

(16) Survival and Management of Red-tailed Hawks at Vancouver International Airport

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Many airports have begun translocating hawks, but struggle with the question of what should be done with banded or tagged birds that return. I examined the survival (from collisions with aircraft) of Red-tailed Hawks that were translocated from Vancouver International Airport (YVR) and returned to the airport. I calculated (by age classes) the number of weeks that tagged birds were on the airfields without (or before) being struck from 2011 to 2014. Adults survived on the airfield longer than juveniles (hatch year to 30 June of the following year) and longer than sub-adults (second year birds from 1 July to 30 June the following year). Resident adults survived on the airfield longer than nonresident adults. Therefore leaving adult Red-tailed Hawks on the airfield is a sensible management approach for this species because removal of these birds would result in occupancy of the airport by birds with a lesser ability to avoid strikes with aircraft. Translocation is an essential component of Red-tailed Hawk management at YVR. Return rates of juveniles and sub-adults are much lower than adults. Thus by removing all Red-tailed Hawks from the airport, the time that high hazard birds (juvenile and sub-adult birds) spend on the airfield is minimized while resident adults (with much lower risk of strikes) return to the airport and tend to survive much longer without being struck, some for many years. YVR has been managing returned (i.e., tagged) Red-tailed Hawks with an individual management plan for each bird based on the location of its core territory (based on re-sightings of tagged birds) relative to the runways. Nevertheless, some resident Red-tailed Hawks occasionally set up territory in a high hazard area (e.g., across a runway) and may need to be removed (e.g., trapped and retained, shot) to prevent a strike. Through relocation and adult management, the rate of Red-tailed Hawk strikes can be minimized with little or no lethal control.

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Western Airport Raptor Research & Management Group



Co-operative effort
Pool data towards a publication soon

Raptor Control Methods

- Flares & Screammers



- Conventional Control Methods
 - Can Move Hawks
 - But not off the Airfield

Limited options. We can move eagles off the airport because they have large home ranges, but other raptors can only be moved around the airport with conventional methods.

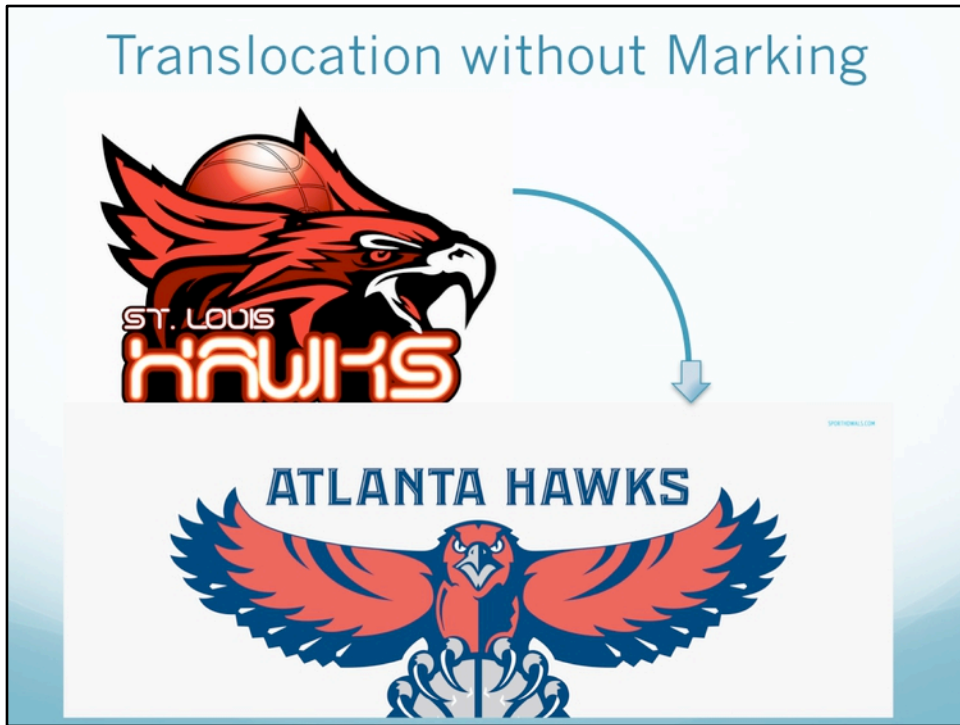
Therefore – many airports opting for translocation programs

