

Just Culture within birdstrike Prevention



Or

Does Benchmarking improve Flight Safety?

27 November 2008

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General Statement

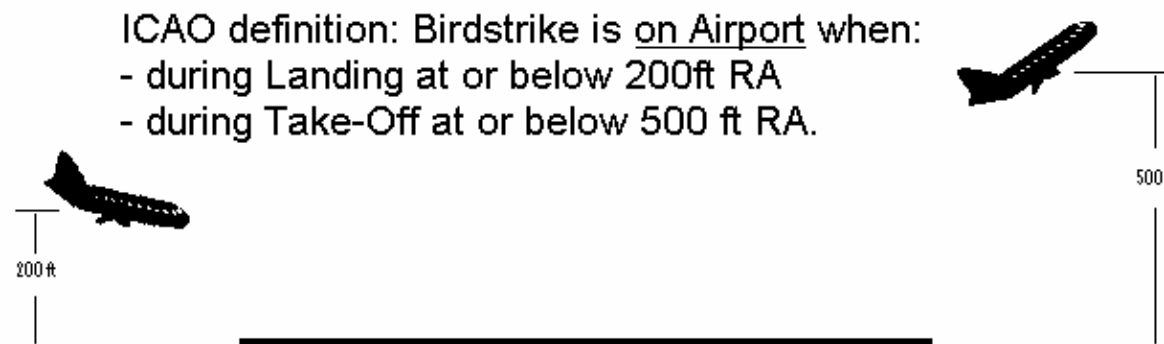
Current high levels of Flight Safety within Aviation are very much a result of Blame Free Occurrence Reporting and Investigation

History

Definitions

- birdstrike RATE = amount of birdstrikes per 10.000 movements (1 flight = 2 movements)
- ICAO Doc 9332: “On Airport”

“On airport” bird strikes are strikes that occurred at or below 200 ft above ground level (AGL) during approach or 500 ft AGL during climb, or during the parked, taxi, take-off run or landing roll phases. “Near airport” bird strikes are strikes which occurred between 201 ft AGL and 1 000 ft AGL during approach or between 501 ft AGL and 1 500 ft AGL during climb. “Off airport” bird strikes are strikes that occurred above 1 000 ft AGL during approach and above 1 500 ft AGL during climb.



History Definitions

Just Culture: an atmosphere of trust in which people are encouraged, even rewarded, for providing essential safety-related information, but in which they are also clear about where the line must be drawn between acceptable and unacceptable behavior.

(J. Reason, 1997)

History Definitions

Orlando 2008:

Safety Management Systems: How useful will the FAA National Wildlife Strike Database be?

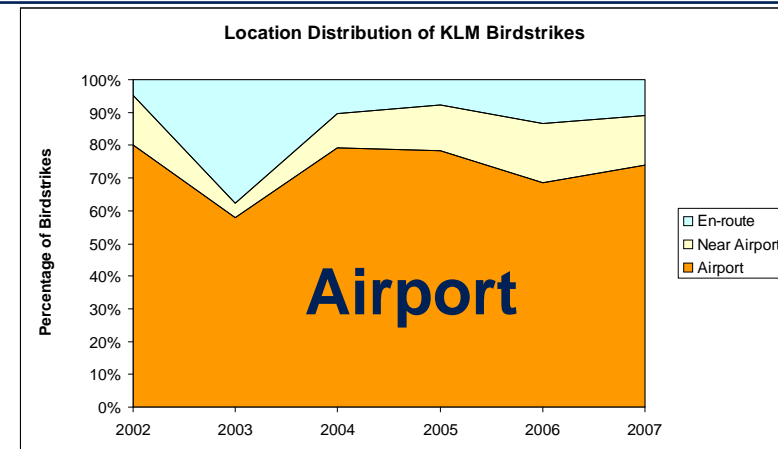
Sandra Wright & Richard Dolbeer

Proposal to implement within the U.S.A. a Benchmark System for Damaging Birdstrikes, with a threshold as an incentive to improve Wildlife Hazard Management Plans (WHMP) of not compliant Airports.

