(23) Population Recovery & Bird Hazards: Threats / Responses – case of Common Buzzard (Buteo buteo) in Ireland.

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The Common Buzzard became extinct in southern Ireland sometime in the late 19th century. Population recovery was detected in the mid-1980's but the first attempts were unsuccessful (Hutchinson, 1989: Birds in Ireland, Poyser). Thereafter, from the late 1990's recolonization has been rapid and buzzards are now regular visitors to airfields along the east coast of Ireland. Recovery was followed by collisions with aircraft some of which caused damage as Buteo buteo can weigh up to 1.37 kg. The elevated risk of collisions associated with population increases in large birds is addressed in Dolbeer & Eschenfelder (2003: IBSC 26WPOS4). This study describes the preliminary results of a trapping programme (licenced by the National Parks and Wildlife Service) and translocation of captured individuals several hundred kilometres to the south. These birds were all marked with wing tags and an important element of the study is to see a) whether or not they returned to the airfield following release, and b) was there a reduction in number of buzzard sightings at the aerodrome? The results prove conclusively that the population is much larger than was initially thought as sustained trapping resulted in 20 birds being caught over the September (2014) to March(2015) –seven months –interval! In addition to an analysis of the age structure of the captured sample, the sex ratio and body masses, answers have also been sought in relation to the frequency of buzzard strikes as well as the number of observations and scaring actions following the capture- release programme. Initial results suggest that the use of the at-risk airspace by buzzards has decreased following the large scale capture and release of birds. To our knowledge this is the first study of its kind to have been undertaken in Ireland. CASEMENT AERODROME, Baldonnel, Co.Dublin, Ireland Location: 53°18'20" N 6°26'20" W 94M

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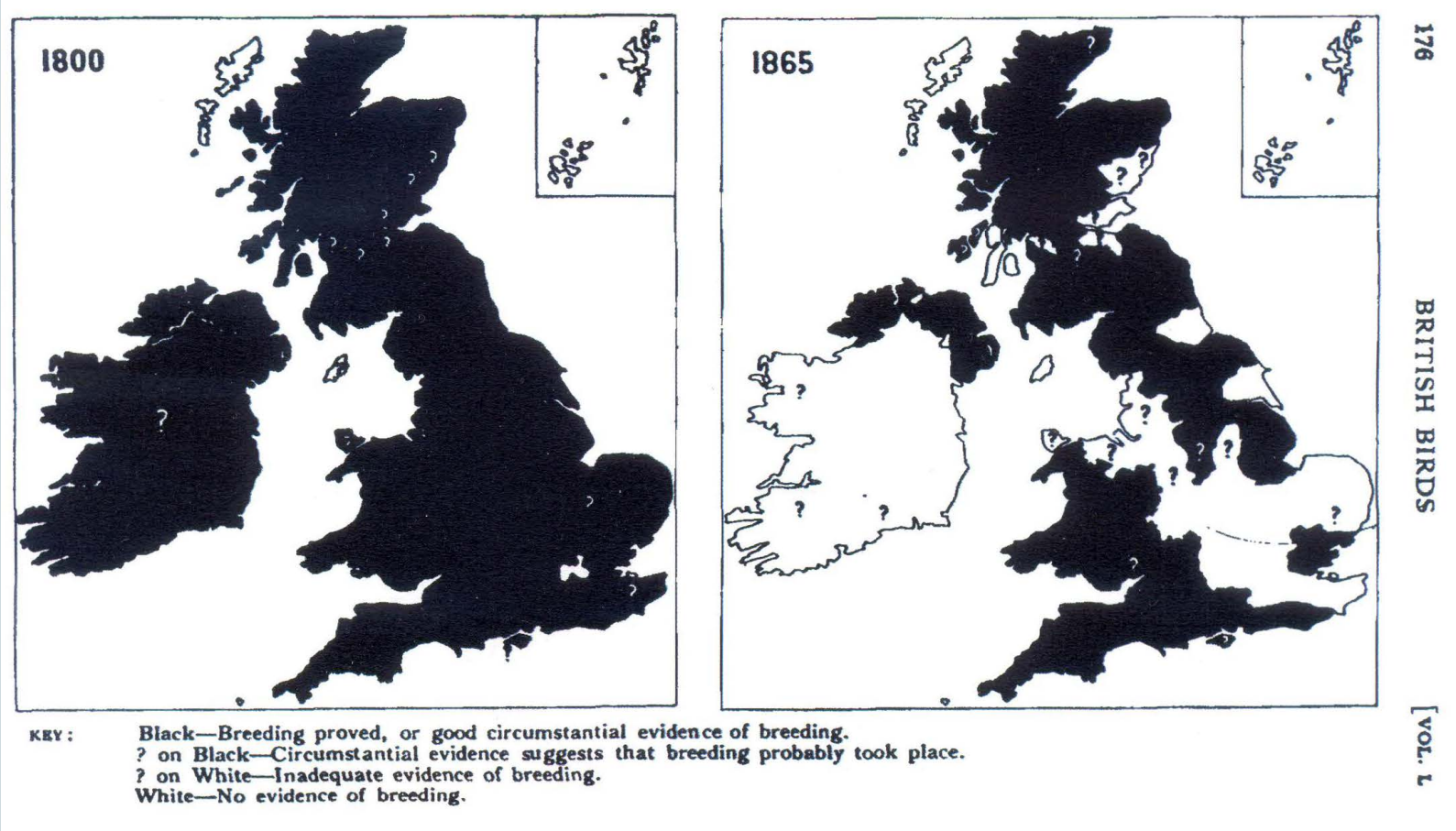
Introduction

19th Century's most common Bird of Prey in the British Isles. (Moore 1957)

