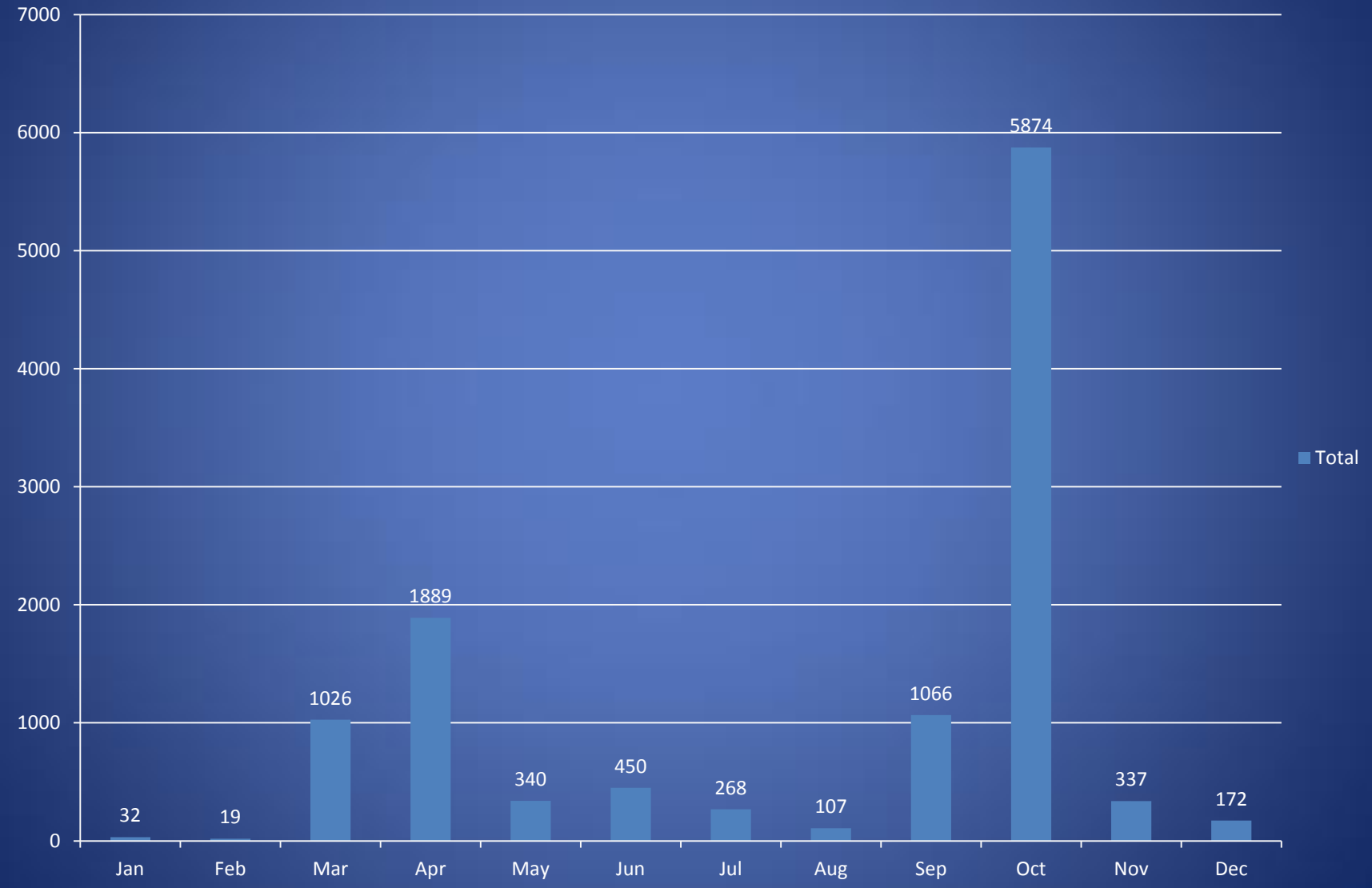
Post-breeding Movements of Rusty Blackbirds in Northern New Hampshire