History Definitions

“On Airport” requirements:

- Incident reporting needs altitude information, to determine ICAO-definition.
- All operators should use same reporting standards cq methods

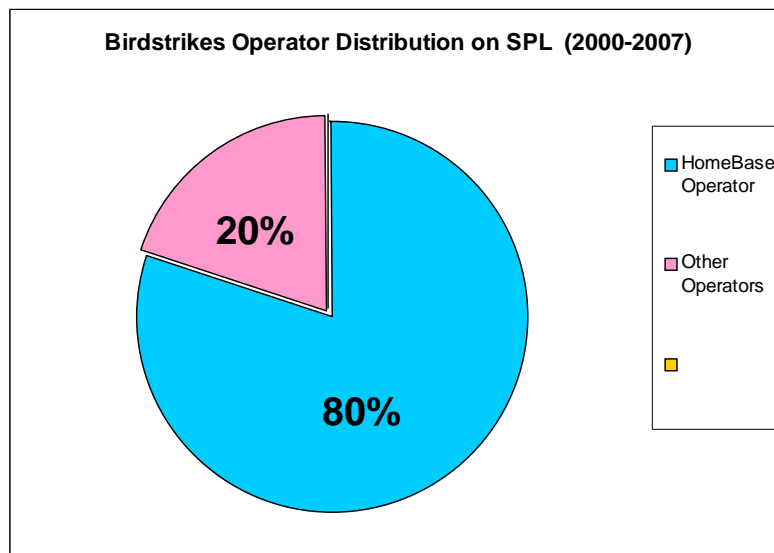


1. Always report a bird strike
2. Try to determine species involved.
3. Record all damage (incl. network damage).

However unfortunately not all operators do:

History Experience

1. Always report a birdstrike

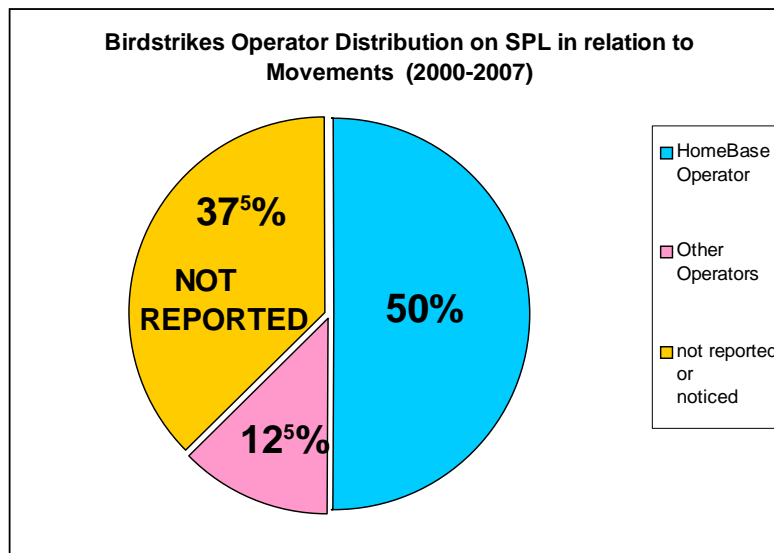


Airport Birdwatch only receives birdstrike reports from crew via Air Traffic Control.

General distribution of those reports is that homebase operators report 80% of birdstrikes vs. 20% for other operators, while homebase operators movements represent only **50%** of all movements.

History Experience

Including the movements →



Birdwatch receives data of only ~60% of actual birdstrikes

OR

~40% of crew do not report birdstrike to TWR

OR

Conclusion: When including movements in statistics, visiting operators do only report **12,5%** of ALL BS.

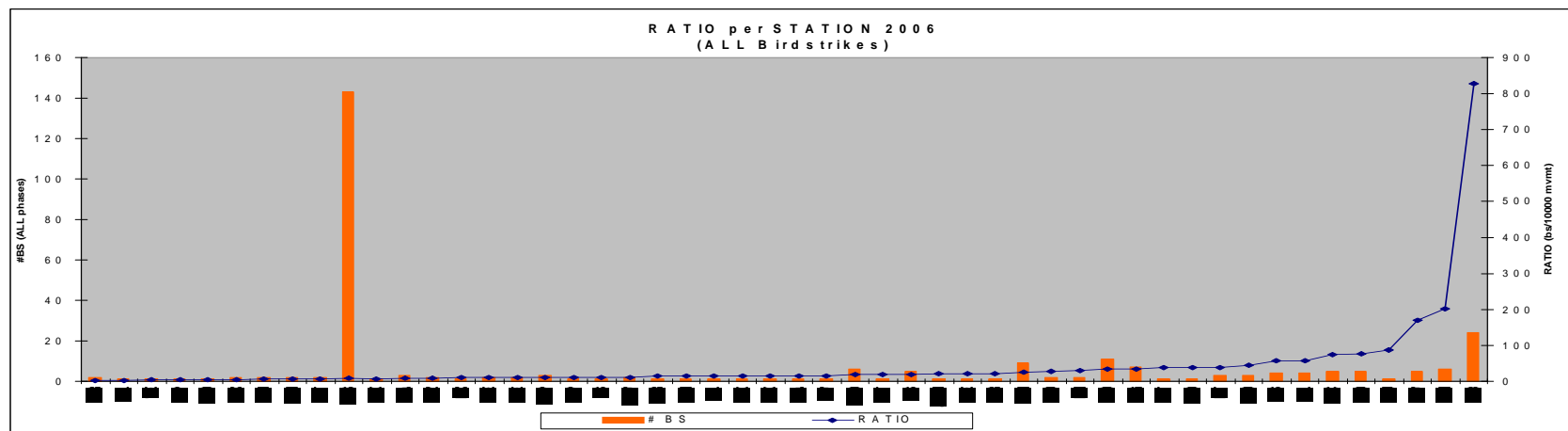
Question:

