

# To Move or Not To Move: Site fidelity and dispersal in the Rusty Blackbird

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# Overall Study Objectives

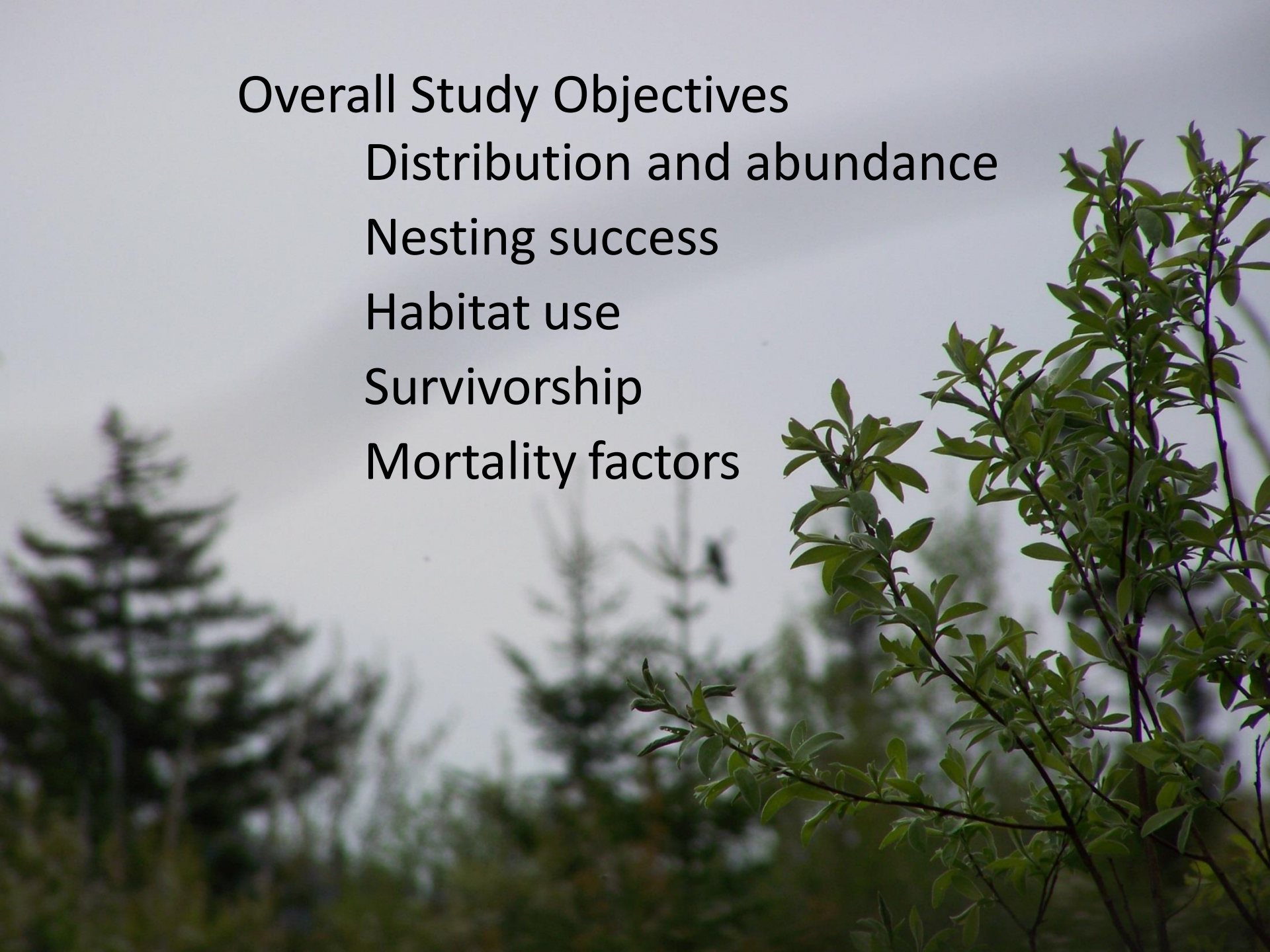
Distribution and abundance

Nesting success

Habitat use

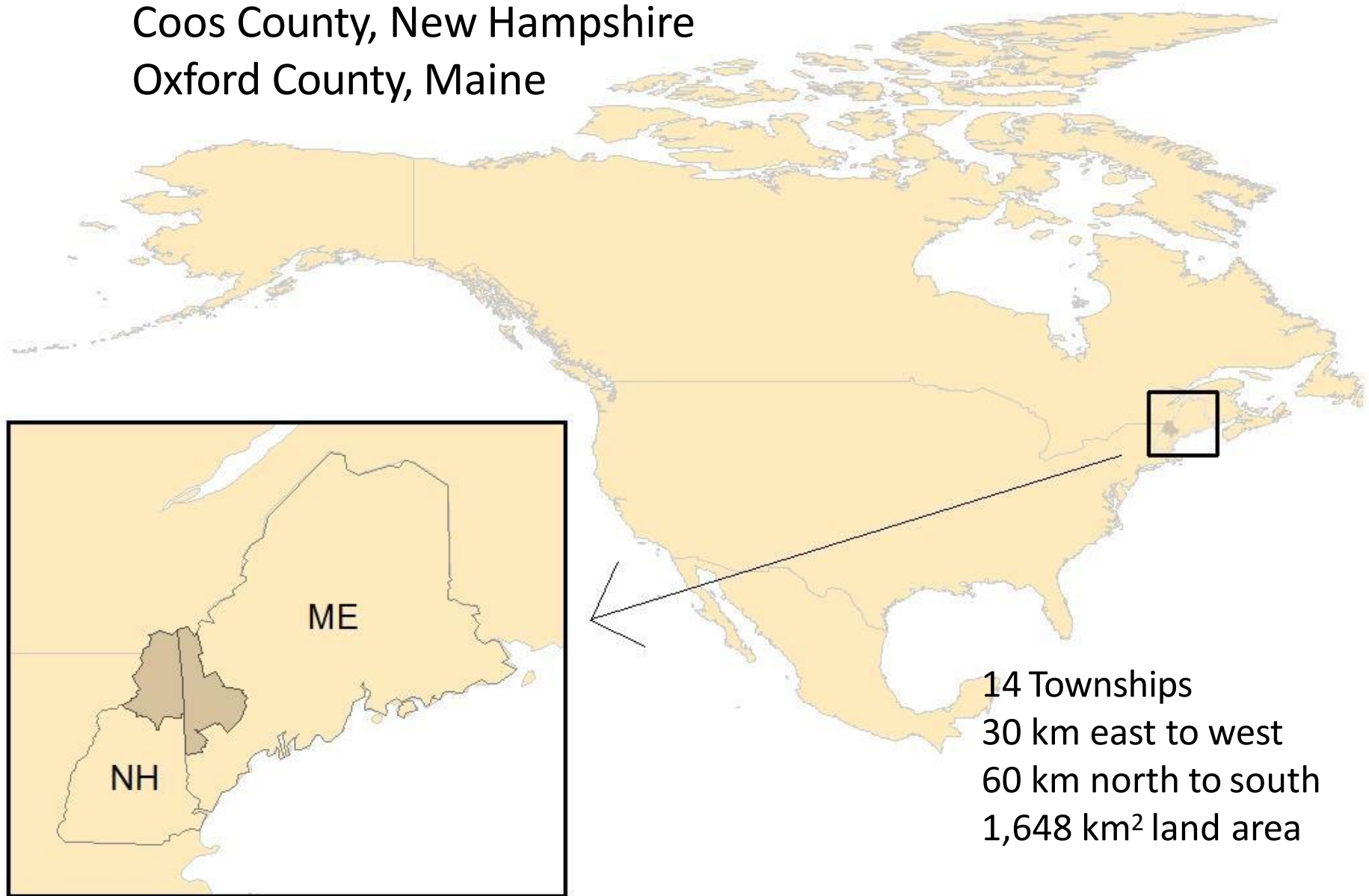
Survivorship

Mortality factors



# Study Area

Coos County, New Hampshire  
Oxford County, Maine



# Methods



Survey potential habitat for presence



Locate nest sites



Confirm clutch size



Monitor nest success and productivity



Band adults and nestlings



Resight banded individuals