Areas of investigation

Distance and direction of post-fledging movements from nest sites

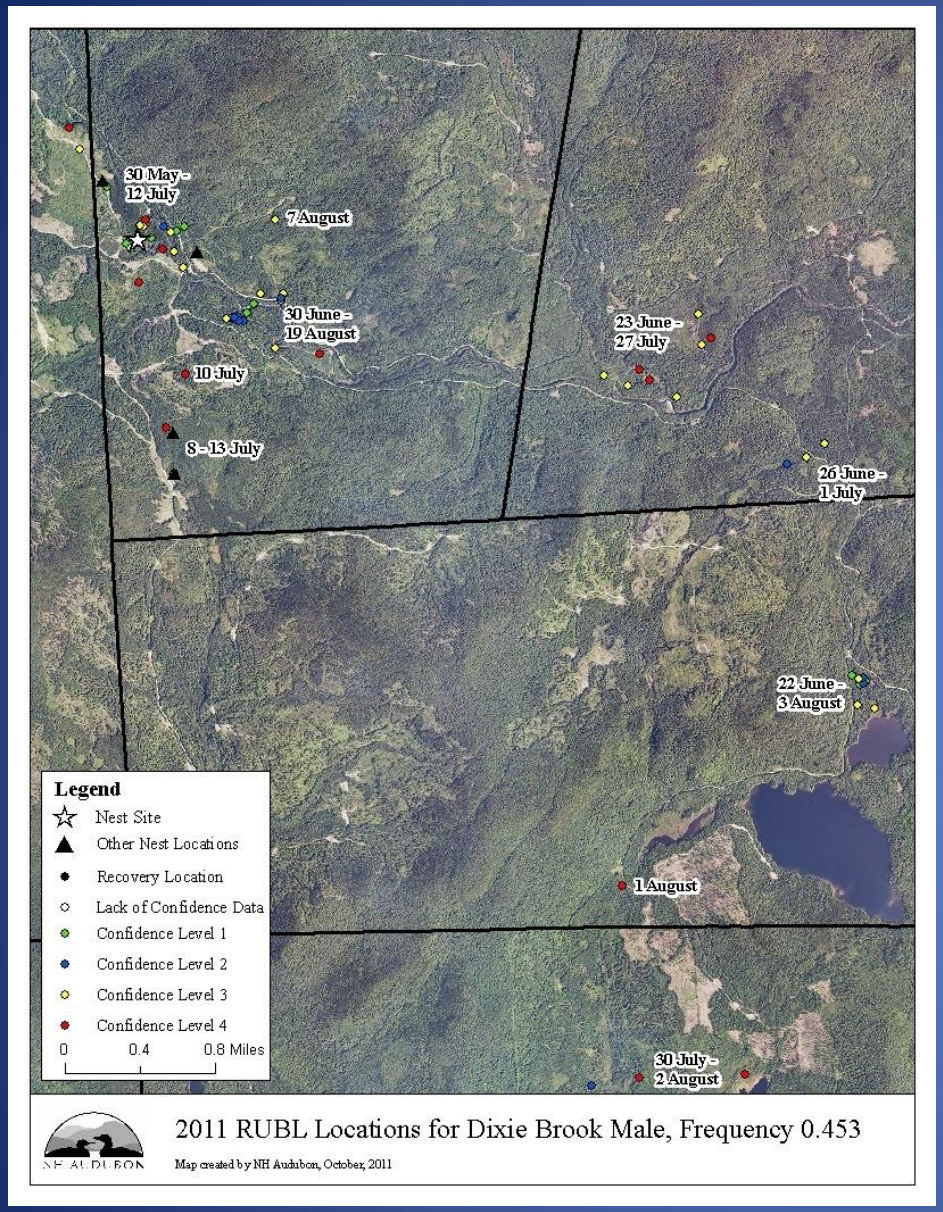
Daily activity patterns

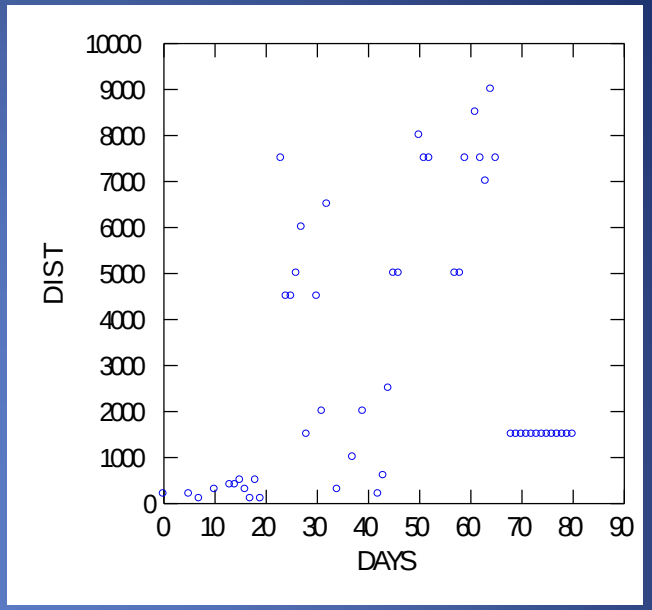
NH Bird Records
Rusty Blackbirds
January-December 1949-2009



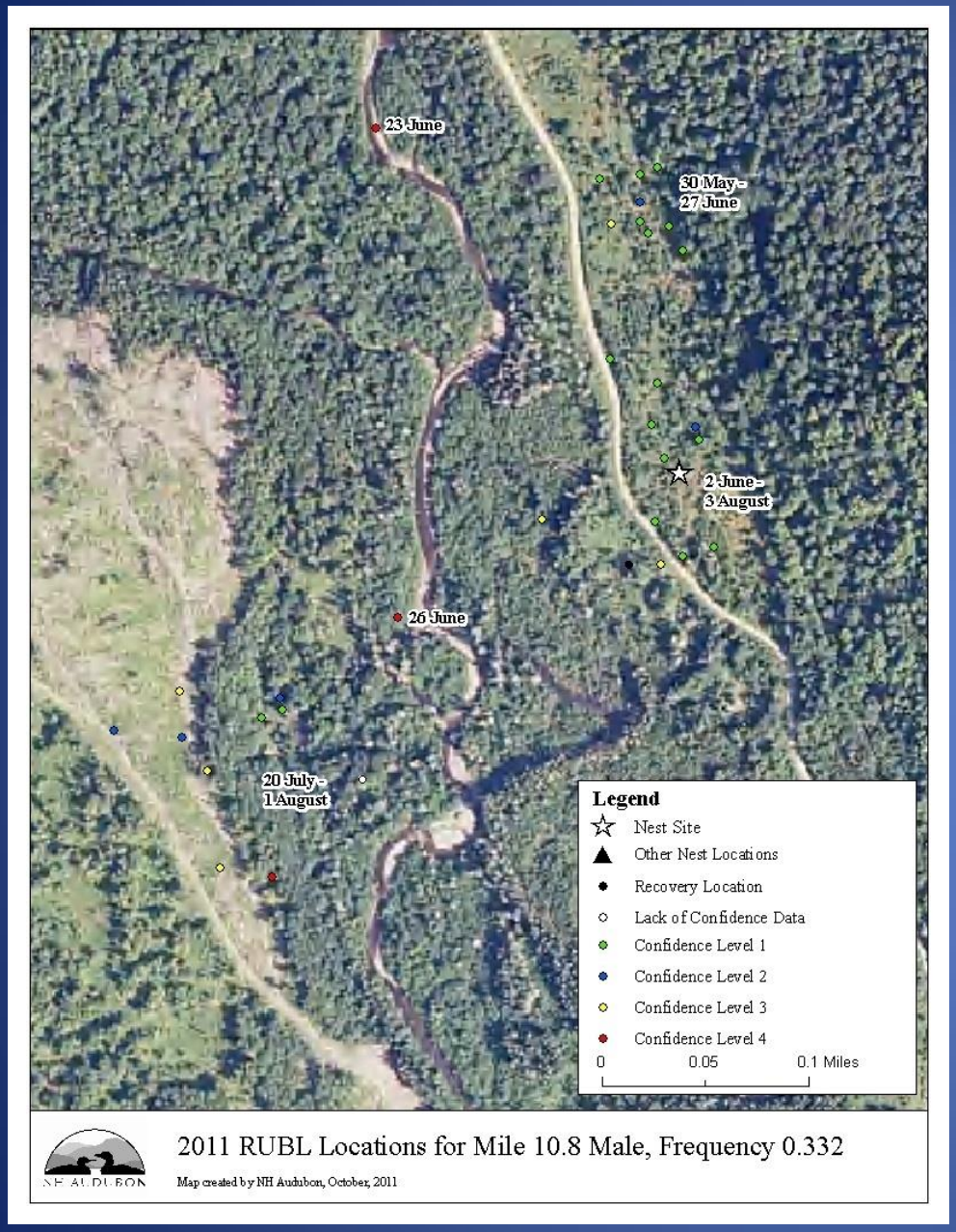
Approaches to Analysis

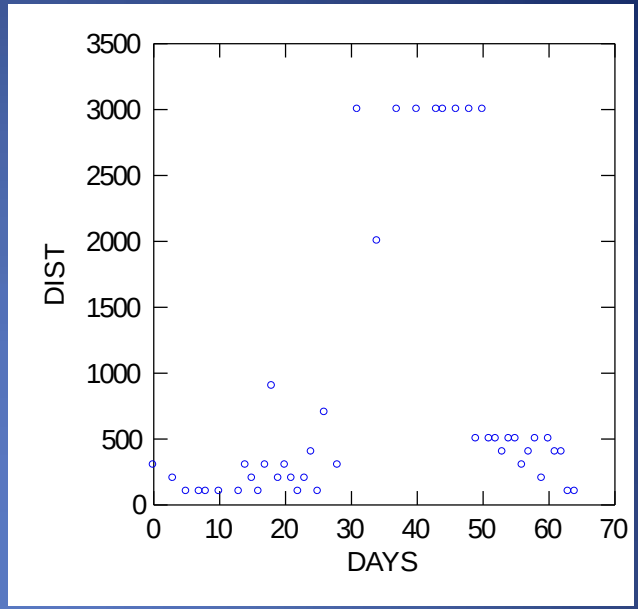
- Relationship between distance from nest and days since fledging
  - Scatterplot
  - Spearman rank correlation
  - Circular histogram