- 1800-1865 Breeding Range



20th Century Fortunes

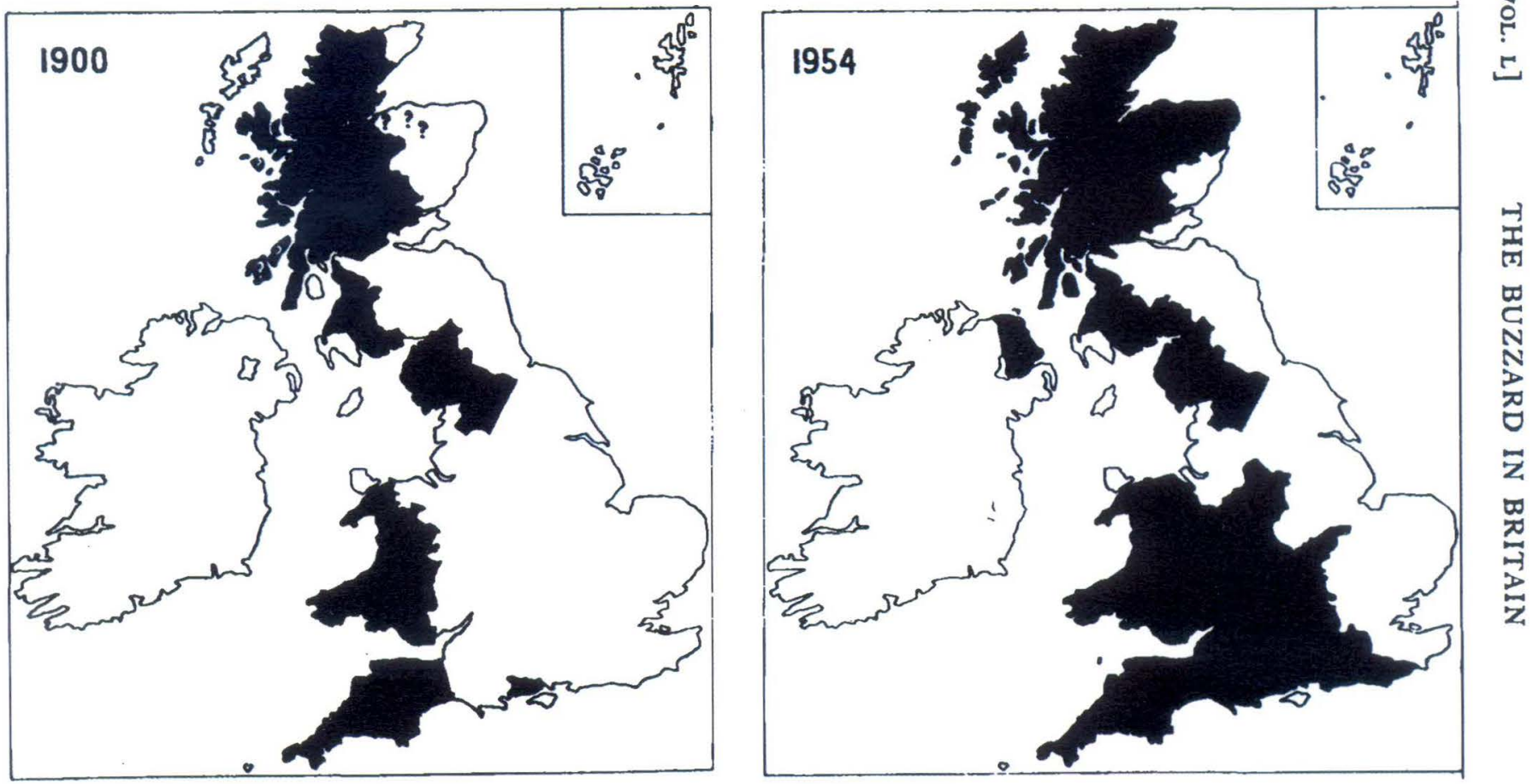