What about Airports which do **NOT** have dominant home operator, but only visiting operators?

History Experience

2. Try to determine species involved.

How do different species compare toward each other for its Damaging Factor ?



Apparently some stations, with hardly any damaging bird strikes won't exceed the Benchmark Limit, while they need to improve their Birdstrike Prevention Program, given the very high (exploding) Birdstrike RATE.

History

Experience

3. Record All Damage

€1 ≈ US\$ 1.40

BIRDSTRIKES	2006			
	RATE	#BS	COSTS (€)	COST/BS (€)
Australian Group	8,5	550	1.350.000	2455
Dutch Operator	7,5	300	250.000	833

Damage can vary per operator, while the reporting of damage is not consistent or missing the relationship to a birdstrike.

One operator can experience (eg.) three times more relative damage than another.

Most Probable cause:

- Different Birds (size) and different reporting.
- Damage Reporting Systems are not filled correctly.

History Experience



For example: Only ONE Bird (Buzzard (*Buteo sp*)) can cause a Hull-loss.

History Experience

Conclusion: Airports can experience different birdstrike rate, due to its user reporting and its environment.

Also education and awareness leading to better reporting can incorrectly show an apparent increase in bird strike rates.

Consequently, Damaging birdstrikes ratio is subject to:

1. Consistent Damage Reporting of ALL birdstrikes
2. Bird Species in the environment.

Meanwhile an Airport Authority should always strive for “ZERO Bird strikes”.