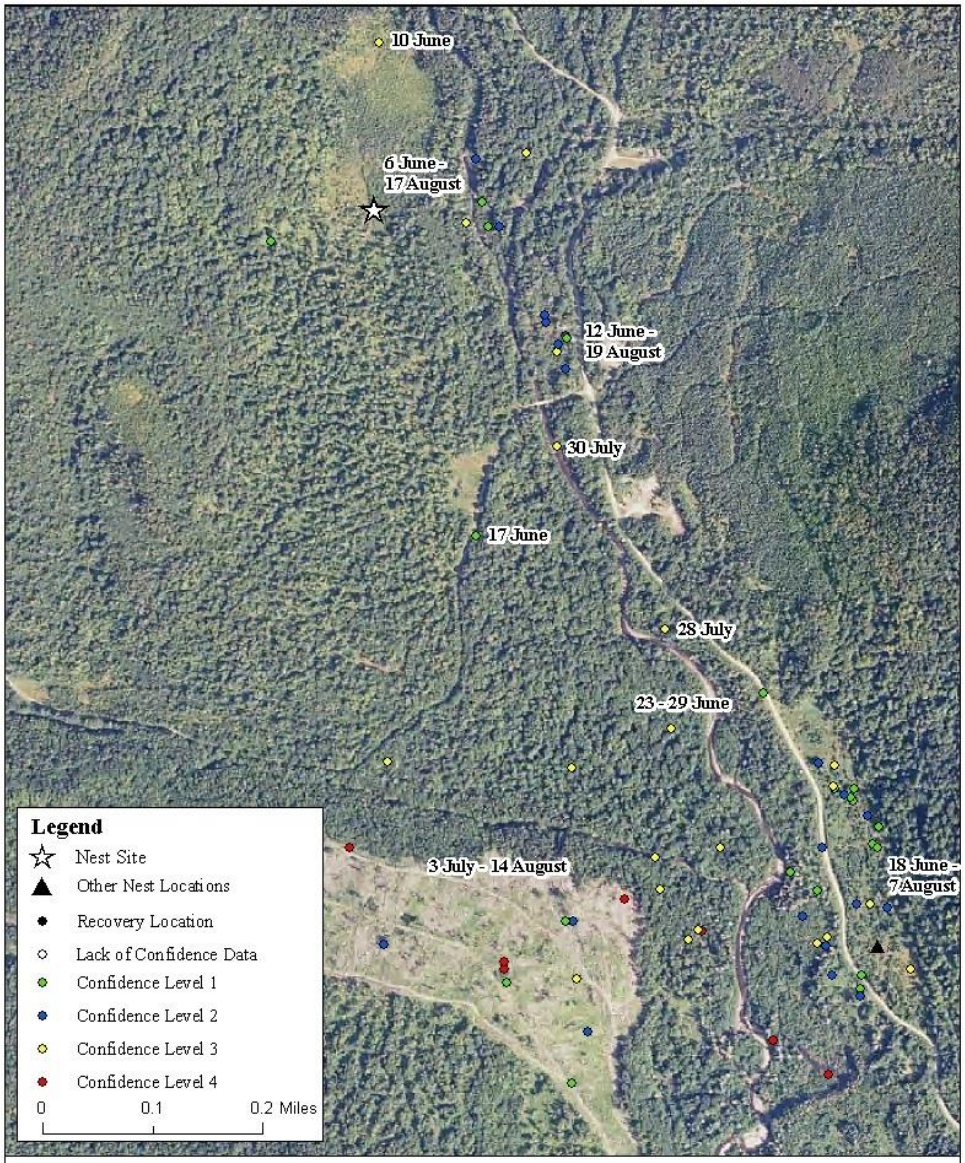


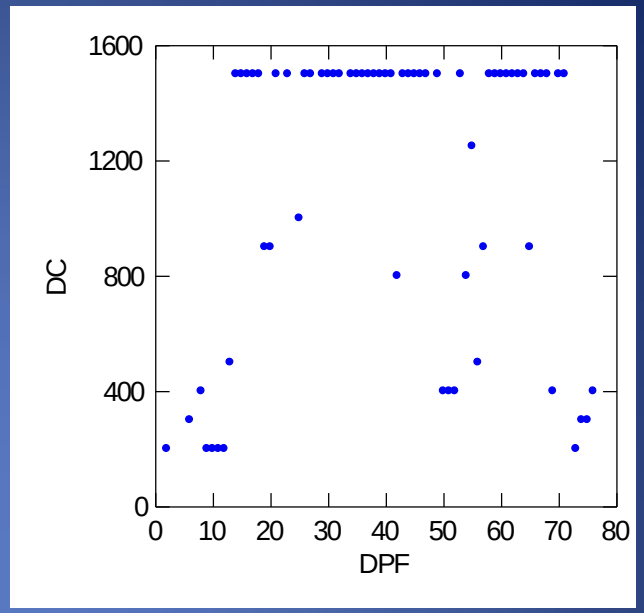
Adult male
52 observations
80 days
R=0.372