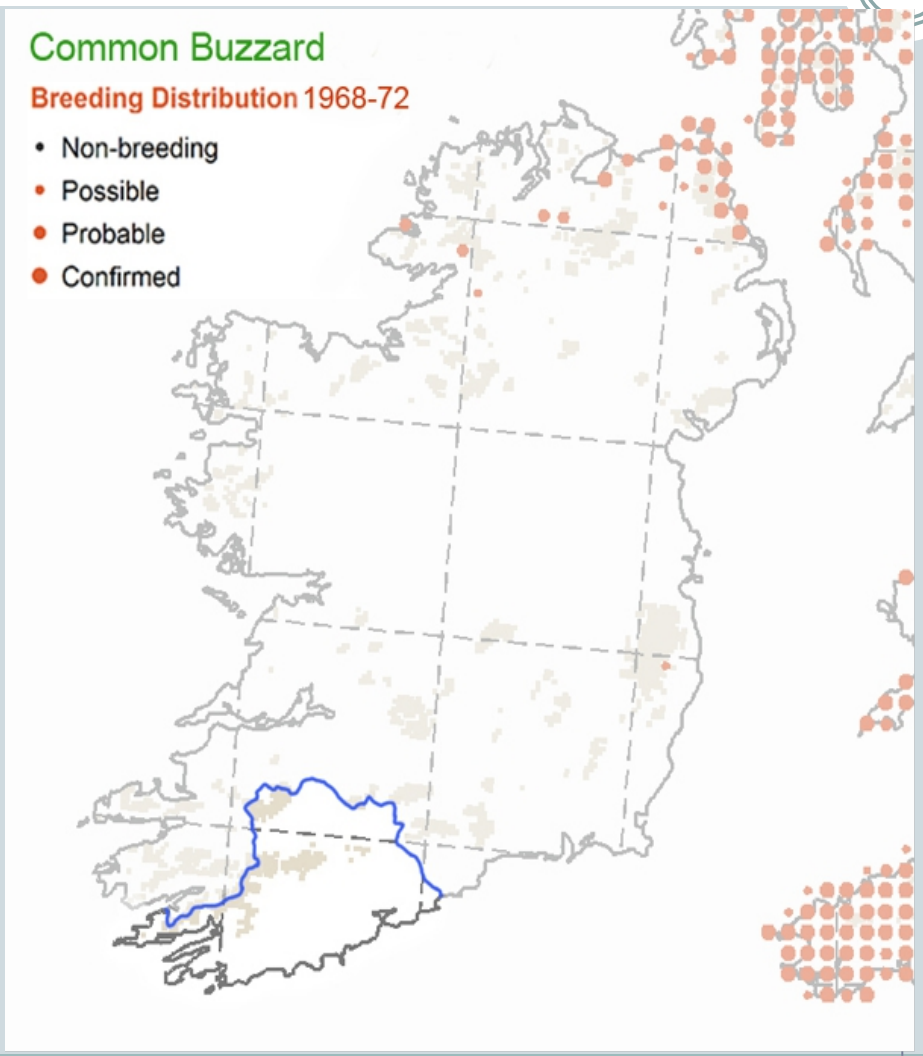
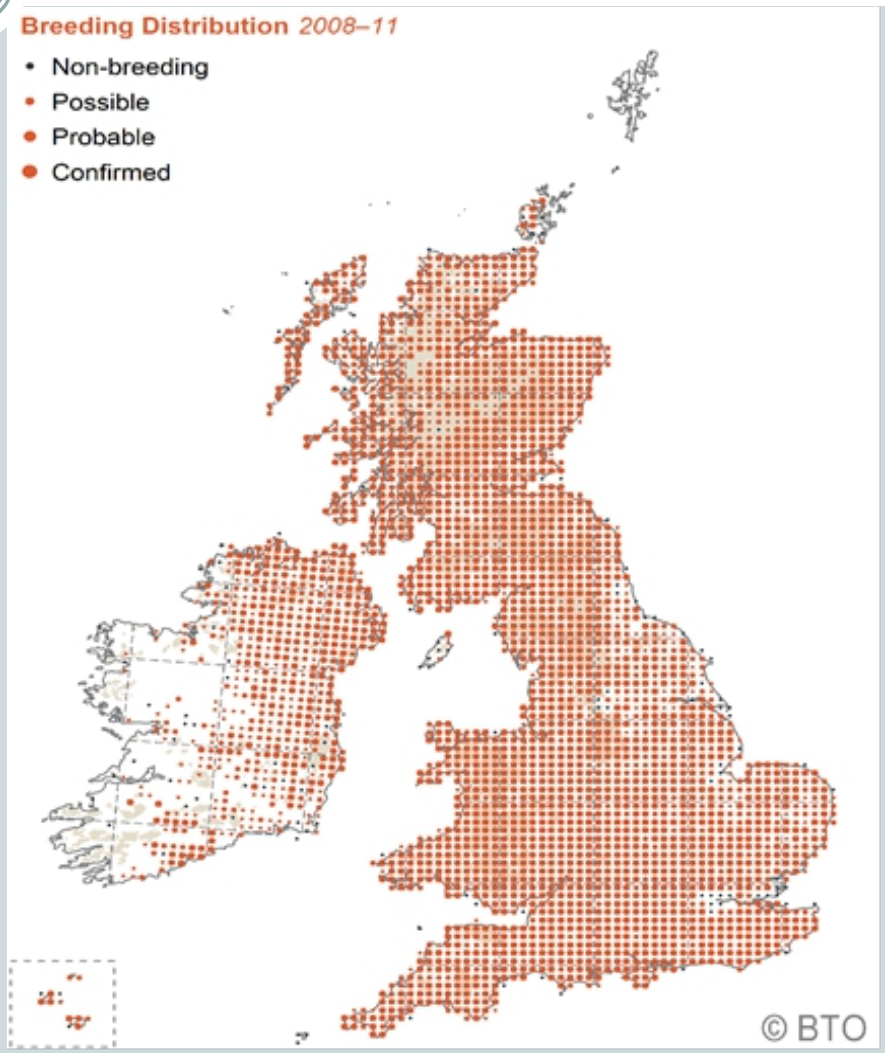