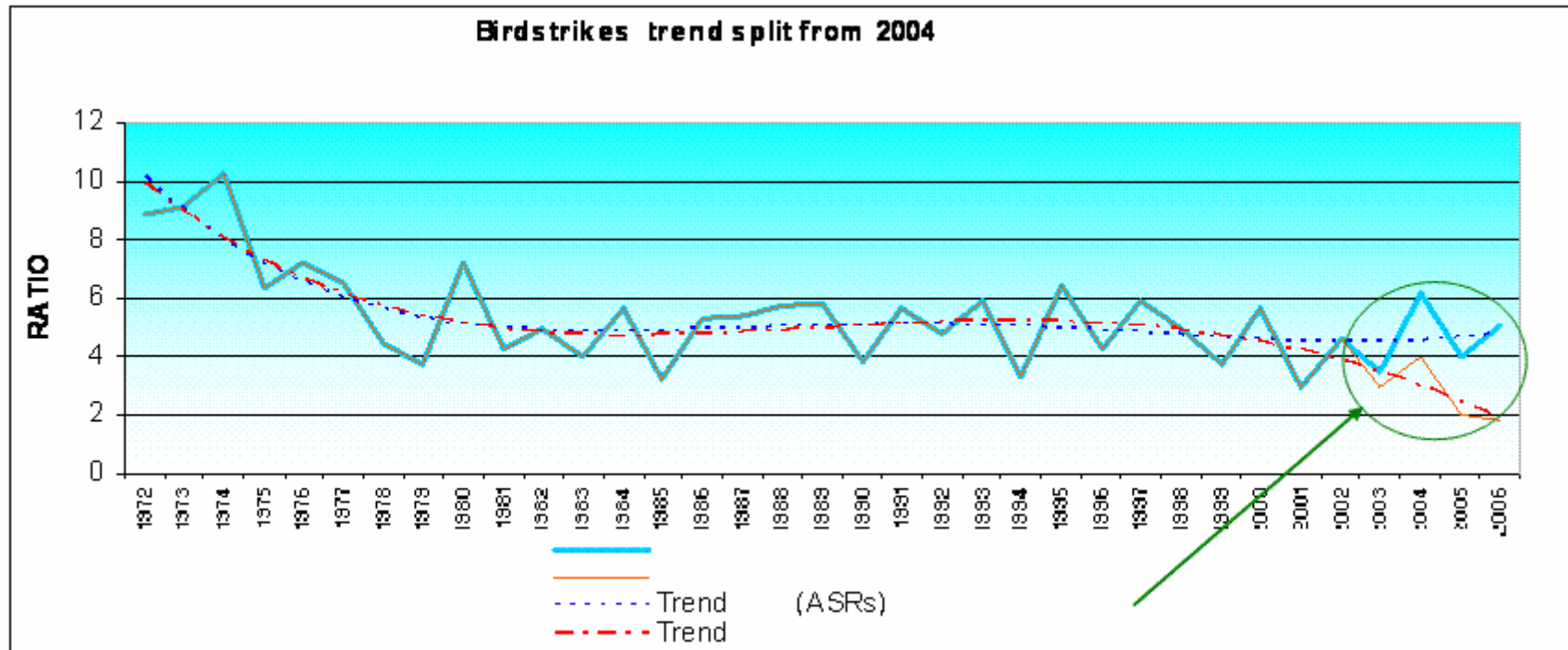
Benchmarking

What would Benchmarking add to previous findings?

- Experience learned that a Threshold Rate does not motivate for improvement.
- Liability is proven to be a wrong incentive for improvement.

Benchmarking Experience

Experience on Threshold Rate.



Benchmarking Experience

Experience on Threshold Rate.

From the early years, a close cooperation between operator and Airports Authority (AA) resulted in improvement on bird strike prevention, due to investment into new techniques, etc.

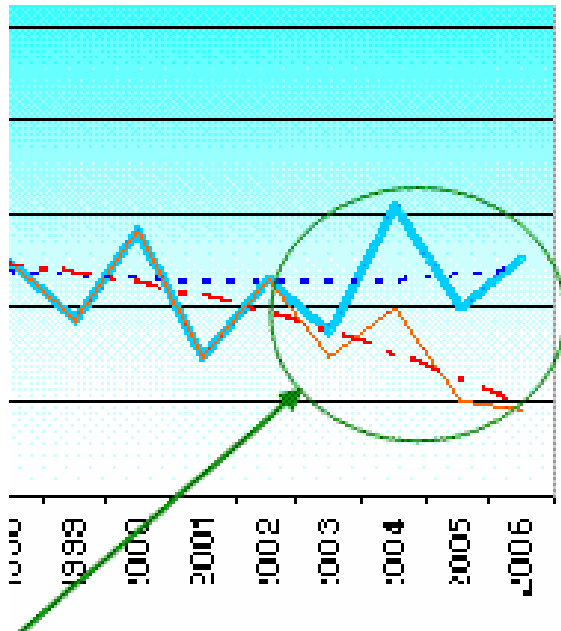
In a certain year, the AA started to use the Threshold Rate in Management Targets. From that time the operator noticed a growing shift in reporting results.

While staying within agreed “Targets”, the AA-Birdwatch could hardly motivate new techniques and improvement plans.

If continued, with no interference, the operator would have faced **2.5** times MORE bird strikes, than in previous years.

Conclusion could be that less activity is observed to improve Bird Strike Prevention, because the Threshold Rate was already reached.

Benchmarking Experience



Second result of the analyses appears to be that AA Management started to use different figures for determining the Threshold Rate.

Driven by Liability Issues one could choose the best figures for its own intention.

Benchmarking

Conclusion

Conclusion on Benchmarking:

Apparently not all Airport Authorities use the same methods on bird strike figures.

Airport results rely on the reporting quality of its operators.

Bird species in the airport environment do influence damage figures in an unknown manner.

If too high, the Threshold Rate can stop improvement on bird strike prevention.

If too low, Threshold Rate is penalizing the Airport Authority on its effort to handle bird strike prevention.

And driven by liability one could use the best figures for its intention, even though it is not representing the actual situation.

Benchmarking Conclusion

It is of importance that all Airport Authorities use the same methods on bird strike figures.

Determine the use of the Airport and its visitors.

Take into account the species in its environment.

Airport Authorities should strive for “ZERO Bird strikes” and not for Threshold nor Liability Issues.

‘Just Culture’ can handle Complacency as the enemy of Safety.

BUT in ALL Cases:

Threshold Rate is having an opposite effect on a BLAME FREE Occurrence Reporting and Investigation, which is in contradiction with

Flight Safety.