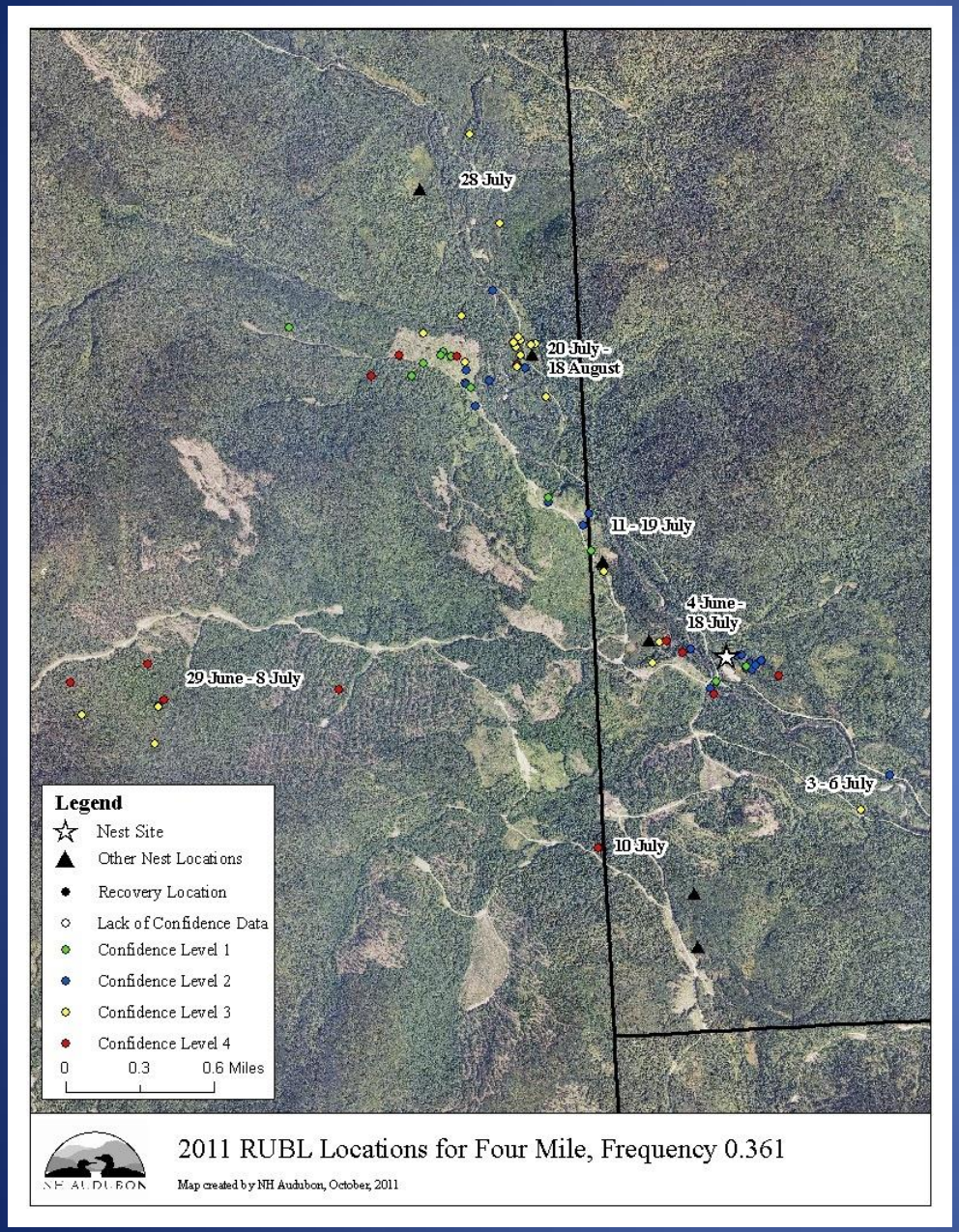


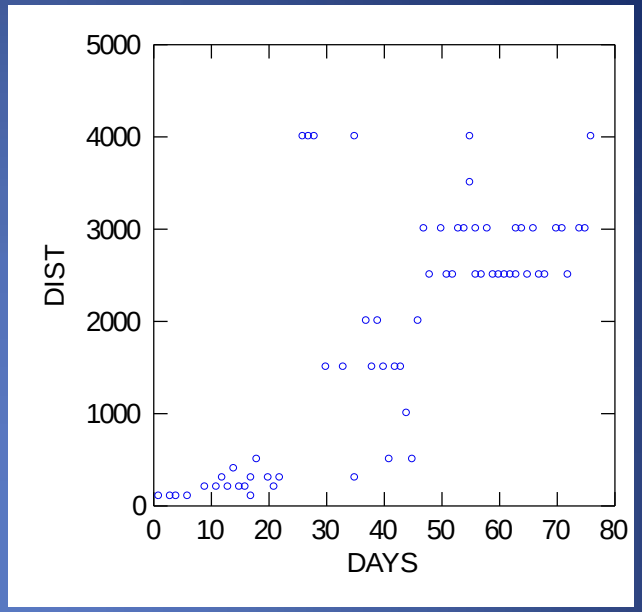
Adult male
45 observations
64 days
R=0.393