Habitat



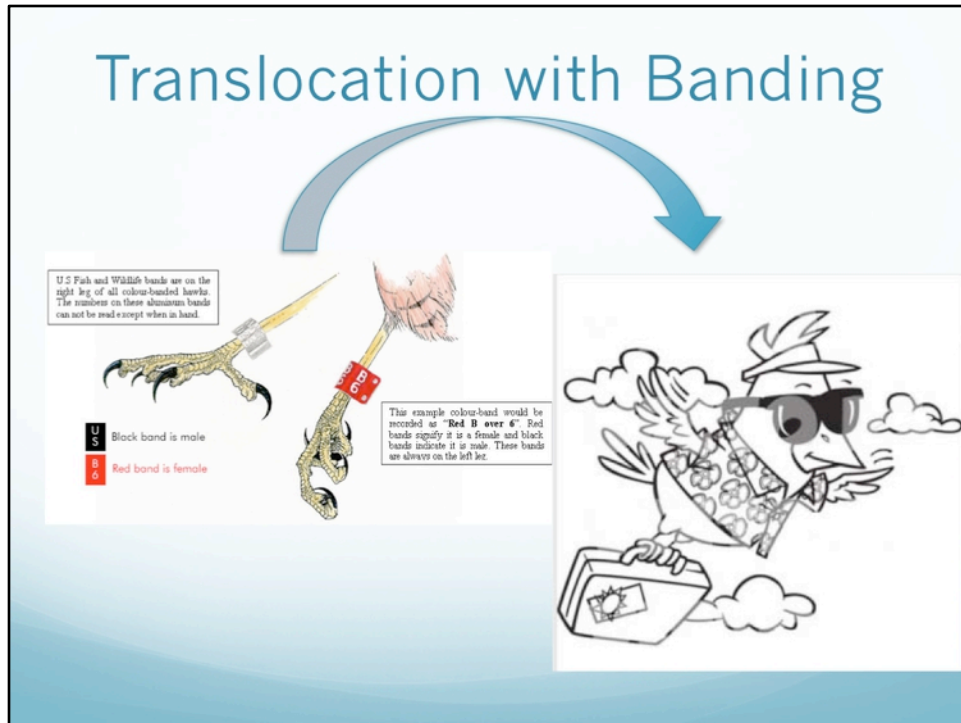
Good habitat not too dissimilar from preferred habitat with open grass fields, lots of voles and places to perch to hunt, preen and defend territory from.

Translocation without Marking



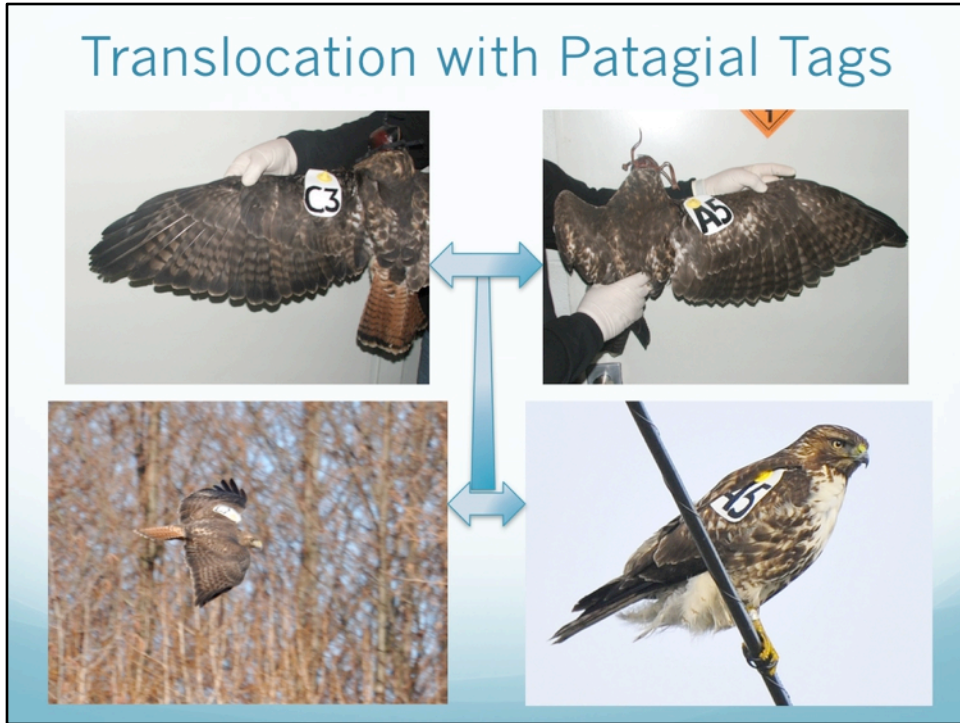
Some airports simply move birds without banding them and hope they do not come back