FIG. 1—CHANGES IN THE DISTRIBUTION OF THE BUZZARD (*Buteo buteo*) IN THE BRITISH ISLES, 1800-1954

Breeding Bird Atlas. Sharrock (1976) **Bird Atlas 2007-11. Balmer *et al* (2013)**

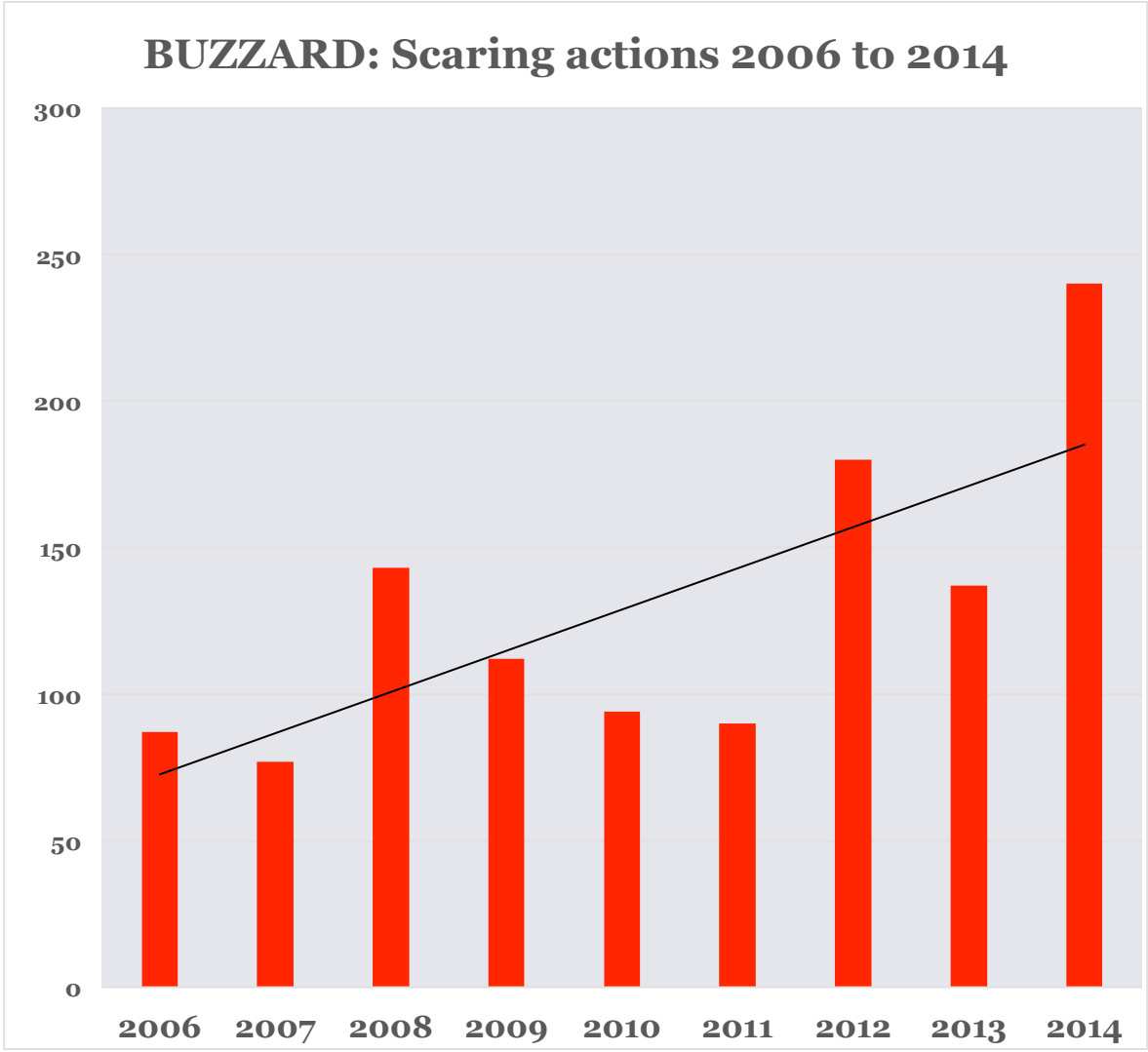




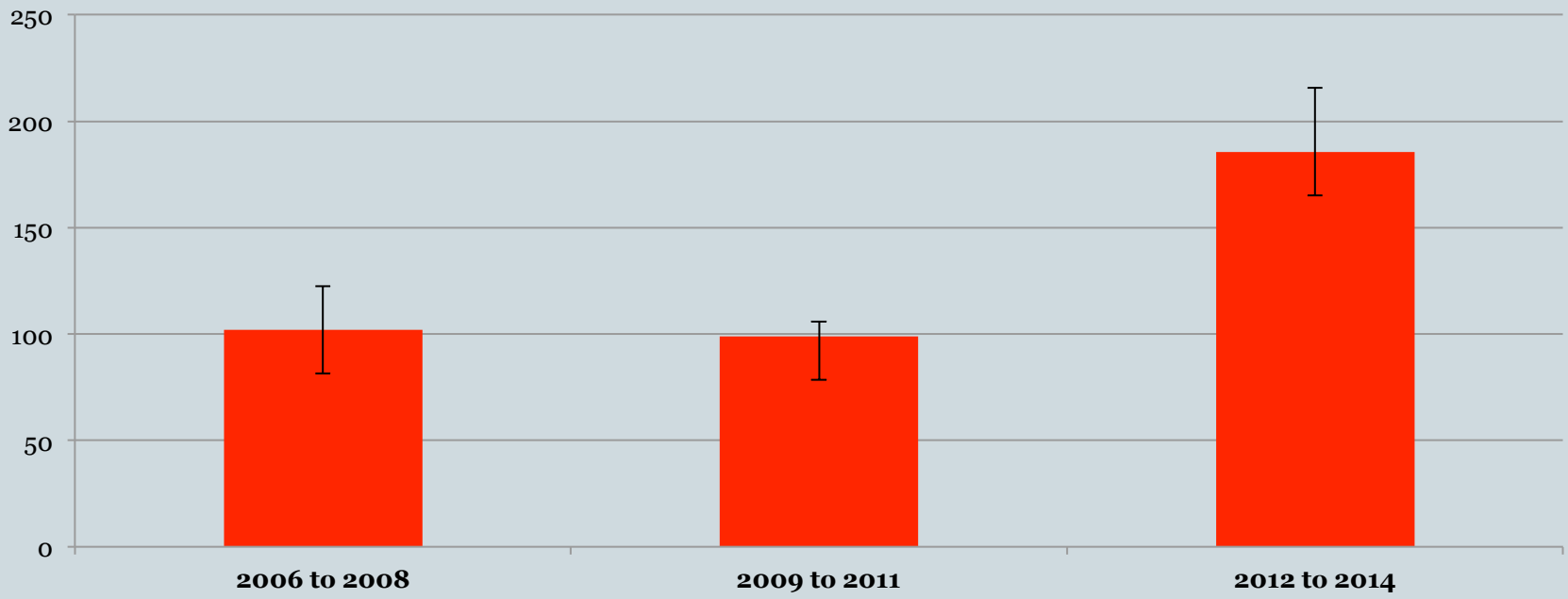
Failed nesting attempts during 80's in East (Hutchinson 1989)