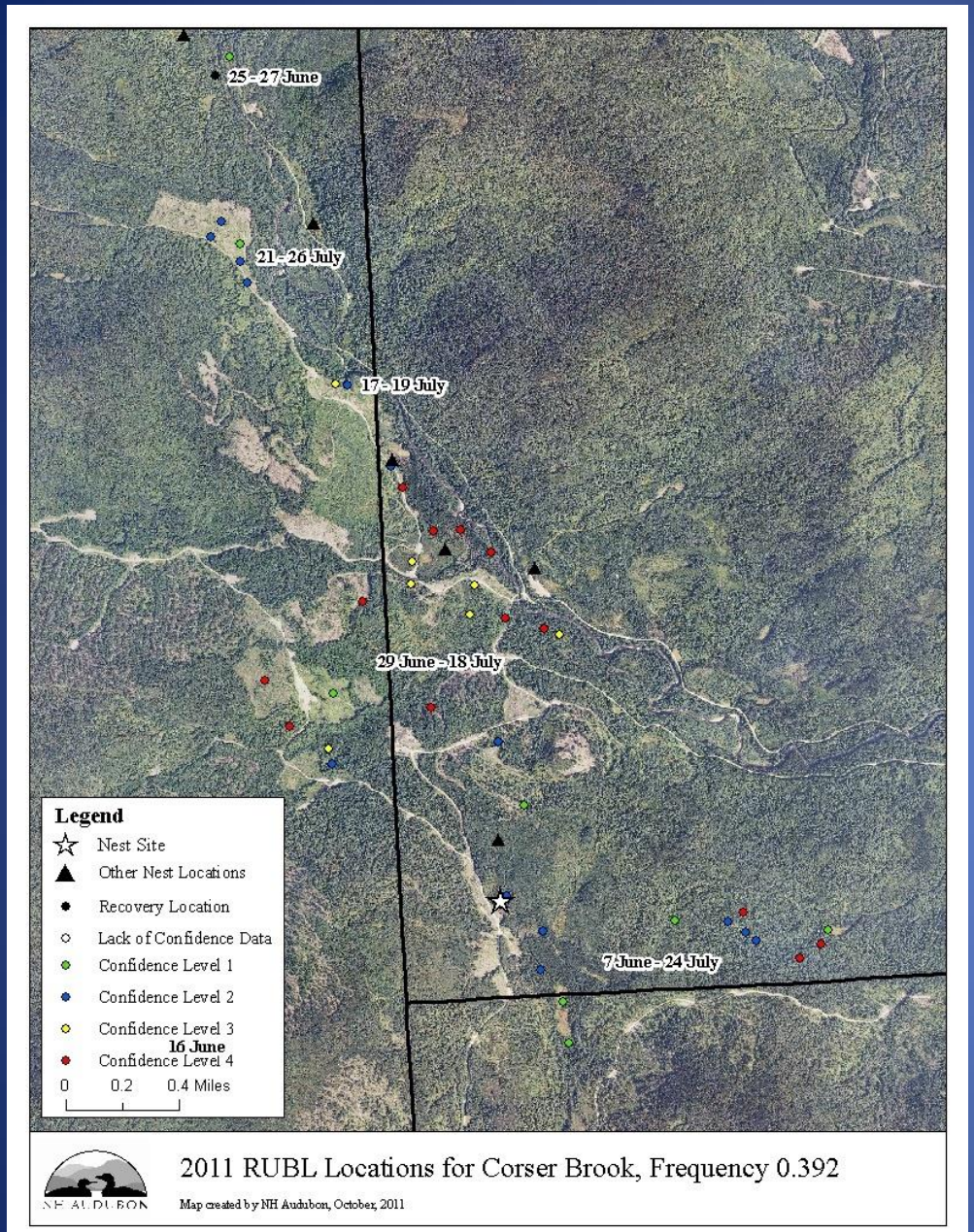


Adult male
67 observations
76 days
R=0.101

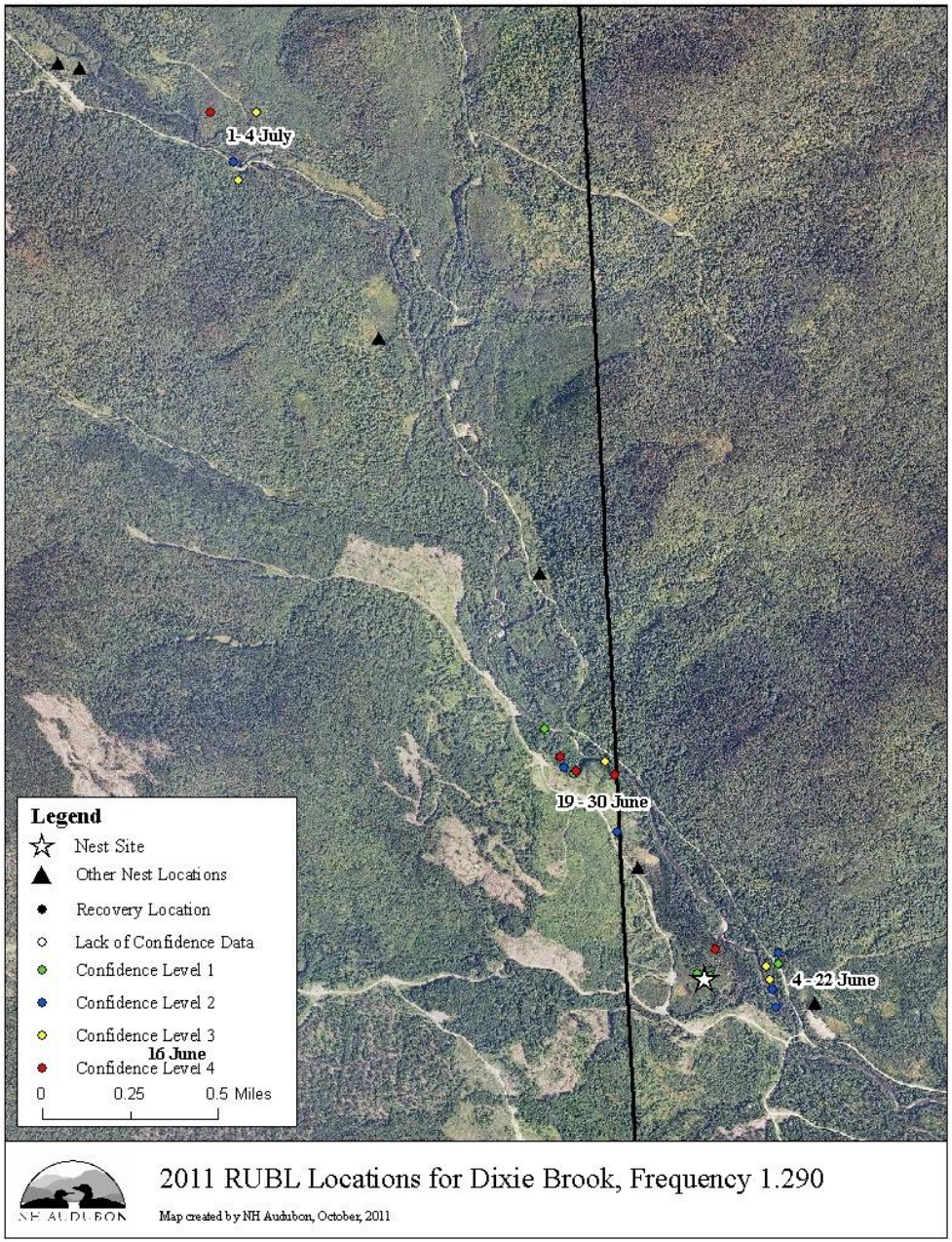


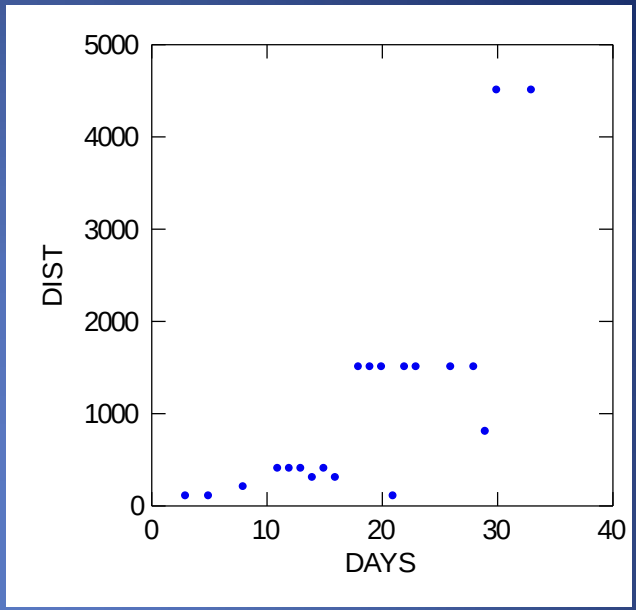


Hatch year
64 observations
76 days
R=0.717



Hatch year
42 observations
53 days
R=0.857