# Results



Banded 2009-2015



112 males

92 females

454 nestlings

# Resights and recaptures 2010-2016



20 (30) males  
11 (13) females  
6 (8) nestlings  
9 unknowns

# Gender and site fidelity

	n	Mean	Min	Max
Males	28 (22)	964 m (0.66 mi)	8 m (26.2 ft)	6.6 km (4.1 mi)
Females	21 (18)	857 m (0.68 mi)	14 m (45.6 ft)	6.6 km (4.1 mi)

Sex	Same Territory	Same Colony	Same Watershed	Landscape
Males	15	4	7	2
Females	11	2	8	0

No significant difference between males and females  
Chi square = 0.873,  $p = 0.350$

# Effects of previous nest fate

Previous fate	< 500 m (1,640 ft)	500+ m (1,640+ ft)
Successful	26	10
Failed or unknown	9	4

No obvious effect of previous nest fate



# Site fidelity vs. dispersal

	n	Mean	Min	Max
Males	28 (22)	964 m (0.66 mi)	8 m (26.2 ft)	6.6 km (4.1 mi)
Females	21 (18)	857 m (0.68 mi)	14 m (45.6 ft)	6.6 km (4.1 mi)
Hatch years	7 (7)	10.2 km (5.6 mi)	3.3 km (2.1 mi)	18.25 km (11.3 mi)



# Gender and dispersal

	n	Mean	Min	Max
HY Males	4	8.2 km (5.1 mi)	5.2 km (3.3 mi)	13.4 km (8.3 mi)
HY Females	3	13.0 km (8.1 mi)	3.3 km (2.0 mi)	18.2 km (11.3 mi)



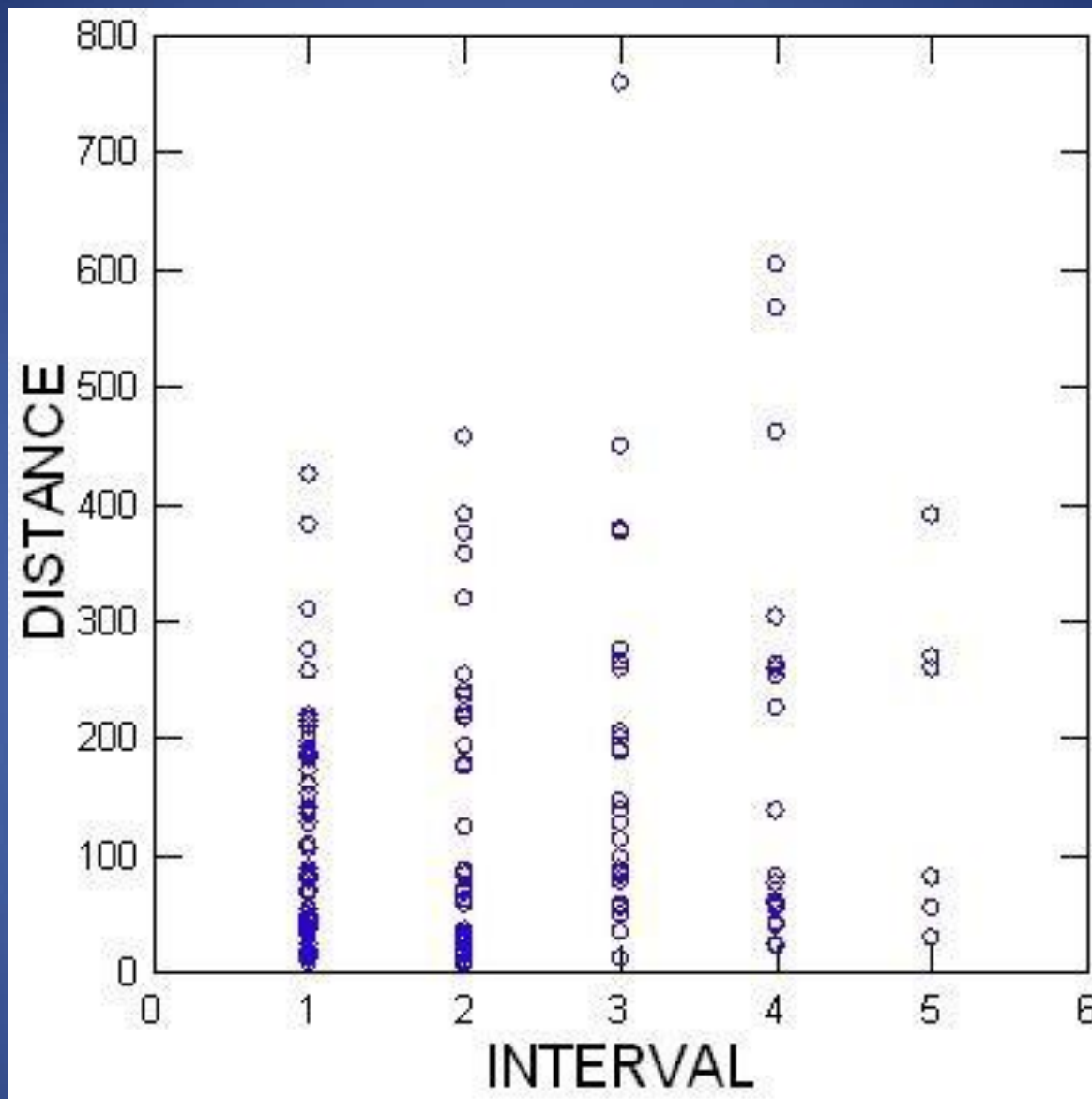
# Within-territory between-nest distances