Translocation with Banding



Others band and move either with aluminum tags or coloured and coded tags
Difficult to read and often obscured in field

Translocation with Patagial Tags



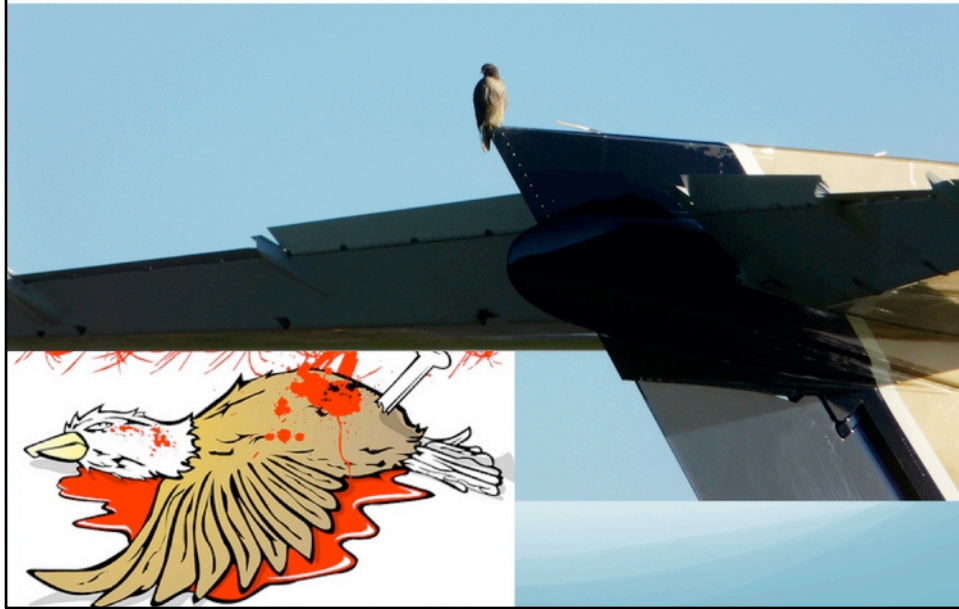
This talk about wing-tagged birds with a unique code on tag
You will see the importance of this method as the talk proceeds