Hatch year
20 observations
33 days
R=0.782

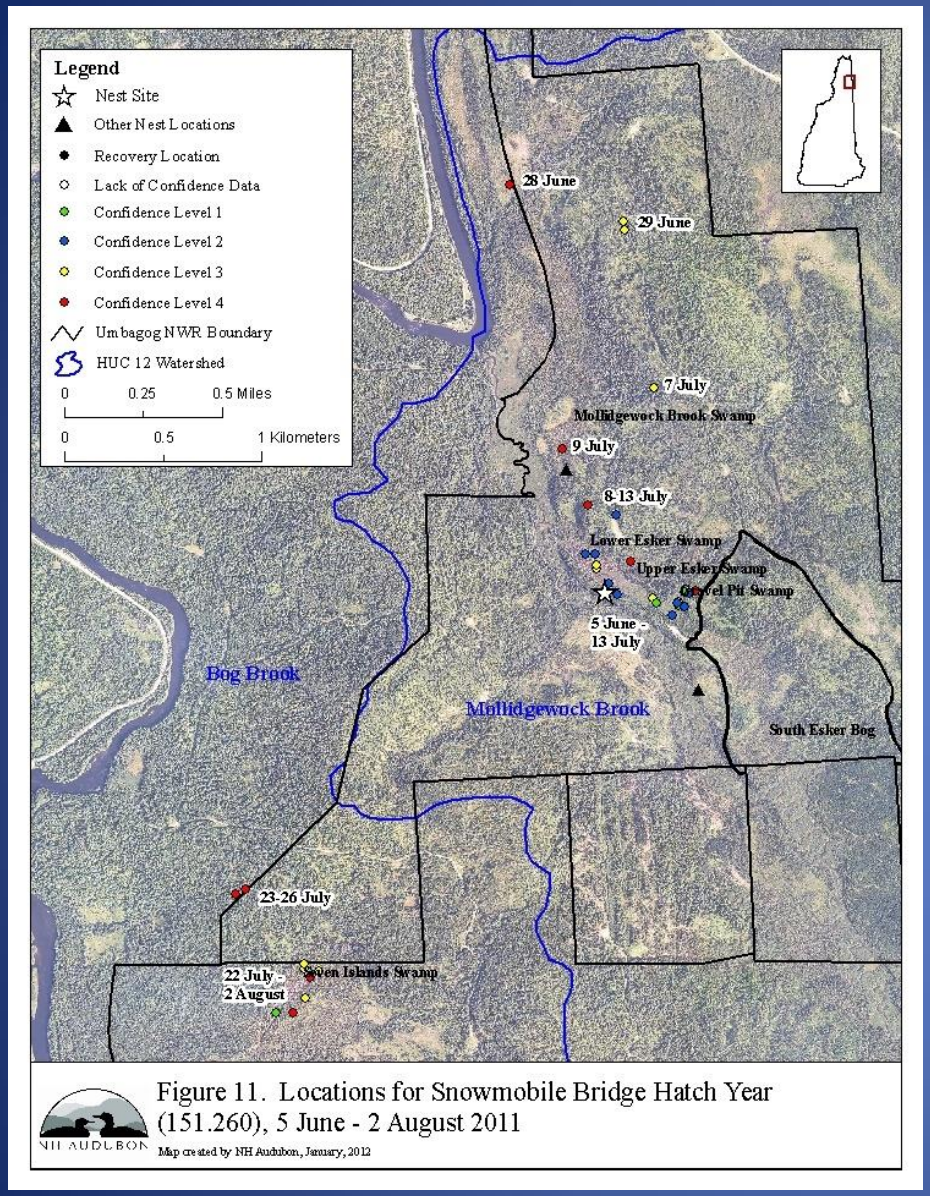
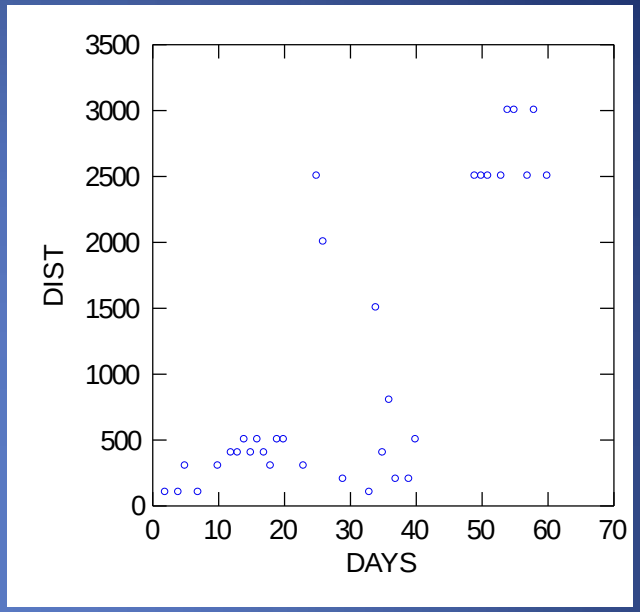
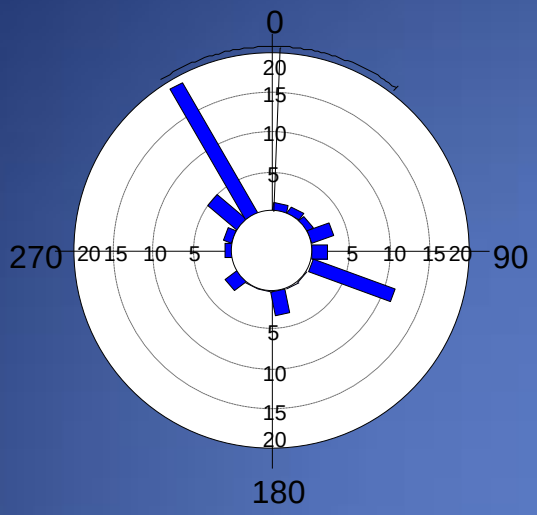


Figure 11. Locations for Snowmobile Bridge Hatch Year (151.260), 5 June - 2 August 2011