Interval (years)	n	Mean	Minimum	Maximum
All	161	134 m (440 ft)	3 m (10 ft)	759 m (0.47 mi)
1	67	105 m (344 ft)	8 m (26 ft)	425 m (0.26 mi)
2	40	122 m (400 ft)	7 m (23 ft)	457 m (0.28 mi)
3	28	176 m (577 ft)	3 m (10 ft)	759 m (0.47 mi)
4	19	189 m (620 ft)	22 m (72 ft)	604 m (0.38 mi)
5	7	157 m (515 ft)	13 m (43 ft)	390 m (0.24 mi)

Significant difference in mean between-nest distances depending on number of years between nests

ANOVA F Ratio = 2.511  $p = 0.04$

m



Years

# Sample within-territory between-nest distances

Site	N (years)	Mean (ft)	Min (ft)	Max (ft)
HORN	6	46 m (151 ft)	9 m (30 ft)	86 m (282 ft)
DIXI	6	68 m (223 ft)	11 m (36 ft)	138 m (453 ft)
HILL	5	85 m (279 ft)	7 m (23 ft)	193 m (633 ft)
MOL3	6	193 m (633 ft)	18 m (59 ft)	319 m (1,047 ft)
CEDS	5	193 m (633 ft)	26 m (85 ft)	378 m (1,240 ft)
COBR	5	197 m (646 ft)	32 m (105 ft)	425 m (1,394 ft)
MI14	6	206 m (676 ft)	7 m (23 ft)	461 m (1,512 ft)

# Effect of adult history

History	Mean (m)	n
Same female	100 m (328 ft)	6
Different female	94 m (308 ft)	12
Same male	64 m (210 ft)	9
Different male	111 m (363 ft)	14

Larger sample size may show significant difference  
between males and females

## Clustered nests 4000 foot view



# Dispersed nests 4000 foot view



# Summary

## Site fidelity of adults

- No significant difference between males and females

- Significant majority return to same territory

- A few move more than 6 km (4 mi)

- No apparent effect of previous year nest fate

## Dispersal of young

- Very small sample size

- Landscape level dispersal (at least 3 km [2 miles])

## Between-nest distances

Patterns vary among territories from tightly clustered to dispersed

Majority of nests in territory within 0.5 km (0.3 mi) of one another

Insufficient failures to assess effect of previous year's nest fate

No apparent effect of new female

Possible effect of new male



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