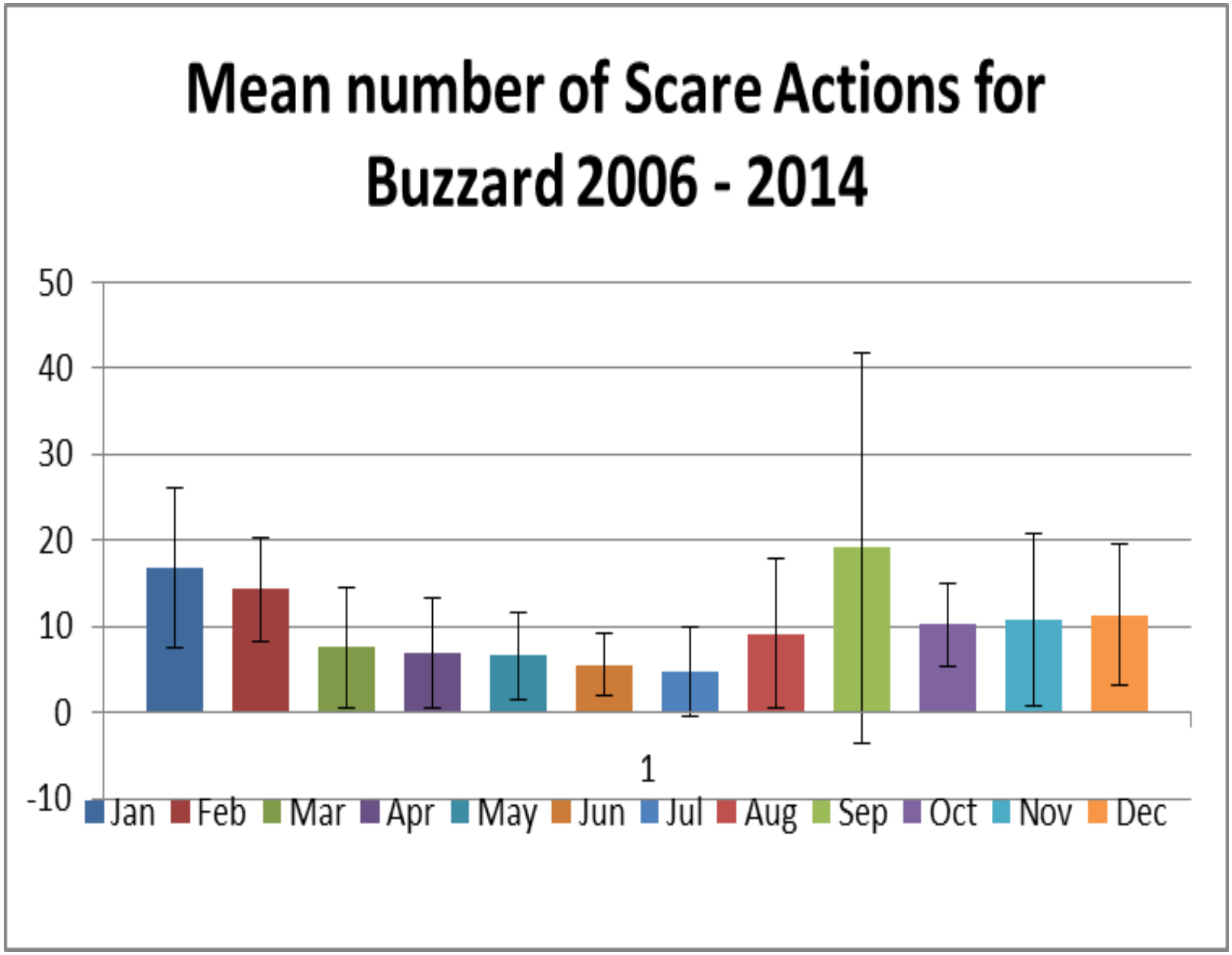
Casement Aerodrome
Irish Air Corps

- BCU operated by BCI Ltd since 2005
- All Actions, Results of Actions, Observations, have been recorded since commencement.
- Monthly & Annual Reports
- Only two strikes with Buzzards but sightings and dispersal actions increasing.


BUZZARD: Scaring actions 2006 to 2014
300
250
200
150
100
50
0
2006
2007
2008
2009
2010
2011
2012
2013
2014

BUZZARD: Mean scaring actions in three year intervals (± SE)




Mean number of Scare Actions for Buzzard 2006 - 2014
50
40
30
20
10
0
-10
1
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec

Hypothesis

Translocation of *Buteo buteo* to locations 140+Km distant will result in;

Notional 50% return of translocated Buzzards to Casement Aerodrome.

- Measurable reduction in the number of Buzzard scaring actions / observations and therefore a lessening of the risk to aviation at the airfield.
- The results are of wider interest because of the increasing presence of Buzzards at airfields elsewhere in Ireland

Methods 1 - Licensing

Governed in Ireland ; The Wildlife Act 1976 & Wildlife Amendment Act 2000.

- National Parks and Wildlife Service. (NPWS) Section 42 Capture License.
- NPWS Section 32 Ringing and Tag License
- NPWS Possession of a Bird of Prey License
- British Trust for Ornithology(BTO) Ring Numbers and Tag colours

Methods 2
Traps

- Remotely triggered Bownet
- Side Entry Larsen Trap
- Pre-baited with rabbit carcasses. Staked to ground.
- Monitored for activity during the BCU patrols

Methods
Location of Trap Bait Stations

- Birds found the rabbit quickly.
- Some birds very cautious
- Larsen trap left in one location, Bow net moved around but the area was treated to look the same with or without trap

Methods 3
Resources

- BCU Patrol monitored and activated traps.
- BCU Initial handling , ready bird for transport.
- Transport to Counties Cork and Waterford.
- Liaison with Ringer. Biometric data recorded
- Leg Ring and Wing Tags Fitted
- Transport to release site, Recorded on GPS unit.
- Three persons Involved in each capture / release.