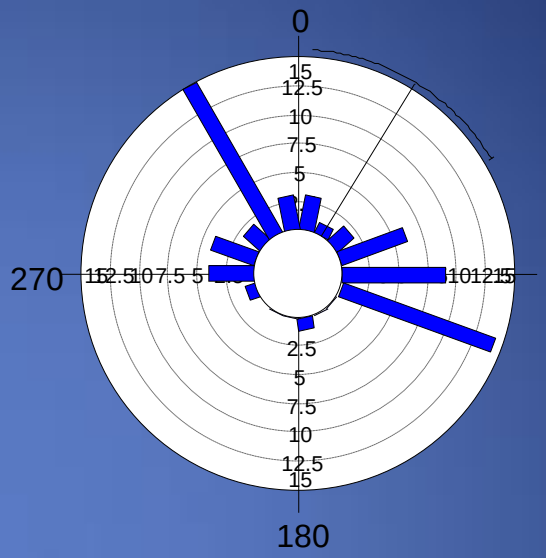


Hatch year
34 observations
60 days
R=0.707

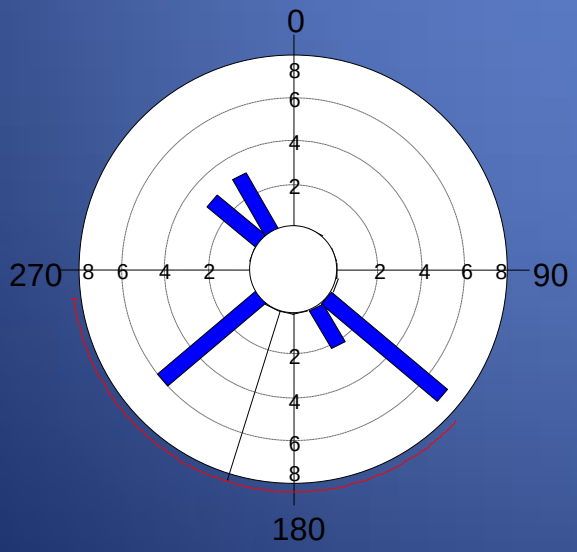
Dixie male 2012



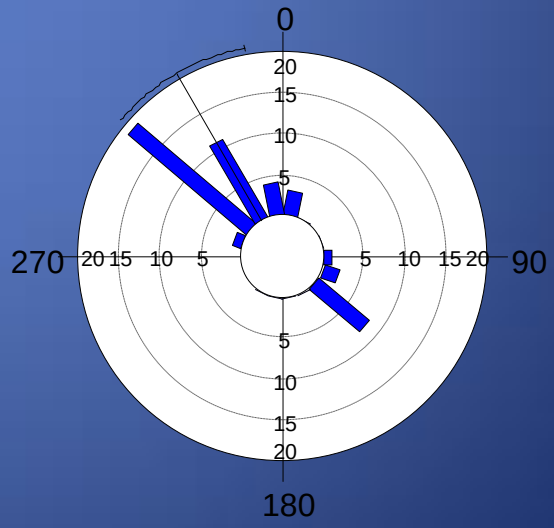
Dixie female 2012



Mile 14 male a 2012



Mile 14 Male b 2012



Recording Receiver Data

- Equipment:
  - ATS 4500SD
  - 12-volt marine battery
  - two 6-prong yagi antennas

Location

knoll in clearcut along river valley

8 known territories within 4 miles

Known area of post-breeding activity

Time frame

27 June – 28 August

Recording Receiver Data

Year
Day
Hour
Minute
Pulses received

Antenna
Frequency
Signal strength
Pulse rate
Number of matches

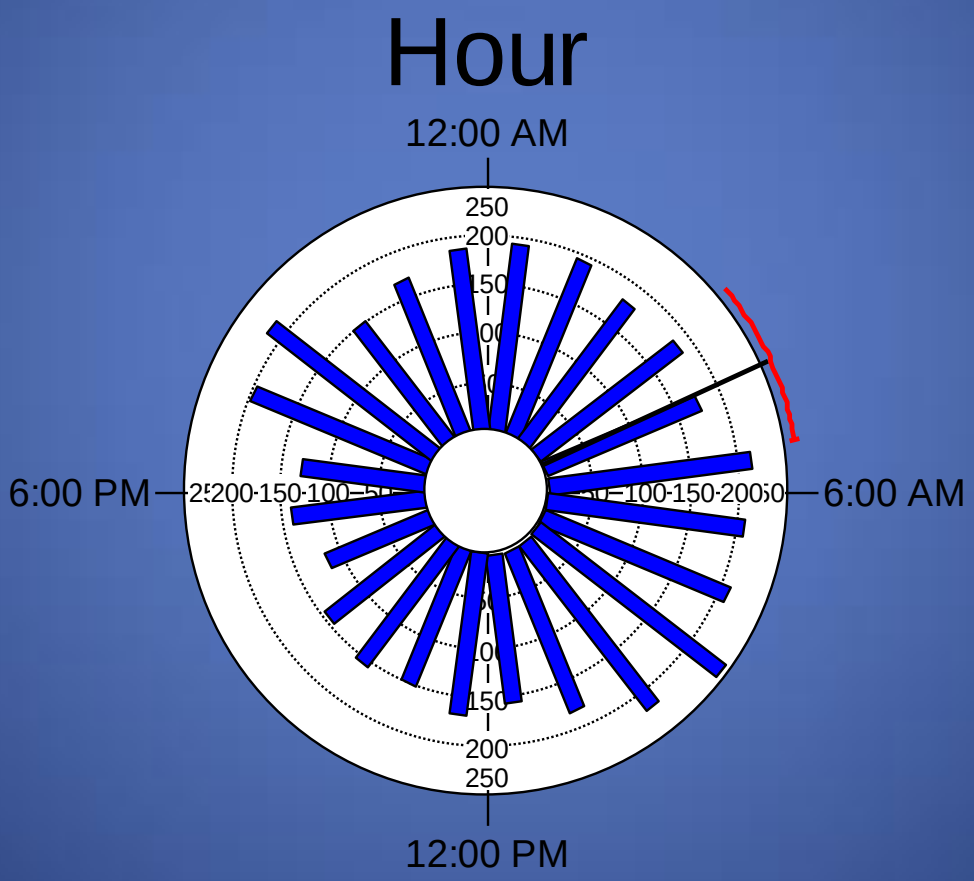
Data analysis

- Eliminated all data points with PPM < SPR-5 or PPM > SPR+5 and number of mismatches (NNN-MMM) > 3
- Determined detections within each hour for each day
- Used Oriana circular statistics software to create histograms for hours with 0 detections, 6 or more detections, and 1-2 detections

