage: the latest stage (highest number) a nest was observed in

min\_ch: the earliest date a nest was observed with stage >1

inc\_dur: the incubation duration for each species

max1: the latest date a nest was observed in stage 1

max4plus: the latest date a nest was observed in stage >3

min\_fl: the species-specific minimum fledging age

min1: the earliest date a nest was observed in stage 1