Capture Methods

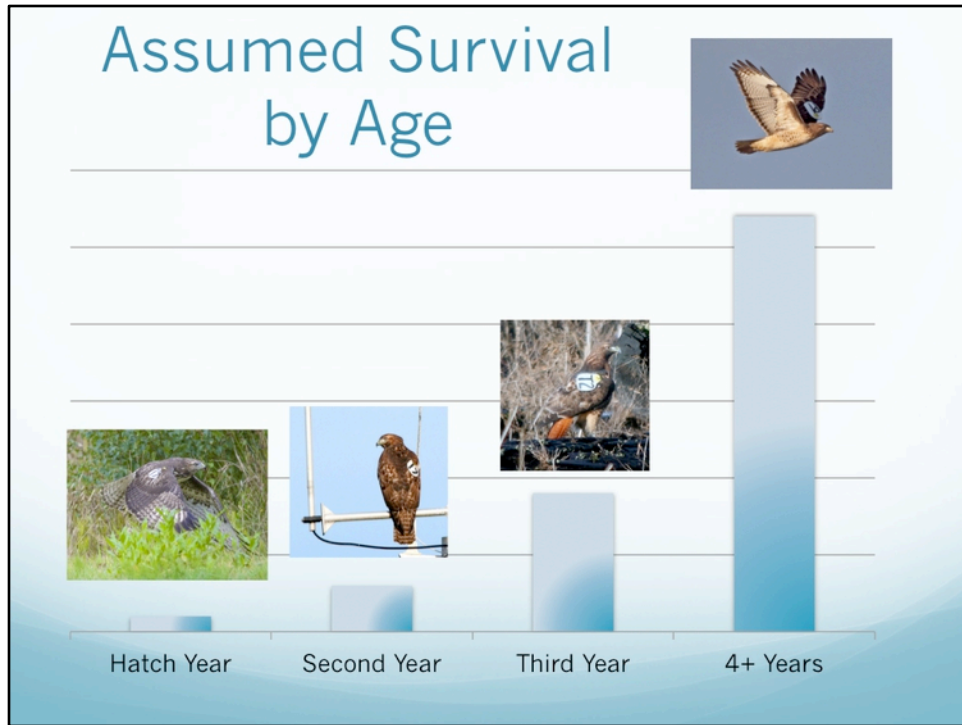


Once the best capture methods are determined...
We can capture and move birds away from the airport

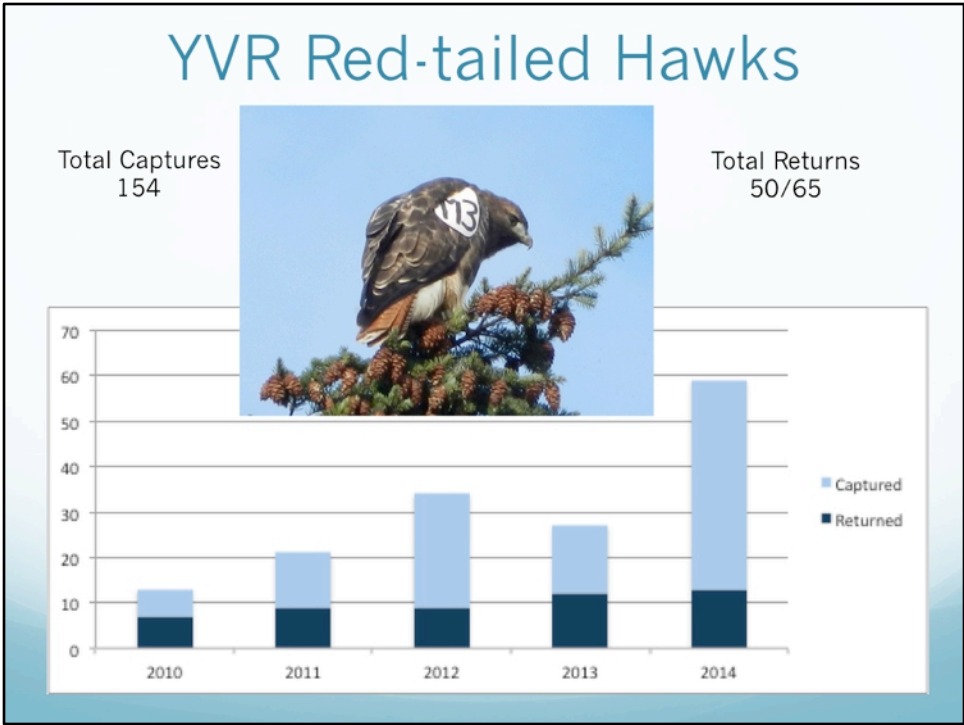
Returns of Hawks to Airport



But what do we do with the ones that come back?
Many airports, especially in the US shoot the ones that return
Clearly we need to know what the best thing to do with returned hawks



Any biology student can tell you that adults survive better than juveniles
But although I have heard it said many times that resident hawks do not get struck
much at airports I have never seen this demonstrated with data
I hope to provide a preliminary assessment of strike rates of different ages of birds



50 returned and spent some time at YVR
 10 returned sometime later and were seen once then gone
 5 came from other airports