Methods
Safe Handling of Buzzards

- Falconers Hoods
- Temporary Anklets, Swivel and Jesses.
- Falconers Gauntlets
- Transport in ventilated Box

Tags and Biometric Data

- Green (R) and Black (L)
- Weight
- Tarsus Width
- Bill
- Claw
- Age
- Sex

Zuberogoitia et al (2004)

Blasco- Zumeta & Heinze (2015)

Results

20 Buzzards translocated in Seven months

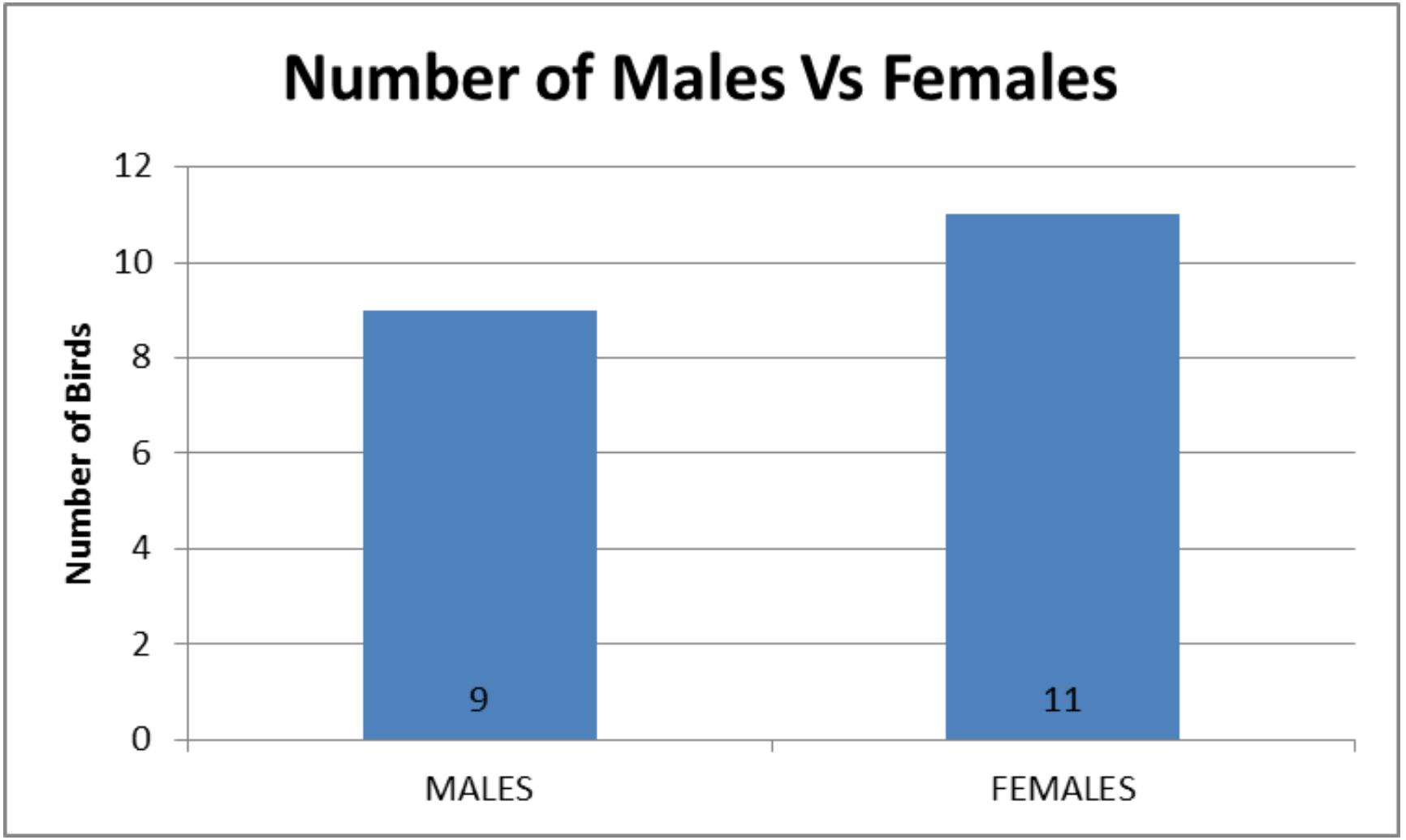
Ring No	Tag ID	left	right	Date	age code	age	sex	wing	bill	claw	tarsus	arsus widt	weight	elease site	grid ref
GR26353	X	X	X	06/09/2014	3	1st yr	M				77	7	860	Watergras	W735806
GR26354	O	O	O	30/09/2014	5	2nd yr	M	398					870	Glanmire,	W732785
GR26355	E	E	E	20/10/2014	3	1st yr	F	395	22.6	25.4	78		1072	Glanmire,	W732785
GR26356	H	H	H	20/10/2014	3	1st yr	M	371	22.8	22.3	77.6		863	Glanmire,	W732785
GR26357	T	T	T	24/10/2014	3	1st yr	F	399	25.7	26.3	77.6		1120	Glanmire,	W732785
GR26358	S	S	S	31/10/2014	3	1st yr	F	395	25.7	25.1	80		1023	Glanmire,	W732785
GR26359	K	K	K	04/11/2014	3	1st yr	M	389	22	22.6	81		830	Glanmire,	W732785
GR26360	A	A	A	08/11/2014	6	adult (>2n	F	424	25.3	26.4		7.9	1185	Glanmire,	W732785
GR26362	N	N	N	29/11/2014	6	adult (>2n	M	370	23.1	21.7		6.4	855	Tallow, Co	W979955
GR26363	V	V	V	29/11/2014	6	adult (>2n	F	412	26.7	27.5		7.9	1175	Tallow, Co	W979955
MA16351	B	B	B	11/02/2015	5	2nd yr	F	394		24.5		7.9	1180	Blanahour	X104987
GR26374	L	L	L	17/02/2015	5	2nd yr	F	375		21		7.5	990	Ballyduff,	W926995
GR26375	Z	Z	Z	17/02/2015	5	2nd yr	F	395		23.6		7.9	910	Ballyduff,	W926995
GR26376	R	R	R	18/02/2015	5	2nd yr	M	370		22.2		6.5	825	Ballyhane	X133978
GR26378	M	M	M	04/03/2015	5	2nd yr	M	373	22.5	20.8		6.7	800	Ballylemo	X201961
MA16352	18	18	18	04/03/2015	5	2nd yr	F	408	23.5	22.3		7.8	950	Ballylemo	X201961
GR26379	10	10	10	13/03/2015	5	2nd yr	M	403	24.5	23.3		6.7	920	Knockacul	X202952
GR26380	21	21	21	13/03/2015	5	2nd yr	M	374	22.7	23.1		6.7	805	Knockacul	X202952
GR26381	31	31	31	24/03/2015	7	3rd yr	F	385	25.9	23.4		7.3	900	Gorteen, (	X280959
GR26382	41	41	41	26/03/2015	5	2nd year	F	401	24.6	24		7.4	850	Lemybrier	S325016