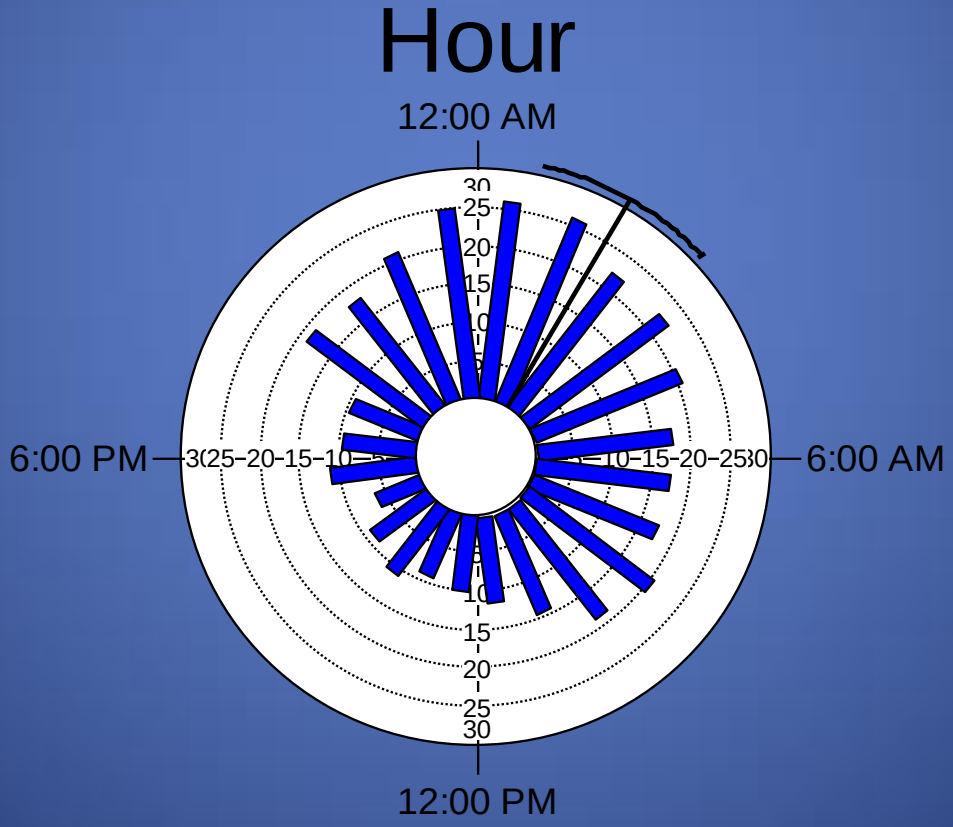
RESULTS

46,440 data points
(1-3 per detection)
12 individuals

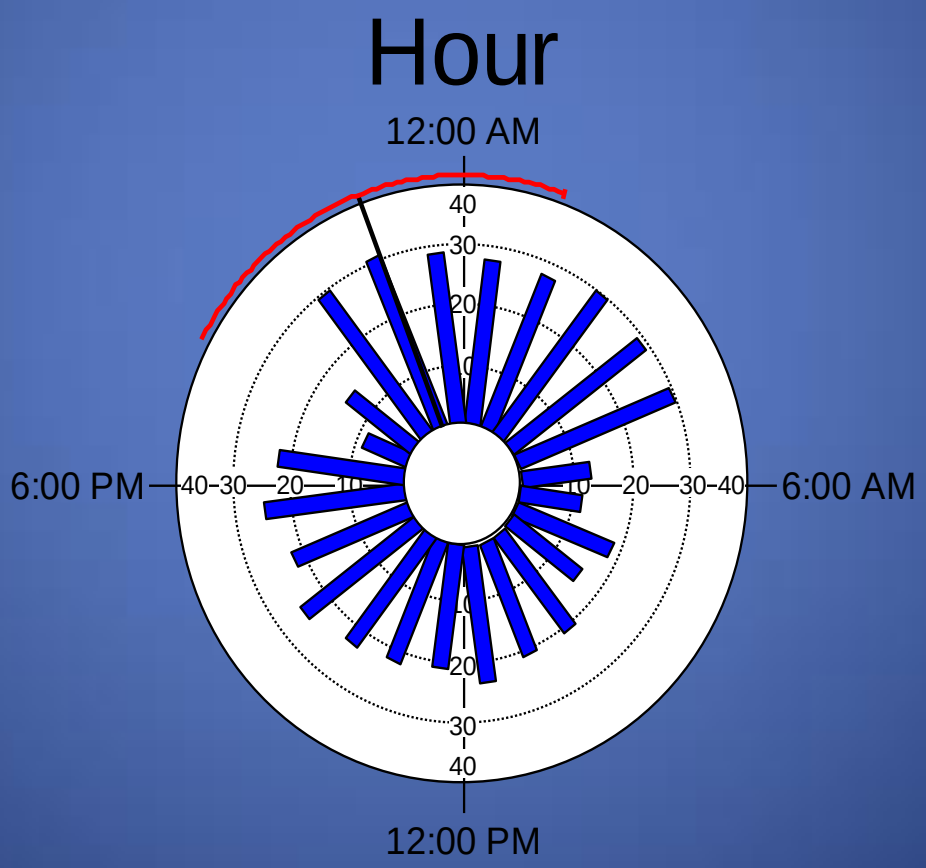
Frequency 150.270
2011 Recording Receiver
All Detections



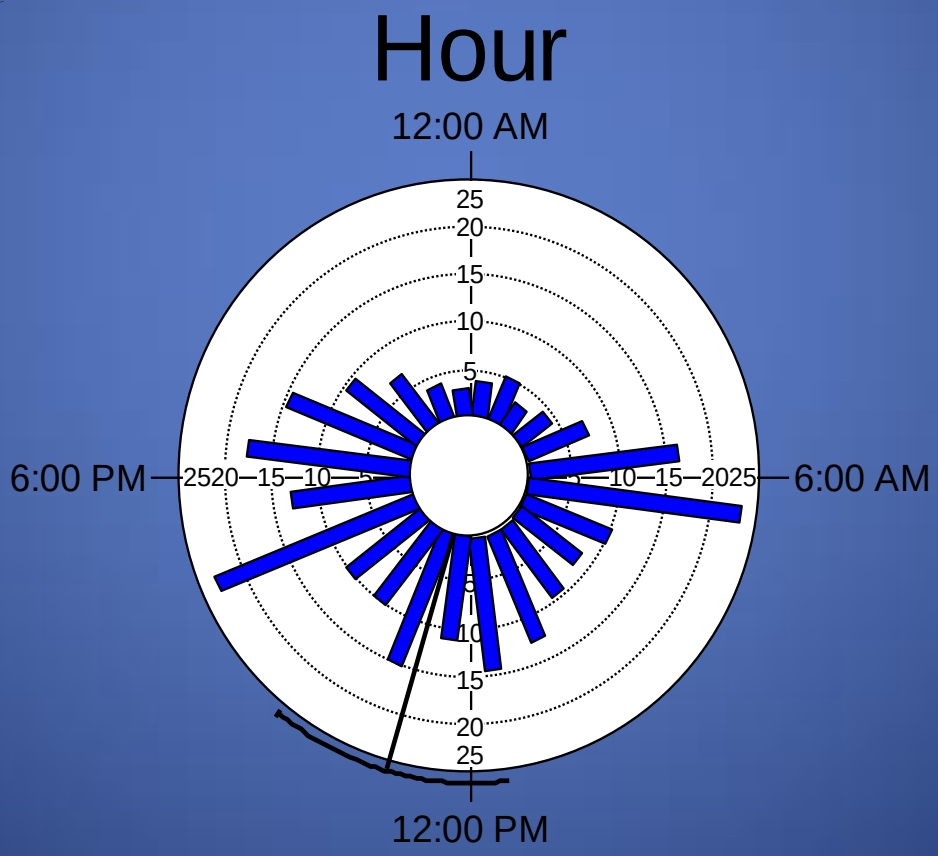
Frequency 150.270
2011 Recording Receiver
6+ Detections



Frequency 150.270
2011 Recording Receiver
0 Detections



Frequency 150.270
2011 Recording Receiver
1-2 Detections



What conditions support deployment of a recording receiver

- Multiple nests within x to provide a source of birds for telemetry
- Linear water feature that concentrates foraging activity
- Moderate to high topographic relief to concentrate movement

What can we learn from recording receiver data?

- Insights into detectability issues
- Insights into daily activity patterns
- Insights into timing of predation events
- Insights into timing of post-breeding movements and concentration