Age/Status Classes

- HY-E2 – first full year of life

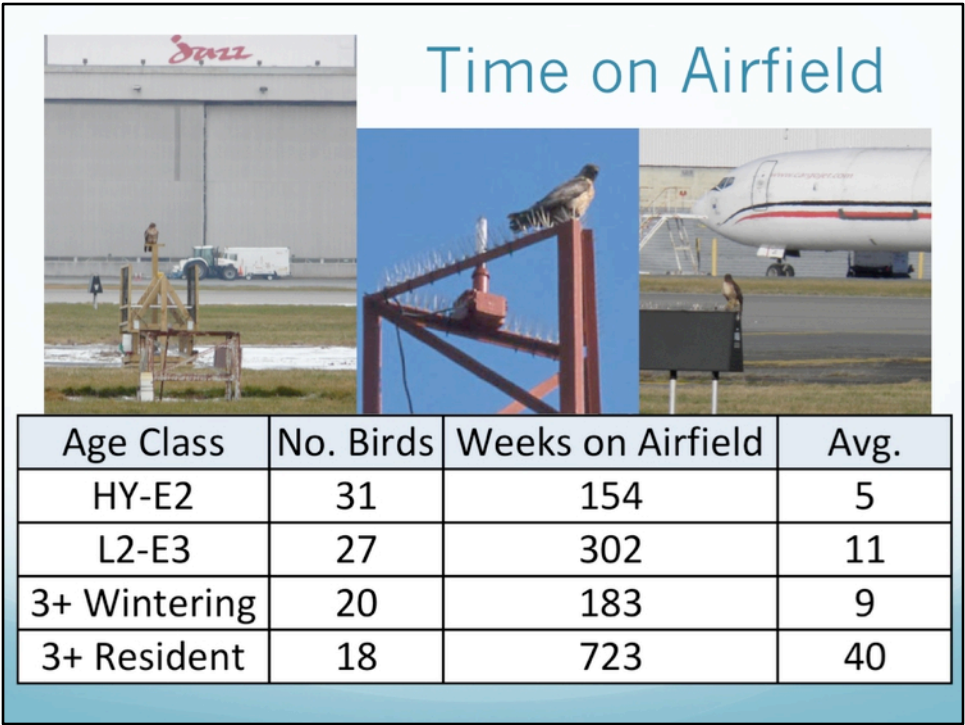


- L2-E3 – second full year of life



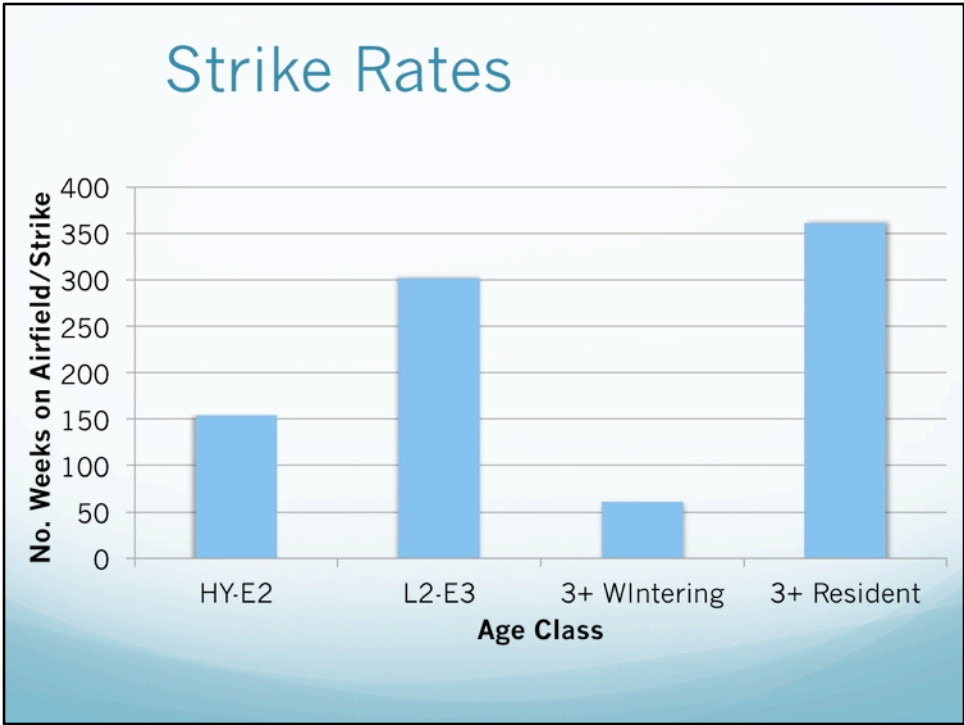
- 3+ Wintering – Wintering or migrating adult
- 3+ Resident – Breeding adult present year round