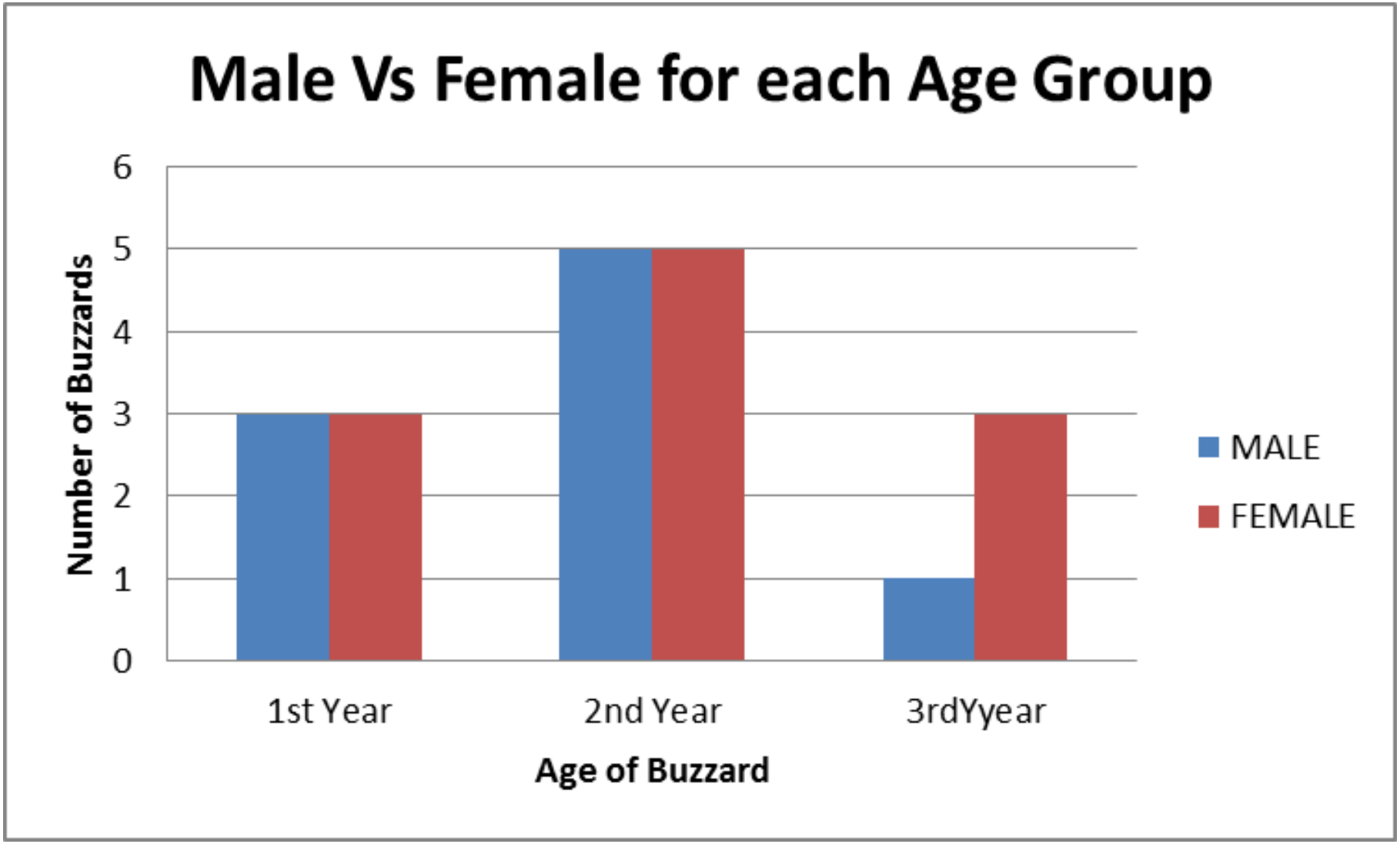
Indication of Release Sites

Two birds returned; both 3rd year Adults

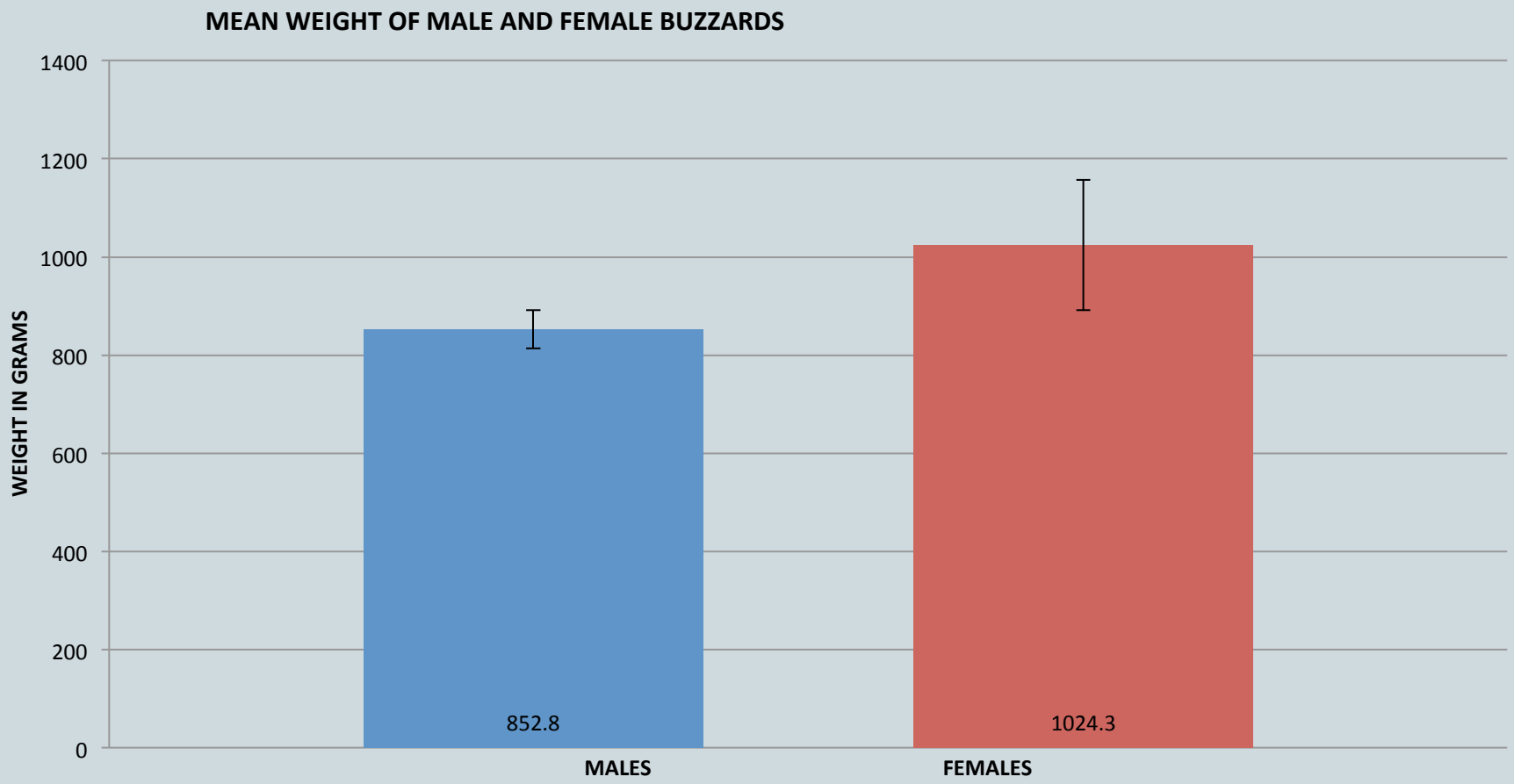
Released at Tallow 29th November 2014- Re-sighted at Casement Aerodrome 22nd March 2015 –seen two days only

Released at Tallow 29th November 2014- Re-sighted at Casement Aerodrome 13th April 2015- Nested with new female. Frequent sightings.


Number of Males Vs Females
Number of Birds
12
10
8
6
4
2
0
9
11
MALES
FEMALES


Male Vs Female for each Age Group
Number of Buzzards
6
5
4
3
2
1
0
1st Year
2nd Year
3rdYyear
Age of Buzzard
MALE
FEMALE

Weight of Captured Buzzards



Discussion

- Preliminary
- First study of this type in the British Isles in so far as team is aware.

- 10% return on Total 20 Birds
- 50 % return on +3rd Year Adults

Will some of the 1st and 2nd year birds return in 2016?

Caught more birds than expected

Light coloured iris , juvenile Common Buzzard

Its not going away!

- Buzzard breeding density varies with respect to relative abundance of prey between sites. (Graham *et al*. 1995.)
- Dekker(2009) found that population dynamics in Voles (*Microtus arvalis*) formed the main underlying factor in the number of Buzzard and Kestrel found at three RNLAF bases .
- Straughten and Rooney 2010 found successful clutches of 5 -6 buzzards fledging in Ireland.
- Proliferation of Rabbits (*Oryctolagus cuniculis*) on lands adjacent to aerodrome and much of Ireland though fewer in the West.
- Buzzard diet comprises of mainly rabbit but also corvids, rats.(Rooney & Montgomery 2013)

- Sightings at Casement of Buzzards eating Earth Worms from Runways
- Also seen in stubble fields eating beetles.

Dark iris of adult Common Buzzard

- Dekker (2009) examines 22 years of bird raptor counts on three RNLAF bases. Buzzard numbers, breeding and migratory have almost doubled since the eighties.
- 10,000 Buzzards migrate from Scandinavia through Netherlands resulting in increased numbers counted from late August to March each year according to Dekker.

- Most strikes with Buzzard occur between August – November corresponding with an influx of migrating buzzards from Scandinavia.
- Kusters and Scheller(1998) found that the most likely time for a birdstrike with a soaring buzzard was at noon in Spring or August-September

- It is possible that these new birds are not adept at avoiding aircraft as discussed by Kelly et al(2001) and Dolbeer(2006)

- Buzzard sightings by RNLAF reflected at Casement

Future plans

- The BCU will continue to record all sightings
- Trap and tag all buzzards but release the adult breeding birds in the locality. Will the adults defend their ground?
- Translocate all juveniles caught.
- Ideally satellite tag the adult birds and ten each of the first and second year buzzards.
  - How do the adults behave in the vicinity of the aerodrome?
  - Do the younger birds start to drift back?
  - Can we reduce the Risk?

Acknowledgments

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- Capt Enda Walsh BCC
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- National Parks and Wildlife Service
- BCI Ltd Staff
- Project Team

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Questions?