1 year old
2 year old
3 and older



Recaptures of first year birds reduce time on airfield and both age 1 & 2 birds are limited to 52 weeks

More birds in table because they graduate through the age classes if they remain at the airport without being struck



Age 1 – strike every 1 in 3 bird years
Resident Adult – strike 1 in every 6 bird years
Wintering Adult – 1 strike in every 1 bird year

Advantages of Patagial Tags

- Accurately measure return rate
- Learn dispersal pattern
- Determine effectiveness of translocation site
- Obtain crude measure of survival of translocated birds (MNA)
- Identify individual birds
- Determine Status (e.g., resident, wintering, passage migrant, etc.)
- Individual management of tagged birds.

An important component of managing raptor strikes is wing-tagging

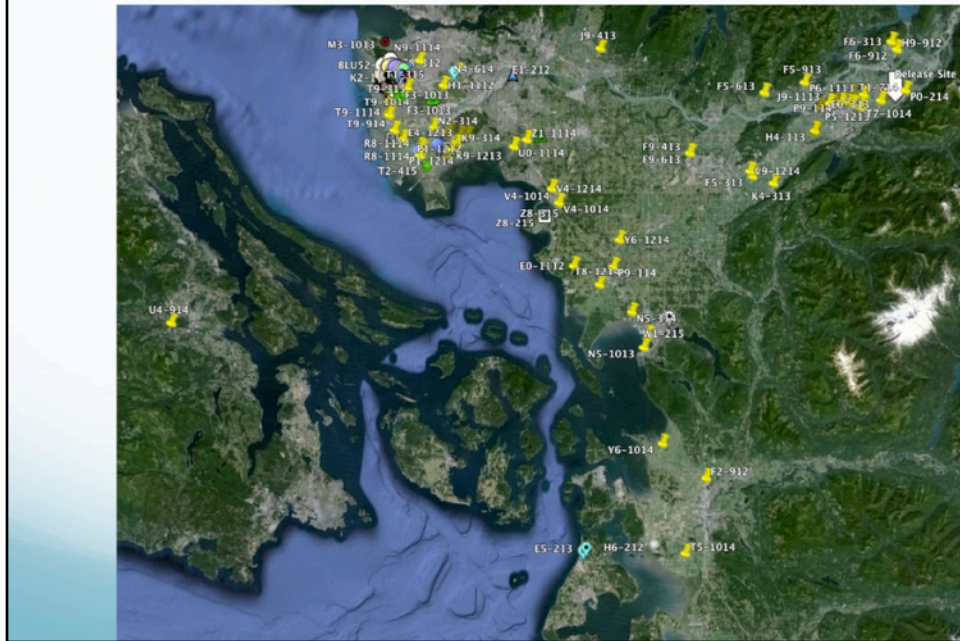
Resightings

- 154 Tagged Red-tailed Hawks
- 114 Resighted (75%)
- 3800 re-sightings at YVR
65 tagged RTHA
- 130 re-sightings of 57 hawks away from YVR
 - Kamloops, B.C. – Tillamook, Oregon



Resightings provide the key information for management

All Fraser-Skagit Re-Sightings



Resident Adult – M9



Tag	Sex	Date Banded	Hatch Year	Status	Mate	Location	Comments
M9	Female	24AU13	<2010	Resident	Unknown	F/A	Since 2013

If this bird is north of Runway 08R-26L move it south

Resident Adult – N7



Tag	Sex	Date Banded	Hatch Year	Status	Mate	Location	Comments
N7	Female	17NO13	<2011	Resident	Unknown	North of Taxi M	Since 2013
If this bird is south of Runway 08L-26R move it north across the runway							

Resident Adults

Summary

1st Year RTHA

Wintering Adults

Conclusions

- Translocation + patagial tags
- Resightings + mapping
- Try to keep resident adults
- Manage individuals
- Lethal only as last resort

